

Action plan on Non Attainment City- Jaipur (Rajasthan)

Jaipur is State Capital of Rajasthan. It is situated at Latitude: 26°55'10" N & Longitude: 75°47'16" E and Elevation above sea level is 435 m. According to the latest data, the population of the city has surpassed 3 million people. The city is surrounded by the Nahargarh hills in the north and Jhalana in the east. To its south and west the city is surrounded by isolated and discontinuous hillocks. Jaipur city falls under the semi-arid of climate. Total no. of vehicles registered as on March, 2017 in Jaipur District with Transport Department is 25,83,106 (Truck: 88349, Bus 24980, Car: 362256, Taxi: 36915, Jeep: 75869, Three Wheeler: 30078, Two Wheeler: 1882871, Tractor: 50101, Trailers: 3050, Tempo (Pass) : 3765, Tempo (Goods): 14944 and others: 6273).



The major sources of air pollution in Jaipur are road dust, vehicular Emission, construction and demolition activities, industrial emissions etc. State Board inspect

industries time to time and take essential measures to control pollution emitted by the Industries. For monitoring ambient air quality in the Jaipur State Board have installed three Continuous Ambient Air Quality Monitoring Station at Police Commissioner office, Regional Science Centre and psychiatric Centre. At these Stations Particulate Matter (PM₁₀ and PM_{2.5}), Gaseous pollutants – SO₂, NO_x, O₃, CO, VOC and NH₃ and Meteorological parameters like Temperature, Relative Humidity, Wind Speed, Wind Direction, Pressure, Solar Radiation etc are measured continuously. Besides it, State Board has also installed 09 Manual Stations under the National Air Quality Monitoring Program at following locations:

1. Ajmeri Gate, Jaipur
2. RSPCB Office, Jhalana Dungri, Jaipur
3. Chandpole, Jaipur
4. MIA, RIICO Office, Jaipur
5. Nagar Nigam Office, Mansarovar, Jaipur
6. RIICO Office, Baees Godam Ind. Area, Jaipur
7. RIICO Office, Sitapura Ind. Area, Jaipur
8. RO Jaipur (N), Vidyadhar Nagar, Jaipur
9. V K I A, Jaipur

Rajasthan lies in the arid and semi-arid agro-climatic zone of the country and hence presence of dust due to dry climatic conditions coupled with strong hot air movement is common.

Presence of Particulate Matter in the atmosphere goes particularly high during summer months and during winters when the phenomenon of thermal inversion occurs.

As per the available data, level of gaseous pollutants like SO₂ and NO₂ are well within the prescribed limit of 80 micro gram per cubic metre. Due to the dry conditions prevailing over a major part of the year, levels of PM₁₀ is found to be in excess of the prescribed limit of 100 micro gram per cubic metre.

To draw an action based on qualitative data, a source apportionment study has been initiated for the City of Jaipur. For this purpose, State Board has signed MOU with IIT, Kanpur on 24th Jan 2017 for conducting the Project entitled “Air Quality Assessment, Trend Analysis, Emission Inventory and Source Apportionment Study in Jaipur City”. The project cost is Rs.1, 12, 12,500/ and is expected to be completed by this year end. This study is one of the first of its kind that is being done for Jaipur city.

ACTION PLAN FOR CONTROL OF AIR POLLUTION IN NON-ATTAINMENT CITIES

Name of the cities:- **Jaipur- Rajasthan State.**

Air Pollution concern: **PM₁₀ and PM_{2.5}**

Source group	Action Points	Implement ation period	Time Frame for implem entation	Responsible agency(ies)
Vehicle Emission Control	1. Launch extensive drive against polluting vehicles for ensuring strict compliance and regular checking of vehicular emission and issue of PUC certificate	Short Term	April-2019	Dept. of Transport Traffic Police
	2.Launch Public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicle, lane discipline, etc.	Short Term	April-2019	Dept. of Transport Traffic Police
	3. Prevent parking of vehicles in the non-designed areas.	Short Term	April 2019	Traffic Police
	4. Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-V fuels are available.	Long Term	Dec-2020	Dept. of Transport
	5. Prepare action plan to check fuel adulteration and random monitoring of fuel quality data.	Short Term	April 2019	Dept. of Food & Supplies
	6. Prepare plan for widening of road and improvement of Infrastructure for decongestion of road.	Mid Term	Dec. 2019	LSG Development Authorities Municipal Corporations UITs in their jurisdiction
	7. Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles	Long Term	Dec. 2019	NHAI PWD
	8. Steps for promoting battery operated vehicles/ Promotion & operationalisation of E-rickshaw	Short Term	April-2019	Dept. of Transport
	9. Install weigh in motion bridge at borders of cities/towns and States to prevent overloading of vehicles	Long Term	Dec. 2019	NHAI PWD

	10. Synchronize traffic movements /Introduce intelligent traffic systems for lane-driving.	Long Term	Dec. 2019	Traffic Police
	11. Installation of remote sensor based PUC system	Long Term	Dec. 2019	Traffic Police
	12. Restriction on plying & phasing out of 15 years old commercial diesel driven vehicles.	Long Term	March-2020	Dept. of Transport
	13. Introduction of cleaner fuel for CNG/LPG vehicles	Long Term	April 2020	Dept. of Transport Food &Supplies
	14. Plan for restriction on the registration on diesel driven Auto-rickshaw & Tempo	Mid Term	Dec. 2019	Dept. of Transport
	15. Monitoring on vehicle fitness	Mid Term	Sept 2019	Dept. of Transport
	16. Periodic calibration test of vehicular emission monitoring instrument	Mid Term	July 2019	Dept. of Transport
	17. Preparation of plan for development Multi level Parking	Long Term	Dec. 2019	UDH Development authorities in their jurisdiction
Re-Suspension of Road Dust and Other Fugitive Emission Control	1. Prepare plan for green buffers along the traffic corridors.	Mid Term	Sept 2019	NHAI PWD Urban local body
	2. Maintain potholes free roads for free roads for free flow of traffic	Mid Term	Sept 2019	NHAI, PWD, and Urban local body
	3. Introduce water fountain at major traffic intersection wherever feasible	Mid Term	Sept 2019	Urban local body Development Authorities Municipal Corporations UITs in their jurisdiction
	4. Greening of open areas, gardens, community places, schools and housing societies	Mid Term	Sept 2019	Urban local body Dept of Education

	5. Blacktopping metaled road including pavement of road shoulders.	Mid Term	Sept 2019	NHAI PWD Urban local body
	6. Widening of roads and construction of pucca footpath along main roads (RIICO Industrial Areas)	Long Term	Dec. 2019	RIICO as per requirement and feasibility
	7. Regular cleaning of road (RIICO and other areas)	Long Term	March 2020	RIICO UDH
	8. Tree plantation along the roads (RIICO Industrial Areas)	Long Term	Sept 2019	RIICO
Control of Emissions from Biomass/Crop Residue/Garbage/Municipal Solid Waste burning	1. Launch extensive drive against open burning of bio-mass, garbage, leaves, etc.	Short Term	April 2019	Urban local body
	2. Regular check and control of burning of municipal solid waste.	Short Term	April 2019	Urban local body
	3. Ensure ban on burning of agriculture waste and crop residues and its implementation	Long Term	Dec. 2019	Department of Agriculture Revenue
	4. Construction of advanced waste management Site.	Mid Term	Dec-2020	Urban local body
	5. Restriction on open burning of municipal solid waste biomass and plastic (RIICO Industrial Areas)	Short Term	January 2019	RIICO
	6. Restriction on open burning of biomass and plastic	Short Term	Regular activity	Urban local body
	7. Immediate lifting of solid waste generated from desilting and cleaning of drains for its disposal	Short Term	January 2019	RIICO Urban local body
	8. Transportation of solid waste, construction material and debris in covered system.	Short Term	April 2019	RIICO Urban local body
Control Of Industrial Emissions	1. Identification of brick kilns and their regular monitoring including use of designated fuel and closure of unauthorized units.	Mid Term	Sept-2019	State Pollution Control Board
	2. Conversion of natural draft brick kilns to induced draft.	Mid Term	Sept-2019	State Pollution Control Board

	3. Action against non-complying industrial units.	Short Term	Regular activity	State Pollution Control Board
	4. Regulation on setting up of new air polluting industries in industrial areas located in urban limits of these 5 cities.	Mid Term	Dec 2019	State Pollution Control Board RIICO
Control of Air Pollution From Construction and Demolition activities	1. Enforcement of Construction and Demolition Waste Rules	Short Term	Regular activity	Urban Local Bodies Development authorities under their jurisdiction
	2. Control measures for fugitive emissions from material handling-conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units.			
	3. Ensure carriage of construction material in closed / covered vessels.	Short Term	April 2019	Urban Local Bodies RIICO
	4. Covering of construction sites and Restriction on storage of construction materials along the road	Long Term	March 2020	RIICO Urban local body
	5. Restriction on storage of construction materials along the road.	Short Term	April 2019	RIICO Urban Local Bodies
Other Steps to control Air Pollution	1. Air Quality Index to be calculated and disseminated to the people through website and other media.(on maximum weekly basis for manually operated monitoring stations and real time basis for continuous monitoring stations)	Short Term	Regular activity	State Pollution Control Board
	2. Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact CPCB.	Short Term	April 2019	State Pollution Control Board
	3. Set-up and publicize helpline in each city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	Short Term	April 2019	State Pollution Control Board

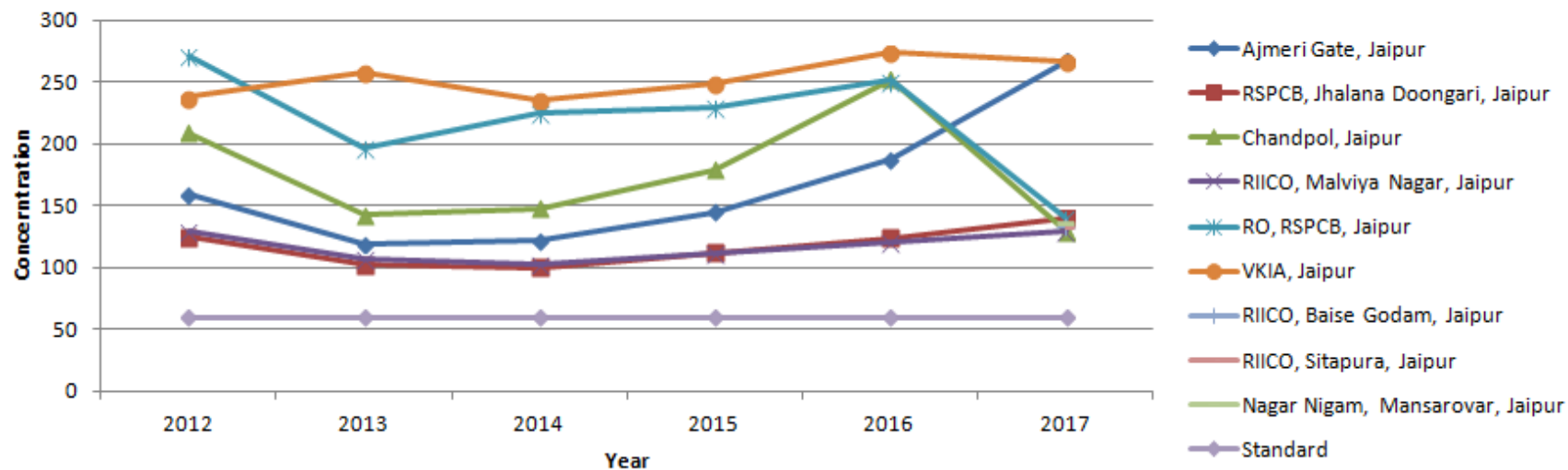
	1. Engage with concerned authorities on continual basis for maximizing coverage of LPG /PNG for domestic and commercial cooking with target of 100% coverage.	Short Term	April 2019	State Govt.
	2. Monitoring of DG sets and action against violations.	Short Term	July 2019	State Pollution Control Board
	3. Involvement of industrial associations in awareness program (RIICO Industrial Areas)	Mid Term	March 2019	RIICO
	4. Development/maintenance of green areas, gardens and parks (RIICO Industrial Areas)	Long Term	Sept 2019	RIICO

COMPARATIVE STATEMENT												
Ambient Air Quality Monitoring Data of Jaipur City												
YEARLY AVERAGE LEVEL AT 3 DIFFERENT MONITORING STATIONS												
MONITORING SITES		Ajmeri Gate, Jaipur			RSPCB, Jhalana Doongari, Jaipur				Chandpol, Jaipur			
S. No.	Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)		
		SO2	NO2	PM10		SO2	NO2	PM10		SO2	NO2	PM10
1	2012	9.2	52.7	159	2012	7.8	46.6	125	2012	9.1	52.3	209
2	2013	7.3	43.2	119	2013	6.7	37.5	102	2013	7.2	40.6	143
3	2014	7.1	41.2	122	2014	6.7	39.4	100	2014	7.1	41.8	148
4	2015	7.1	37.1	145	2015	6.8	34.1	112	2015	7.0	44.1	179
5	2016	8.5	34.7	187	2016	8.3	32.3	124	2016	8.6	35.2	252
6	2017	9.7	36.0	267	2017	9.6	35.1	140	2017	10.0	29.4	129
	AVERAGE	8.2	40.8	167	AVERAGE	7.6	37.5	117	AVERAGE	8.2	40.6	177

COMPARATIVE STATEMENT												
Ambient Air Quality Monitoring Data of Jaipur City												
YEARLY AVERAGE LEVEL AT 3 DIFFERENT MONITORING STATIONS												
MONITORING SITES		RIICO, Malviya Nagar, Jaipur			RO, RSPCB, Jaipur				VKIA, Jaipur			
S. No.	Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)		
		SO2	NO2	PM10		SO2	NO2	PM10		SO2	NO2	PM10
1	2012	7.9	47.7	129	2012	9.6	54.4	271	2012	9.6	53.5	238
2	2013	6.4	34.7	107	2013	8.0	41.9	197	2013	8.1	40.3	258
3	2014	6.5	37.1	103	2014	7.6	42.9	225	2014	7.8	43.3	236
4	2015	6.6	32.3	111	2015	7.5	40.1	230	2015	7.9	39.0	249
5	2016	7.6	30.7	121	2016	9.0	36.1	251	2016	9.2	36.6	274
6	2017	9.2	29.4	129	2017	11.4	35.1	140	2017	8.9	33.1	267
	AVERAGE	7.4	35.3	117	AVERAGE	8.8	41.7	219	AVERAGE	8.6	41.0	254

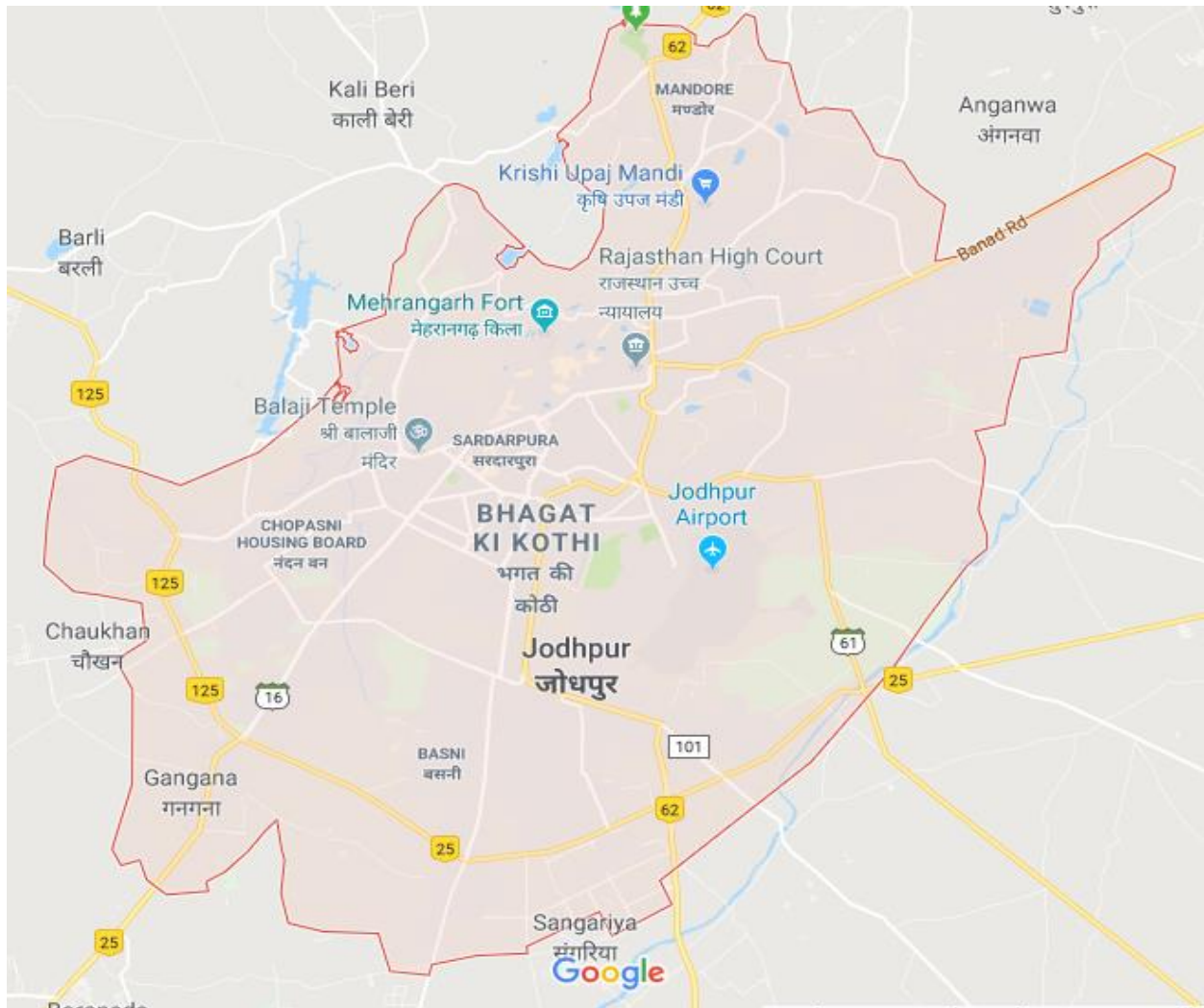
Additional three NAMP stations in Jaipur started in 2017

Particulate Matter (PM₁₀)



Action plan on Non Attainment City - Jodhpur

Jodhpur is situated at Latitude: 26°16'6.28"N & Longitude: 73°0'21.38"E and Elevation above sea level is 235 meters. According to the latest data of Census India, population of Jodhpur in 2011 is 1,033,756. Jodhpur city falls under the semi-arid of climate. Total no. of vehicles registered as on March, 2017 in Jodhpur District with Transport Department is 1051814 (Truck: 60065, Bus 8331, Car: 76297, Taxi: 11879, Jeep: 33185, Three Wheeler: 13434, Two Wheeler: 755686, Tractor: 67454, Trailers: 8679, Tempo (Pass): 2589, Tempo (Goods): 10773 and others: 3442).



The major sources of air pollution in Jodhpur are road dust, vehicular Emission, construction and demolition activities, industrial emissions etc. State Board inspect industries time to time and take essential measures to control pollution emitted by the Industries. For monitoring ambient air quality in the Jodhpur State Board have installed one Continuous Ambient Air Quality Monitoring Station at District Collector Office, Jodhpur. At the Station Particulate Matter (PM₁₀ and PM_{2.5}), Gaseous pollutants – SO₂, NO_x, O₃, CO, VOC and NH₃ and Meteorological parameters like Temperature, Relative Humidity, Wind Speed, Wind Direction, Pressure, Solar Radiation etc are measured continuously. Besides it, State Board has also installed 09 Manual Stations under the National Air Quality Monitoring Program at following locations:

1. DIC Office, Jodhpur
2. Housing Board, Jodhpur
3. Kudi Mahila Thana, Jodhpur
4. Maha Mandir , Jodhpur
5. RIICO Office ,Basni Industrial Area, Jodhpur
6. Sangaria Police Chowki,Jodhpur
7. Shastri Nagar Thana ,Jodhpur
8. Sojati Gate,Jodhpur
9. Soorsagar Thana,Jodhpur

Rajasthan lies in the arid and semi-arid agro-climatic zone of the country and hence presence of dust due to dry climatic conditions coupled with strong hot air movement is common.

Presence of Particulate Matter in the atmosphere goes particularly high during summer months and during winters when the phenomenon of thermal inversion occurs.

As per the available data, level of gaseous pollutants like SO₂ and NO₂ are well within the prescribed limit of 80 micro gram per cubic meter. Due to the dry conditions prevailing over a major part of the year, levels of PM₁₀ is found to be in excess of the prescribed limit of 100 micro gram per cubic meter.

ACTION PLAN FOR CONTROL OF AIR POLLUTION IN NON-ATTAINMENT CITIES

Name of the cities:- **Jodhpur- Rajasthan State.**

Air Pollution concern: **PM₁₀ and PM_{2.5}**

Source group	Action Points	Implementation period	Time Frame for implementation	Responsible agency(ies)
Vehicle Emission Control	1. Launch extensive drive against polluting vehicles for ensuring strict compliance and regular checking of vehicular emission and issue of PUC certificate	Short Term	April-2019	Dept. of Transport Traffic Police
	2. Launch Public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicle, lane discipline, etc.	Short Term	April-2019	Dept. of Transport Traffic Police
	3. Prevent parking of vehicles in the non-designed areas.	Short Term	April 2019	Traffic Police
	4. Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-V fuels are available.	Long Term	Dec-2020	Dept. of Transport
	5. Prepare action plan to check fuel adulteration and random monitoring of fuel quality data.	Short Term	April 2019	Dept. of Food & Supplies
	6. Prepare plan for widening of road and improvement of Infrastructure for decongestion of road.	Mid Term	Dec. 2019	LSG Development Authorities Municipal Corporations UITs in their jurisdiction
	7. Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles	Long Term	Dec. 2019	NHAI PWD
	8. Steps for promoting battery operated vehicles/ Promotion & operationalisation of E-rickshaw	Short Term	April-2019	Dept. of Transport
	9. Install weigh in motion bridge at borders of cities/towns and States to prevent overloading of vehicles	Long Term	Dec. 2019	NHAI PWD
	10. Synchronize traffic movements	Long Term	Dec.	Traffic Police

	/Introduce intelligent traffic systems for lane-driving.		2019	
	11. Installation of remote sensor based PUC system	Long Term	Dec. 2019	Traffic Police
	12. Restriction on plying & phasing out of 15 years old commercial diesel driven vehicles.	Long Term	March-2020	Dept. of Transport
	13. Introduction of cleaner fuel for CNG/LPG vehicles	Long Term	April 2020	Dept. of Transport Food & Supplies
	14. Plan for restriction on the registration on diesel driven Auto-rickshaw & Tempo	Mid Term	Dec. 2019	Dept. of Transport
	15. Monitoring on vehicle fitness	Mid Term	Sept 2019	Dept. of Transport
	16. Periodic calibration test of vehicular emission monitoring instrument	Mid Term	July 2019	Dept. of Transport
	17. Preparation of plan for development Multi level Parking	Long Term	Dec. 2019	UDH Development authorities in their jurisdiction
Re-Suspension of Road Dust and Other Fugitive Emission Control	1. Prepare plan for green buffers along the traffic corridors.	Mid Term	Sept 2019	NHAI PWD Urban local body
	2. Maintain potholes free roads for free roads for free flow of traffic	Mid Term	Sept 2019	NHAI, PWD, and Urban local body
	3. Introduce water fountain at major traffic intersection wherever feasible	Mid Term	Sept 2019	Urban local body Development Authorities Municipal Corporations UITs in their jurisdiction
	4. Greening of open areas, gardens, community places, schools and	Mid Term	Sept 2019	Urban local body

	housing societies			Dept of Education
	5. Blacktopping metaled road including pavement of road shoulders.	Mid Term	Sept 2019	NHAI PWD Urban local body
	6. Widening of roads and construction of pucca footpath along main roads	Long Term	Dec. 2019	RIICO as per requirement and feasibility
	7. Regular cleaning of road	Long Term	March 2020	RIICO UDH
	8. Tree plantation along the roads (RIICO Industrial Areas)	Long Term	Sept 2019	RIICO
Control of Emissions from Biomass/Crop Residue/Garbage/Municipal Solid Waste burning	1. Launch extensive drive against open burning of bio-mass, garbage, leaves, etc.	Short Term	April 2019	Urban local body
	2. Regular check and control of burning of municipal solid waste.	Short Term	April 2019	Urban local body
	3. Ensure ban on burning of agriculture waste and crop residues and its implementation	Long Term	Dec. 2019	Department of Agriculture Revenue
	4. Construction of advanced waste management Site.	Mid Term	Dec-2020	Urban local body
	5. Restriction on open burning of biomass and plastic	Short Term	Regular activity	RIICO Urban local body
	6. Immediate lifting of solid waste generated from desilting and cleaning of drains for its disposal	Short Term	January 2019	RIICO Urban local body
	7. Transportation of solid waste, construction material and debris in covered system.	Short Term	April 2019	RIICO Urban local body
Control Of Industrial Emissions	1. Identification of brick kilns and their regular monitoring including use of designated fuel and closure of unauthorized units.	Mid Term	Sept-2019	State Pollution Control Board

	2. Conversion of natural draft brick kilns to induced draft.	Mid Term	Sept-2019	State Pollution Control Board
	3. Action against non-complying industrial units.	Short Term	Regular activity	State Pollution Control Board
	4. Regulation on setting up of new air polluting industries in industrial areas located in urban limits of these 5 cities.	Mid Term	Dec 2019	State Pollution Control Board RIICO
Control of Air Pollution From Construction and Demolition activities	1. Enforcement of Construction and Demolition Waste Rules	Short Term	Regular activity	Urban Local Bodies Development authorities under their jurisdiction
	2. Control measures for fugitive emissions from material handling-conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units.			
	3. Ensure carriage of construction material in closed / covered vessels.	Short Term	April 2019	Urban Local Bodies RIICO
	4. Covering of construction sites and Restriction on storage of construction materials along the road	Long Term	March 2020	RIICO Urban local body
	5. Restriction on storage of construction materials along the road.	Short Term	April 2019	RIICO Urban Local Bodies
Other Steps to control Air Pollution	1. Air Quality Index to be calculated and disseminated to the people through website and other media.(on maximum weekly basis for manually operated monitoring stations and real time basis for continuous monitoring stations)	Short Term	Regular activity	State Pollution Control Board
	2. Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact CPCB.	Short Term	April 2019	State Pollution Control Board
	3. Set-up and publicize helpline in	Short Term	April	State Pollution

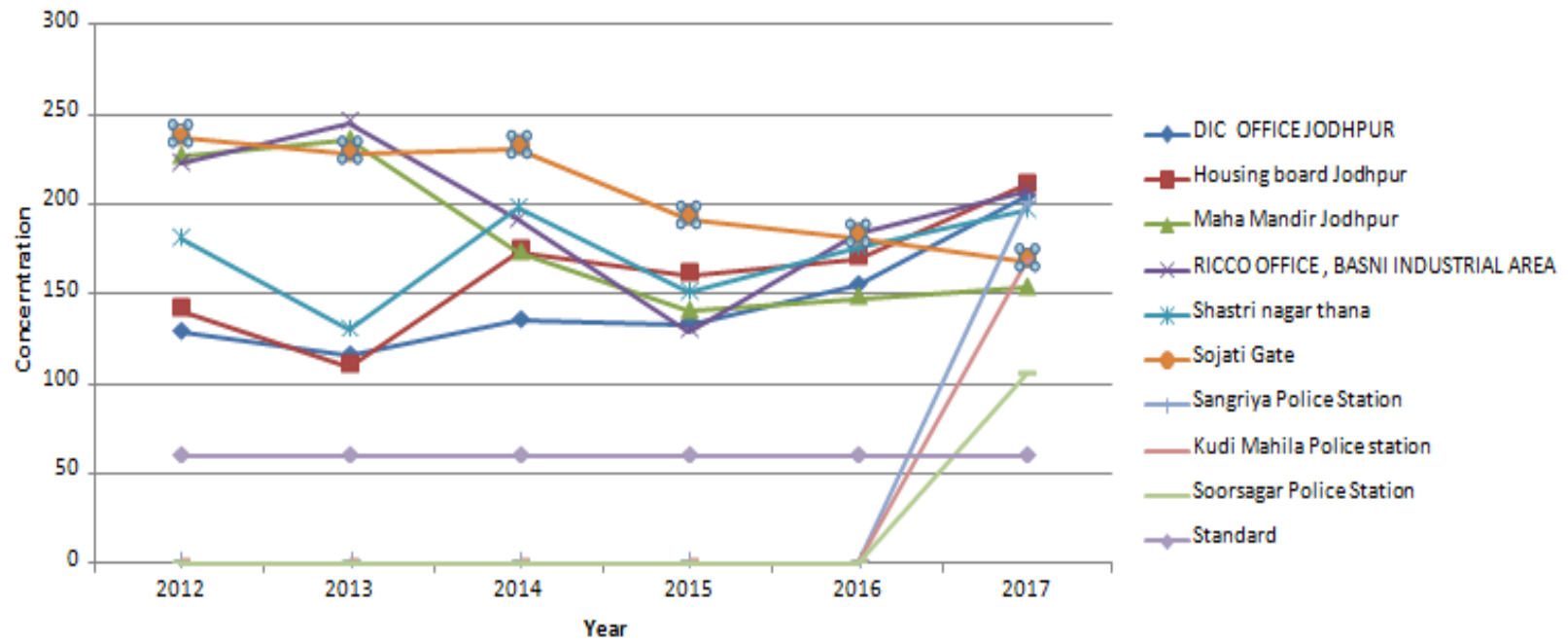
	each city/town as well as SPCB/PCC HQ for complaints against reported non-compliance		2019	Control Board
	1. Engage with concerned authorities on continual basis for maximizing coverage of LPG /PNG for domestic and commercial cooking with target of 100% coverage.	Short Term	April 2019	State Govt.
	2. Monitoring of DG sets and action against violations.	Short Term	July 2019	State Pollution Control Board
	3. Involvement of industrial associations in awareness program (RIICO Industrial Areas)	Mid Term	March 2019	RIICO
	4. Development/maintenance of green areas, gardens and parks (RIICO Industrial Areas)	Long Term	Sept 2019	RIICO

COMPARATIVE STATEMENT												
Ambient Air Quality Monitoring Data of Jodhpur City												
YEARLY AVERAGE LEVEL AT 3 DIFFERENT MONITORING STATIONS												
MONITORING SITES		DIC OFFICE JODHPUR			Housing board Jodhpur				Maha Mandir Jodhpur			
S. No.	Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)		
		SO2	NO2	PM10		SO2	NO2	PM10		SO2	NO2	PM10
1	2012	5.9	23.2	129.0	2012	5.71	23.32	141	2012	5.58	23.21	227
2	2013	5.2	22.1	115.5	2013	5.2	22.4	109.3	2013	5.1	21.8	236.2
3	2014	6.7	32.4	135.0	2014	6.5	29.0	173.8	2014	6.1	27.1	173.4
4	2015	6.0	23.9	133	2015	5.6	22.4	160	2015	5.5	23.1	140.1
5	2016	5.6	23.6	155	2016	5.3	22.2	170	2016	5.3	22.1	148
6	2017	6.3	23.2	205	2017	5.6	20.6	211	2017	5.7	21.0	153
	AVERAGE	6.0	24.7	145	AVERAGE	5.6	23.3	161	AVERAGE	5.5	23.1	180

COMPARATIVE STATEMENT												
Ambient Air Quality Monitoring Data of Jodhpur City												
YEARLY AVERAGE LEVEL AT 3 DIFFERENT MONITORING STATIONS												
MONITORING SITES		RICCO OFFICE , BASNI INDUSTRIAL AREA			Shastri nagar thana				Sojati Gate			
S. No.	Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)		
		SO2	NO2	PM10		SO2	NO2	PM10		SO2	NO2	PM10
1	2012	5.71	22.22	223	2012	6.17	26.32	181	2012	6.34	25.75	237
2	2013	5.4	22.3	245.5	2013	5.7	25.5	130.3	2013	5.7	24.3	227.7
3	2014	7.3	30.1	191.2	2014	7.6	33.3	197.4	2014	6.8	33.5	230.8
4	2015	7.1	23.4	129	2015	5.6	23.0	151	2015	6.0	25.3	191.6
5	2016	6.6	23.5	184	2016	6.0	24.3	176	2016	5.6	25.2	182
6	2017	6.7	23.8	207	2017	5.9	23.1	196	2017	6.5	24.9	168
	AVERAGE	6.5	24.2	197	AVERAGE	6.2	25.9	172	AVERAGE	6.2	26.5	206

Additional three NAMP stations in Jodhpur started in 2017

Particulate Matter (PM₁₀)



Action plan on Non Attainment City - Kota

Kota is situated at Latitude: 25° 9' 46.7928" N & Longitude: 75° 50' 43.1592" E and Elevation above sea level is 271 meters. According to the latest data of Census India, population of Kota in 2011 is 1,001,694. Kota is one of the fastest developing city of Rajasthan. Kota city is situated on the banks of Chambal River, the longest River of Rajasthan. Total no. of vehicles registered as on March, 2017 in Kota District with Transport Department is 763690 (Truck: 20425, Bus 3865, Car: 59497, Taxi: 4120, Jeep: 22396, Three Wheeler: 10184, Two Wheeler: 600084, Tractor: 27208, Trailers: 8618, Tempo (Pass): 3571, Tempo (Goods): 2068 and others: 1650).



The major sources of air pollution in Kota are road dust, vehicular Emission, construction and demolition activities, industrial emissions etc. State Board inspect industries time to time and take essential measures to control pollution emitted by the Industries. For monitoring ambient air quality in the Kota State Board have installed

one Continuous Ambient Air Quality Monitoring Station at Shrinathpuram, Kota. At the Station Particulate Matter (PM₁₀ and PM_{2.5}), Gaseous pollutants – SO₂, NO_x, O₃, CO, VOC and NH₃ and Meteorological parameters like Temperature, Relative Humidity, Wind Speed, Wind Direction, Pressure, Solar Radiation etc are measured continuously. Besides it, State Board has also installed 06 Manual Stations under the National Air Quality Monitoring Program at following locations:

1. Fire Station Nagar Nigam, Shrinathpuram, Kota
2. Municipal Corporation Building, kota
3. Rajasthan Technical University, Rawatbhata Road, Kota
4. Regional Office, Anantpura, Kota
5. Samcore Glass Ltd., Kota
6. Sewage Treatment Plant, Balita, Kota

Rajasthan lies in the arid and semi-arid agro-climatic zone of the country and hence presence of dust due to dry climatic conditions coupled with strong hot air movement is common.

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Name of the cities:- **Kota- Rajasthan State.**

Air Pollution concern: **PM₁₀ and PM_{2.5}**

Source group	Action Points	Implementation period	Time Frame for implementation	Responsible agency(ies)
Vehicle Emission Control	1. Launch extensive drive against polluting vehicles for ensuring strict compliance and regular checking of vehicular emission and issue of PUC certificate	Short Term	April-2019	Dept. of Transport Traffic Police
	2. Launch Public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicle, lane discipline, etc.	Short Term	April-2019	Dept. of Transport Traffic Police
	3. Prevent parking of vehicles in the non-designed areas.	Short Term	April 2019	Traffic Police
	4. Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-V fuels are available.	Long Term	Dec-2020	Dept. of Transport
	5. Prepare action plan to check fuel adulteration and random monitoring of fuel quality data.	Short Term	April 2019	Dept. of Food & Supplies
	6. Prepare plan for widening of road and improvement of Infrastructure for decongestion of road.	Mid Term	Dec. 2019	LSG Development Authorities Municipal Corporations UITs in their jurisdiction
	7. Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles	Long Term	Dec. 2019	NHAI PWD
	8. Steps for promoting battery operated vehicles/ Promotion & operationalisation of E-rickshaw	Short Term	April-2019	Dept. of Transport
	9. Install weigh in motion bridge at borders of cities/towns and States to prevent overloading of vehicles	Long Term	Dec. 2019	NHAI PWD
	10. Synchronize traffic movements /Introduce intelligent traffic systems for lane-driving.	Long Term	Dec. 2019	Traffic Police

	11. Installation of remote sensor based PUC system	Long Term	Dec. 2019	Traffic Police
	12. Restriction on plying & phasing out of 15 years old commercial diesel driven vehicles.	Long Term	March-2020	Dept. of Transport
	13. Introduction of cleaner fuel for CNG/LPG vehicles	Long Term	April 2020	Dept. of Transport Food & Supplies
	14. Plan for restriction on the registration on diesel driven Auto-rickshaw & Tempo	Mid Term	Dec. 2019	Dept. of Transport
	15. Monitoring on vehicle fitness	Mid Term	Sept 2019	Dept. of Transport
	16. Periodic calibration test of vehicular emission monitoring instrument	Mid Term	July 2019	Dept. of Transport
	17. Preparation of plan for development Multi level Parking	Long Term	Dec. 2019	UDH Development authorities in their jurisdiction
	Re-Suspension of Road Dust and Other Fugitive Emission Control	1. Prepare plan for green buffers along the traffic corridors.	Mid Term	Sept 2019
2. Maintain potholes free roads for free roads for free flow of traffic		Mid Term	Sept 2019	NHAI, PWD, and Urban local body
3. Introduce water fountain at major traffic intersection wherever feasible		Mid Term	Sept 2019	Urban local body Development Authorities Municipal Corporations UITs in their jurisdiction
4. Greening of open areas, gardens, community places, schools and housing societies		Mid Term	Sept 2019	Urban local body Dept of Education
5. Blacktopping metaled road including pavement of road shoulders.		Mid Term	Sept 2019	NHAI PWD Urban local body
6. Widening of roads and construction of pucca footpath along main roads (RIICO Industrial Areas)		Long Term	Dec. 2019	RIICO as per requirement and feasibility
7. Regular cleaning of road		Long Term	March 2020	RIICO UDH

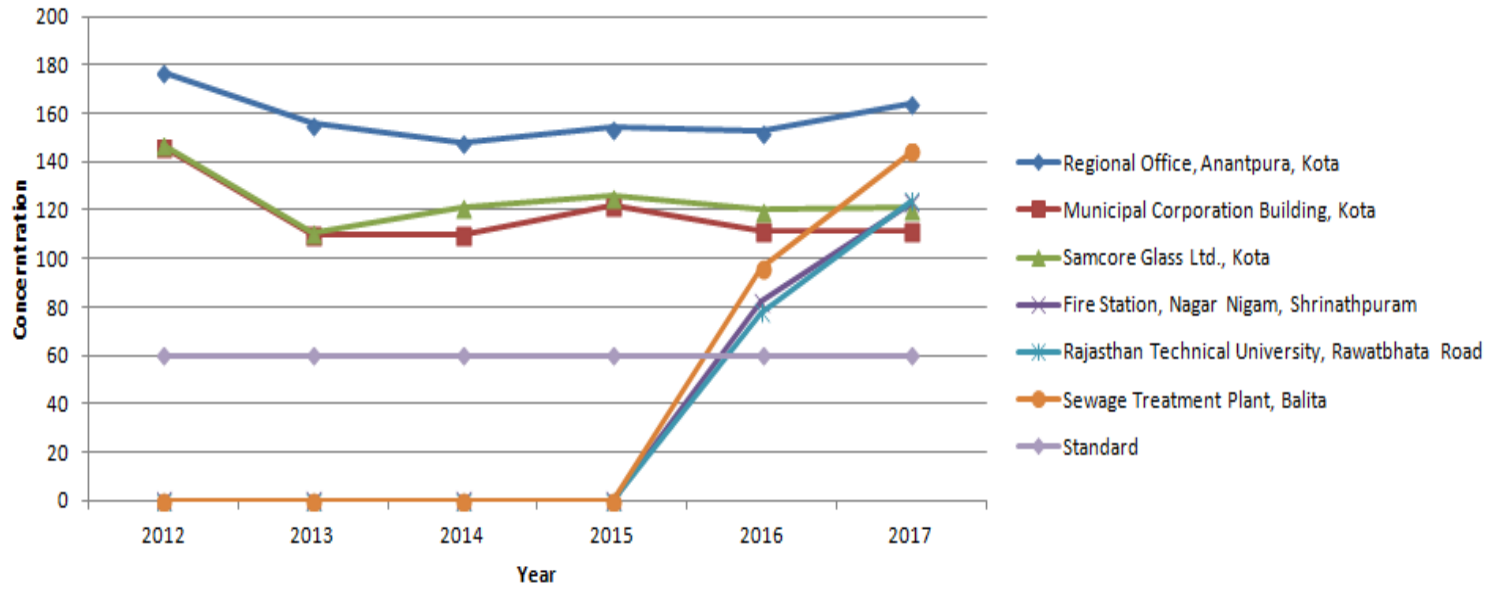
	8. Tree plantation along the roads (RIICO Industrial Areas)	Long Term	Sept 2019	RIICO
Control of Emissions from Biomass/Crop Residue/Garbage/Municipal Solid Waste burning	1. Launch extensive drive against open burning of bio-mass, garbage, leaves, etc.	Short Term	April 2019	Urban local body
	2. Regular check and control of burning of municipal solid waste.	Short Term	April 2019	Urban local body
	3. Ensure ban on burning of agriculture waste and crop residues and its implementation	Long Term	Dec. 2019	Department of Agriculture Department of Revenue
	4. Plan for Construction of advanced waste management Site.	Mid Term	June-2019	Urban local body
	5. Restriction on open burning of biomass and plastic	Short Term	Regular activity	RIICO Urban local body
	6. Immediate lifting of solid waste generated from desilting and cleaning of drains for its disposal	Short Term	January 2019	RIICO Urban local body
	7. Transportation of solid waste, construction material and debris in covered system.	Short Term	April 2019	RIICO Urban local body
Control Of Industrial Emissions	1. Identification of brick kilns and their regular monitoring including use of designated fuel and closure of unauthorized units.	Mid Term	Sept-2019	State Pollution Control Board
	2. Conversion of natural draft brick kilns to induced draft.	Mid Term	Sept-2019	State Pollution Control Board
	3. Action against non-complying industrial units.	Short Term	Regular activity	State Pollution Control Board
	4. Regulation on setting up of new air polluting industries in industrial areas located in urban limits of these 5 cities.	Mid Term	Dec 2019	State Pollution Control Board RIICO
Control of Air	1. Enforcement of Construction and Demolition Waste Rules	Short Term	Regular activity	Urban Local Bodies

Pollution From Construction and Demolition activities	2. Control measures for fugitive emissions from material handling-conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units.			Development authorities under their jurisdiction
	3. Ensure carriage of construction material in closed / covered vessels.	Short Term	April 2019	Urban Local Bodies RIICO
	4. Covering of construction sites and Restriction on storage of construction materials along the road	Long Term	March 2020	RIICO Urban local body
	5. Restriction on storage of construction materials along the road.	Short Term	April 2019	RIICO Urban Local Bodies
Other Steps to control Air Pollution	1. Air Quality Index to be calculated and disseminated to the people through website and other media.(on maximum weekly basis for manually operated monitoring stations and real time basis for continuous monitoring stations)	Short Term	Regular activity	State Pollution Control Board
	2. Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact CPCB.	Short Term	April 2019	State Pollution Control Board
	3. Set-up and publicize helpline in each city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	Short Term	April 2019	State Pollution Control Board
	1. Engage with concerned authorities on continual basis for maximizing coverage of LPG /PNG for domestic and commercial cooking with target of 100% coverage.	Short Term	April 2019	State Govt.
	2. Monitoring of DG sets and action against violations.	Short Term	July 2019	State Pollution Control Board
	3. Involvement of industrial associations in awareness program (RIICO Industrial Areas)	Mid Term	March 2019	RIICO
	4. Development/maintenance of green areas, gardens and parks (RIICO Industrial Areas)	Long Term	Sept 2019	RIICO

COMPARATIVE STATEMENT												
Ambient Air Quality Monitoring Data of Kota City												
YEARLY AVERAGE LEVEL AT 3 DIFFERENT MONITORING STATIONS												
MONITORING SITES		Regional Office, Anantpura, Kota			Municipal Corporation Building, Kota			Samcore Glass Ltd., Kota				
S. No.	Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)		
		SO ₂	NO ₂	PM ₁₀		SO ₂	NO ₂	PM ₁₀		SO ₂	NO ₂	PM ₁₀
1	2012	9.1	33.2	177	2012	7.1	30.2	146	2012	7.1	30.2	147
2	2013	7.3	35.7	155.7	2013	6.8	32.3	110.1	2013	6.8	32.7	111.0
3	2014	7.2	37.7	148.1	2014	6.4	33.7	110.0	2014	6.4	34.6	121.1
4	2015	6.9	36.6	154	2015	6.2	31.8	122	2015	6.2	34.0	125.8
5	2016	7.5	35.9	152	2016	6.5	33.0	111	2016	6.6	34.1	120
6	2017	8.5	28.7	164	2017	9.5	28.9	112	2017	8.7	24.8	121
	AVERAGE	7.8	34.6	159	AVERAGE	7.1	31.7	119	AVERAGE	7.0	31.7	124

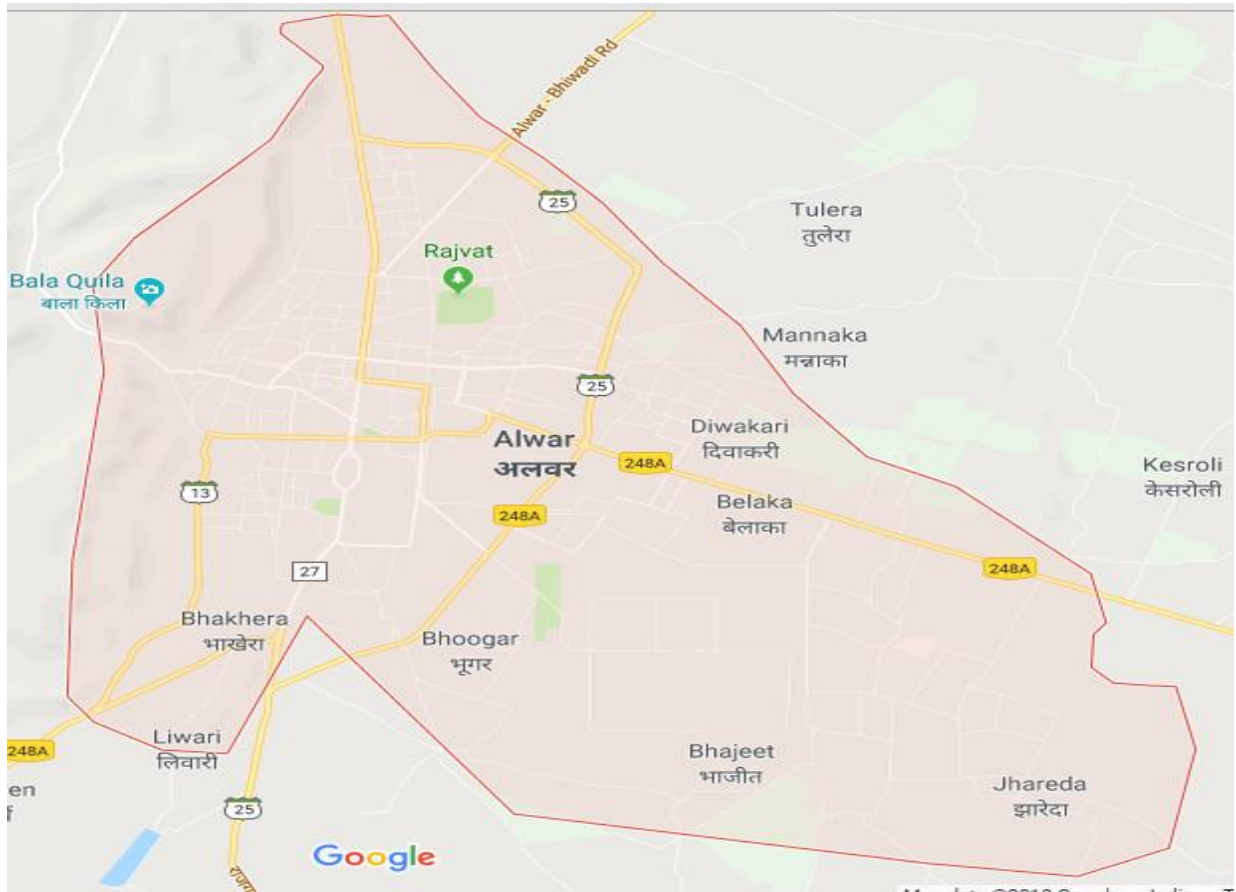
COMPARATIVE STATEMENT												
Ambient Air Quality Monitoring Data of Kota City												
YEARLY AVERAGE LEVEL AT 3 DIFFERENT MONITORING STATIONS												
MONITORING SITES		Fire Station, Nagar Nigam, Shrinathpuram			Rajasthan Technical University, Rawatbhata Road			Sewage Treatment Plant, Balita				
S. No.	Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)		
		SO ₂	NO ₂	PM ₁₀		SO ₂	NO ₂	PM ₁₀		SO ₂	NO ₂	PM ₁₀
1	2016	6.5	25.2	82	2016	6.8	25.3	78	2016	6.6	25.3	96
2	2017	7.9	27.7	123	2017	7.6	27.6	124	2017	7.7	27.9	144
	AVERAGE	7.2	26.4	103	AVERAGE	7.2	26.4	101	AVERAGE	7.2	26.6	120

Particulate Matter (PM₁₀)



Action plan on Non Attainment City - Alwar

Alwar is situated at Latitude: 27° 33' 39.3552" N & Longitude: 76° 37' 30.0540" E and Elevation above sea level is 268 meters. According to the latest data of Census India, population of Alwar in 2011 is 315,379. Alwar city falls under the semi-arid of climate. Total no. of vehicles registered as on March, 2017 in Alwar District with Transport Department is 725592 (Truck: 23483, Bus 3339, Car: 37578, Taxi: 2809, Jeep: 10265, Three Wheeler: 2171, Two Wheeler: 576739, Tractor: 63780, Trailers: 1717, Tempo (Pass) : 985, Tempo (Goods): 1368 and others: 1356).



The major sources of air pollution in Alwar are road dust, vehicular Emission, construction and demolition activities, industrial emissions etc. State Board regularly inspects industries and take essential measures to control pollution

emitted by the Industries. For monitoring ambient air quality in the Alwar State Board have installed one Continuous Ambient Air Quality Monitoring Station at S.M.D. Circle, Alwar. At the Station Particulate Matter (PM_{10} and $PM_{2.5}$), Gaseous pollutants – SO_2 , NO_x , O_3 , CO , VOC and NH_3 and Meteorological parameters like Temperature, Relative Humidity, Wind Speed, Wind Direction, Pressure, Solar Radiation etc are measured continuously. Besides, State Board has also installed 03 Manual Stations under the National Air Quality Monitoring Program at following locations:

1. Gaurav Solvex ,Alwar
2. Regional Office,Alwar
3. RIICO Pump House,M.I.A. Alwar

Rajasthan lies in the arid and semi-arid agro-climatic zone of the country and hence presence of dust due to dry climatic conditions coupled with strong hot air movement is common.

Presence of Particulate Matter in the atmosphere goes particularly high during summer months and during winters when the phenomenon of thermal inversion occurs.

As per the available data, level of gaseous pollutants like SO_2 and NO_2 are well within the prescribed limit of 80 micro gram per cubic metre. Due to the dry conditions prevailing over a major part of the year, levels of PM_{10} is found to be in excess of the prescribed limit of 100 micro gram per cubic metre.

ACTION PLAN FOR CONTROL OF AIR POLLUTION IN NON-ATTAINMENT CITIES

Name of the cities:- **Alwar- Rajasthan State.**

Air Pollution concern: **PM₁₀ and PM_{2.5}**

Source group	Action Points	Implementation period	Time Frame for implementation	Responsible agency(ies)
Vehicle Emission Control	1. Launch extensive drive against polluting vehicles for ensuring strict compliance and regular checking of vehicular emission and issue of PUC certificate	Short Term	April-2019	Dept. of Transport Traffic Police
	2. Launch Public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicle, lane discipline, etc.	Short Term	April-2019	Dept. of Transport Traffic Police
	3. Prevent parking of vehicles in the non-designed areas.	Short Term	April 2019	Traffic Police
	4. Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-V fuels are available.	Long Term	Dec-2020	Dept. of Transport
	5. Prepare action plan to check fuel adulteration and random monitoring of fuel quality data.	Short Term	April 2019	Dept. of Food & Supplies
	6. Prepare plan for widening of road and improvement of Infrastructure for decongestion of road.	Mid Term	Dec. 2019	LSG Development Authorities Municipal Corporations UITs in their jurisdiction
	7. Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles	Long Term	Dec. 2019	NHAI PWD
	8. Steps for promoting battery operated vehicles/ Promotion & operationalisation of E-rickshaw	Short Term	April-2019	Dept. of Transport
	9. Install weigh in motion bridge at borders of cities/towns and States to prevent overloading of vehicles	Long Term	Dec. 2019	NHAI PWD

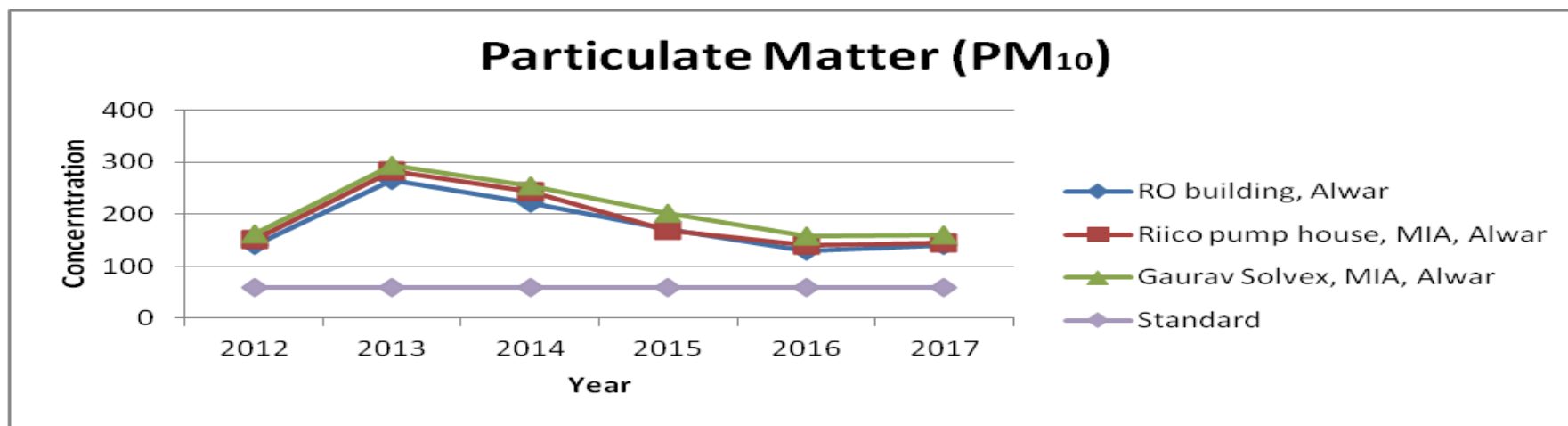
	10. Synchronize traffic movements /Introduce intelligent traffic systems for lane-driving.	Long Term	Dec. 2019	Traffic Police
	11. Installation of remote sensor based PUC system	Long Term	Dec. 2019	Traffic Police
	12. Restriction on plying & phasing out of 15 years old commercial diesel driven vehicles.	Long Term	March-2020	Dept. of Transport
	13. Introduction of cleaner fuel for CNG/LPG vehicles	Long Term	April 2020	Dept. of Transport Food &Supplies
	14. Plan for restriction on the registration on diesel driven Auto-rickshaw & Tempo	Mid Term	Dec. 2019	Dept. of Transport
	15. Monitoring on vehicle fitness	Mid Term	Sept 2019	Dept. of Transport
	16. Periodic calibration test of vehicular emission monitoring instrument	Mid Term	July 2019	Dept. of Transport
	17. Preparation of plan for development Multi level Parking	Long Term	Dec. 2019	UDH Development authorities in their jurisdiction
Re-Suspension of Road Dust and Other Fugitive Emission Control	1. Prepare plan for green buffers along the traffic corridors.	Mid Term	Sept 2019	NHAI PWD Urban local body
	2. Maintain potholes free roads for free roads for free flow of traffic	Mid Term	Sept 2019	NHAI, PWD, and Urban local body
	3. Introduce water fountain at major traffic intersection wherever feasible	Mid Term	Sept 2019	Urban local body Development Authorities Municipal Corporations UITs in their jurisdiction
	4. Greening of open areas, gardens, community places, schools and housing societies	Mid Term	Sept 2019	Urban local body Dept of Education

	5. Blacktopping metaled road including pavement of road shoulders.	Mid Term	Sept 2019	NHAI PWD Urban local body
	6. Widening of roads and construction of pucca footpath along main roads (RIICO Industrial Areas)	Long Term	Dec. 2019	RIICO as per requirement and feasibility
	7. Regular cleaning of road	Long Term	March 2020	RIICO UDH
	8. Tree plantation along the roads (RIICO Industrial Areas)	Long Term	Sept 2019	RIICO
Control of Emissions from Biomass/Crop Residue/Garbage/Municipal Solid Waste burning	1. Launch extensive drive against open burning of bio-mass, garbage, leaves, etc.	Short Term	April 2019	Urban local body
	2. Regular check and control of burning of municipal solid waste.	Short Term	April 2019	Urban local body
	3. Ensure ban on burning of agriculture waste and crop residues and its implementation	Long Term	Dec. 2019	Department of Agriculture Revenue
	4. Plan for Construction of advanced waste management Site.	Mid Term	June-2019	Urban local body
	5. Restriction on open burning of biomass and plastic	Short Term	Regular activity	RIICO Urban local body
	6. Immediate lifting of solid waste generated from desilting and cleaning of drains for its disposal	Short Term	January 2019	RIICO Urban local body
	7. Transportation of solid waste, construction material and debris in covered system.	Short Term	April 2019	RIICO Urban local body
Control Of Industrial Emissions	1. Identification of brick kilns and their regular monitoring including use of designated fuel and closure of unauthorized units.	Mid Term	Sept-2019	State Pollution Control Board
	2. Conversion of natural draft brick kilns to induced draft.	Mid Term	Sept-2019	State Pollution Control Board
	3. Action against non-complying industrial units.	Short Term	Regular activity	State Pollution Control Board

	4. Regulation on setting up of new air polluting industries in industrial areas located in urban limits of these 5 cities.	Mid Term	Dec 2019	State Pollution Control Board RIICO
Control of Air Pollution From Construction and Demolition activities	1. Enforcement of Construction and Demolition Waste Rules	Short Term	Regular activity	Urban Local Bodies Development authorities under their jurisdiction
	2. Control measures for fugitive emissions from material handling-conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units.			
	3. Ensure carriage of construction material in closed / covered vessels.	Short Term	April 2019	Urban Local Bodies RIICO
	4. Covering of construction sites and Restriction on storage of construction materials along the road	Long Term	March 2020	RIICO Urban local body
	5. Restriction on storage of construction materials along the road.	Short Term	April 2019	RIICO Urban Local Bodies
Other Steps to control Air Pollution	1. Air Quality Index to be calculated and disseminated to the people through website and other media.(on maximum weekly basis for manually operated monitoring stations and real time basis for continuous monitoring stations)	Short Term	Regular activity	State Pollution Control Board
	2. Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact CPCB.	Short Term	April 2019	State Pollution Control Board
	3. Set-up and publicize helpline in each city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	Short Term	April 2019	State Pollution Control Board
	1. Engage with concerned authorities on continual basis for maximizing coverage of LPG /PNG for domestic and commercial cooking with target of 100% coverage.	Short Term	April 2019	State Govt.

	2. Monitoring of DG sets and action against violations.	Short Term	July 2019	State Pollution Control Board
	3. Involvement of industrial associations in awareness program (RIICO Industrial Areas)	Mid Term	March 2019	RIICO
	4. Development/maintenance of green areas, gardens and parks (RIICO Industrial Areas)	Long Term	Sept 2019	RIICO

COMPARATIVE STATEMENT												
Ambient Air Quality Monitoring Data of Alwar City												
YEARLY AVERAGE LEVEL AT 3 DIFFERENT MONITORING STATIONS												
MONITORING SITES		RO building, Alwar			Riico pump house, MIA, Alwar			Gaurav Solvex, MIA, Alwar				
S. No.	Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)		
		SO2	NO2	PM10		SO2	NO2	PM10		SO2	NO2	PM10
1	2012	7.4	20	141	2012	11.2	22.8	152	2012	12.5	23.4	163
2	2013	7.3	19.4	265	2013	11.6	22.4	284	2013	11.8	22.2	293
3	2014	8.5	20.7	222	2014	12.1	23.5	245	2014	13.5	23.6	255
4	2015	9.3	24.7	170	2015	9.8	25.8	169	2015	10.1	25.6	201
5	2016	7.0	30.6	130	2016	8.1	32.7	140	2016	8.7	32.6	159
6	2017	6.6	30.9	140	2017	8.2	33.6	144	2017	8.3	33.7	159
	AVERAGE	7.7	24.4	178	AVERAGE	10.2	26.8	189	AVERAGE	10.8	26.9	205



Action plan on Non Attainment City - Udaipur

Udaipur is situated at Latitude: 24° 34' 16.5720" N & Longitude: 73° 41' 29.5584" and Elevation above sea level is 600 meters. According to the latest data of Census India, population of Udaipur in 2011 is 451,100. Udaipur is popularly known as Lake city. Lake Pichola, Fateh Sagar Lake, Udai Sagar and Swaroop Sagar in this city are considered some of the most beautiful lakes in the state. Total no. of vehicles registered as on March, 2017 in Udaipur District with Transport Department is 814490 (Truck: 32623, Bus 6270, Car: 73491, Taxi: 9237, Jeep: 203705, Three Wheeler: 8057, Two Wheeler: 632370, Tractor: 18295, Trailers: 5117, Tempo (Pass) : 3291, Tempo (Goods): 3201 and others: 2167).



The major sources of air pollution in Udaipur are road dust, vehicular Emission, construction and demolition activities, industrial emissions etc. State Board

inspects industries time to time and takes essential measures to control pollution emitted by the Industries. For monitoring ambient air quality in the Udaipur State Board have installed one Continuous Ambient Air Quality Monitoring Station at Court Circle, Udaipur. At the Station Particulate Matter (PM₁₀ and PM_{2.5}), Gaseous pollutants – SO₂, NO_x, O₃, CO, VOC and NH₃ and Meteorological parameters like Temperature, Relative Humidity, Wind Speed, Wind Direction, Pressure, Solar Radiation etc are measured continuously. Besides it, State Board has also installed 03 Manual Stations under the National Air Quality Monitoring Program at following locations:

1. Amba Mata, Udaipur
2. Regional Office, Udaipur
3. Town Hall, Udaipur

Rajasthan lies in the arid and semi-arid agro-climatic zone of the country and hence presence of dust due to dry climatic conditions coupled with strong hot air movement is common.

Presence of Particulate Matter in the atmosphere goes particularly high during summer months and during winters when the phenomenon of thermal inversion occurs.

As per the available data, level of gaseous pollutants like SO₂ and NO₂ are well within the prescribed limit of 80 micro gram per cubic metre. Due to the dry conditions prevailing over a major part of the year, levels of PM₁₀ is found to be in excess of the prescribed limit of 100 micro gram per cubic metre.

ACTION PLAN FOR CONTROL OF AIR POLLUTION IN NON-ATTAINMENT CITIES

Name of the cities:- **Udaipur- Rajasthan State.**

Air Pollution concern: **PM₁₀ and PM_{2.5}**

Source group	Action Points	Implementation period	Time Frame for implementation	Responsible agency(ies)
Vehicle Emission Control	1. Launch extensive drive against polluting vehicles for ensuring strict compliance and regular checking of vehicular emission and issue of PUC certificate	Short Term	April-2019	Dept. of Transport Traffic Police
	2. Launch Public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicle, lane discipline, etc.	Short Term	April-2019	Dept. of Transport Traffic Police
	3. Prevent parking of vehicles in the non-designed areas.	Short Term	April 2019	Traffic Police
	4. Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-V fuels are available.	Long Term	Dec-2020	Dept. of Transport
	5. Prepare action plan to check fuel adulteration and random monitoring of fuel quality data.	Short Term	April 2019	Dept. of Food & Supplies
	6. Prepare plan for widening of road and improvement of Infrastructure for decongestion of road.	Mid Term	Dec. 2019	LSG Development Authorities Municipal Corporations UITs in their jurisdiction
	7. Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles	Long Term	Dec. 2019	NHAI PWD
	8. Steps for promoting battery operated vehicles/ Promotion & operationalisation of E-rickshaw	Short Term	April-2019	Dept. of Transport
	9. Install weigh in motion bridge at borders of cities/towns and States to prevent overloading of vehicles	Long Term	Dec. 2019	NHAI PWD

	10. Synchronize traffic movements /Introduce intelligent traffic systems for lane-driving.	Long Term	Dec. 2019	Traffic Police
	11. Installation of remote sensor based PUC system	Long Term	Dec. 2019	Traffic Police
	12. Restriction on plying & phasing out of 15 years old commercial diesel driven vehicles.	Long Term	March-2020	Dept. of Transport
	13. Introduction of cleaner fuel for CNG/LPG vehicles	Long Term	April 2020	Dept. of Transport Food &Supplies
	14. Plan for restriction on the registration on diesel driven Auto-rickshaw & Tempo	Mid Term	Dec. 2019	Dept. of Transport
	15. Monitoring on vehicle fitness	Mid Term	Sept 2019	Dept. of Transport
	16. Periodic calibration test of vehicular emission monitoring instrument	Mid Term	July 2019	Dept. of Transport
	17. Preparation of plan for development Multi level Parking	Long Term	Dec. 2019	UDH Development authorities in their jurisdiction
Re-Suspension of Road Dust and Other Fugitive Emission Control	1. Prepare plan for green buffers along the traffic corridors.	Mid Term	Sept 2019	NHAI PWD Urban local body
	2. Maintain potholes free roads for free roads for free flow of traffic	Mid Term	Sept 2019	NHAI, PWD, and Urban local body
	3. Introduce water fountain at major traffic intersection wherever feasible	Mid Term	Sept 2019	Urban local body Development Authorities Municipal Corporations UITs in their jurisdiction
	4. Greening of open areas, gardens, community places, schools and housing societies	Mid Term	Sept 2019	Urban local body Dept of Education

	5. Blacktopping metaled road including pavement of road shoulders.	Mid Term	Sept 2019	NHAI PWD Urban local body
	6. Widening of roads and construction of pucca footpath along main roads (RIICO Industrial Areas)	Long Term	Dec. 2019	RIICO as per requirement and feasibility
	7. Regular cleaning of road (RIICO and other areas)	Long Term	March 2020	RIICO UDH
	8. Tree plantation along the roads (RIICO Industrial Areas)	Long Term	Sept 2019	RIICO
Control of Emissions from Biomass/Crop Residue/Garbage/Municipal Solid Waste burning	1. Launch extensive drive against open burning of bio-mass, garbage, leaves, etc.	Short Term	April 2019	Urban local body
	2. Regular check and control of burning of municipal solid waste.	Short Term	April 2019	Urban local body
	3. Ensure ban on burning of agriculture waste and crop residues and its implementation	Long Term	Dec. 2019	Department of Agriculture Revenue
	4. Plan for Construction of advanced waste management Site.	Mid Term	June-2019	Urban local body
	5. Restriction on open burning of biomass and plastic	Short Term	Regular activity	RIICO Urban local body
	6. Immediate lifting of solid waste generated from desilting and cleaning of drains for its disposal	Short Term	January 2019	RIICO Urban local body
	7. Transportation of solid waste, construction material and debris in covered system.	Short Term	April 2019	RIICO Urban local body
Control Of Industrial Emissions	1. Identification of brick kilns and their regular monitoring including use of designated fuel and closure of unauthorized units.	Mid Term	Sept-2019	State Pollution Control Board
	2. Conversion of natural draft brick kilns to induced draft.	Mid Term	Sept-2019	State Pollution Control Board
	3. Action against non-complying industrial units.	Short Term	Regular activity	State Pollution Control Board

	4. Regulation on setting up of new air polluting industries in industrial areas located in urban limits of these 5 cities.	Mid Term	Dec 2019	State Pollution Control Board RIICO
Control of Air Pollution From Construction and Demolition activities	1. Enforcement of Construction and Demolition Waste Rules	Short Term	Regular activity	Urban Local Bodies Development authorities under their jurisdiction
	2. Control measures for fugitive emissions from material handling-conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units.			
	3. Ensure carriage of construction material in closed / covered vessels.	Short Term	April 2019	Urban Local Bodies RIICO
	4. Covering of construction sites and Restriction on storage of construction materials along the road	Long Term	March 2020	RIICO Urban local body
	5. Restriction on storage of construction materials along the road.	Short Term	April 2019	RIICO Urban Local Bodies
Other Steps to control Air Pollution	1. Air Quality Index to be calculated and disseminated to the people through website and other media.(on maximum weekly basis for manually operated monitoring stations and real time basis for continuous monitoring stations)	Short Term	Regular activity	State Pollution Control Board
	2. Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact CPCB.	Short Term	April 2019	State Pollution Control Board
	3. Set-up and publicize helpline in each city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	Short Term	April 2019	State Pollution Control Board
	1. Engage with concerned authorities on continual basis for maximizing coverage of LPG /PNG for domestic and commercial cooking with target of 100% coverage.	Short Term	April 2019	State Govt.

	2. Monitoring of DG sets and action against violations.	Short Term	July 2019	State Pollution Control Board
	3. Involvement of industrial associations in awareness program (RIICO Industrial Areas)	Mid Term	March 2019	RIICO
	4. Development/maintenance of green areas, gardens and parks (RIICO Industrial Areas)	Long Term	Sept 2019	RIICO

COMPARATIVE STATEMENT

Ambient Air Quality Monitoring Data of Udaipur City

YEARLY AVERAGE LEVEL AT 3 DIFFERENT MONITORING STATIONS

MONITORING SITES		Ambamate Udaipur			Regional office udaipur				Townhall Udaipur			
S. No.	Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)		
		SO2	NO2	PM10		SO2	NO2	PM10		SO2	NO2	PM10
1	2012	5.1	21.8	121	2012	6.4	36.1	209	2012	6.4	35.2	209
2	2013	5.4	24.7	115	2013	5.16	22.40	109	2013	6.15	35.30	128
3	2014	5.3	25.6	87	2014	5.74	34.11	101	2014	5.74	34.11	101
4	2015	5.5	27.6	113	2015	6.34	36.20	223	2015	5.93	34.51	133
5	2016	5.7	28.8	103	2016	6.55	35.44	207	2016	6.20	33.90	115
6	2017	7.3	35.2	98	2017	8.85	39.11	182	2017	7.25	35.16	98
	AVERAGE	5.7	27.3	106	AVERAGE	6.5	33.9	172	AVERAGE	6.3	34.7	131

