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Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India



August 2022

THRIVE
NETWORKS



International Organization for Migration (IOM)
The UN Migration Agency



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Building Healthy Cities

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ANNEX 1

Clean Air Guide Job Description

This job description for the Clean Air Guides (CAGs) is meant as a guide for hiring such city staff in the future. It is modeled after those guides engaged for the USAID-funded Building Healthy Cities project's "Increasing Community Participation in Air Pollution Mitigation" study in 2020-2022. The goal of this activity was to demonstrate the feasibility of active community participation in addressing air pollution at the community level. For this activity, the CAGs were part-time volunteers receiving a monthly stipend. They received training and support, but no regular salary. As Indore and other cities consider building similar cadres, they may want to revisit making these salaried positions, particularly if they intend for the positions to cover more functions and responsibilities.

Major Roles and Responsibilities of CAGs

CAGs had three main functions: maintain and read the low-cost air quality sensors; educate the community using these data and air pollution facts; and lead advocacy efforts with the community and city government authorities in relevant sectors to suggest air quality measures for their neighborhood and the city. Under each area, there were additional job requirements:

Maintain and Read Low-cost Air Quality Sensors

1. Collate and interpret data from low-cost air quality sensors in their area and understand basic air quality data, observe variations over time, record readings, and check the real-time dashboard on their phones.
2. Complete basic tabulations and analysis to correlate these data with changes in weather conditions and human activity (e.g., cultural events, festivals) or other happenings in the community.
3. Maintain low-cost air quality sensors with basic cleaning and operation, recharge the SIM cards, and notify the city if the sensor appears to be malfunctioning.

Educate the Community

1. Educate and empower citizens and communities about air quality and its effect on health, using air pollution facts and resources to convey the general concepts of what is air pollution.
2. Increase community awareness about local PM_{2.5} readings, sources of air pollution, and actions needed to reduce emissions and exposure to local pollutants.

Advocacy Efforts

1. Identify and suggest measures required at the community level and for each government sector/system to reduce air pollution in Indore City.
2. Facilitate community participation in rallies, town halls, clean up days, and other activities where they can ask for, or participate in, greater air quality action.
3. Participate in activities organized by the government in making Indore a clean and green city.

Minimum Requirements for CAG Role

- College graduate preferred, with science or social work degree.
- Basic data literacy; experience with simple tabulations a plus. Knowledge and experience in use of Excel desirable.
- Good oral communication skills and positive attitude for community work.
- Resident of the same or nearby community where they will work.

Training Provided to CAGs

Each CAG, once hired, will require a basic set of trainings that include:

- Technical definitions for terms relating to air quality.
- Facts and figures relating to air quality and health in their respective cities.
- Functionality and maintenance of the low-cost air quality sensors.
- Reading and data documentation for the sensor data, including how to spot outliers or incorrect readings.
- Introductions to and contact information for the relevant city offices with whom they would be required to communicate for sensor maintenance and reporting of community information.

Additional materials may include:

- Worksheets or logbooks for recording air quality readings.
- Materials to help with community awareness and advocacy.
- An identification badge issued by the hiring agency/local organization was found to help facilitate their work (example at right).



ANNEX 2

Low-cost Air Quality Sensor Installation Sites and Clean Air Guide Details

No.	Sensor Code	Site Name	Site Type	Latitude	Longitude	Clean Air Guide Name	Clean Air Guide Period	Additional Clean Air Guide Name	Additional Clean Air Guide Period
1	41578	Pipliyahana Square	Construction	22.70654	75.904399	Mrs. Manjit Garg	January 2021 - February 2022		
2	41574	Luniyapura	Residential (informal settlement)	22.713033	75.86722	Mr. Jugal Kishore Chouhan	January 2021 - February 2022		
3	41591	Reti Mandi Square	Traffic congestion point	22.663777	75.823496	Miss Isha Parulkar	January 2021 - February 2022		
4	41582	M.Y. Teaching Hospital campus	Traffic congestion point	22.715277	75.875789	Miss Vadeeni Pradhan	January 2021 - February 2022		
5	41587	Gangwal bus stand	Traffic congestion point	22.712941	75.842335	Miss Vani Joshi	January 2021 - February 2022		
6	41577	Palasia Square	Traffic congestion point	22.723593	75.887027	Mr. Deepak	January - September 2021	Mr. Raja Singh Chouhan	December 2021 - February 2022
7	41606	Amar Tekri, primary school	Residential (informal settlement)	22.731698	75.882346	Mr. Rohit Joshi	January - December 2021	Mr. Utkarsh Dongre	January 2021 - February 2022
8	41576	Amar Tekri, Anganwadi center	Residential (informal settlement)	22.731543	75.881192	Miss Mini	January 2021 - February 2022		
9	41581	Narwal, Sanwer Road, Anganwadi center	Residential (informal settlement)/ industrial	22.769501	75.849647	Miss Nisha Malvia	January 2021 - February 2022		
10	41584	In front of airport (Panchsheel Nagar)	Residential (informal settlement)	22.729745	75.816171	Miss Priyanka Tayre	January 2021 - February 2022		

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11	41579	Indira Ekta Nagar	Industrial	22.690592	75.899484	Mrs. Pooja Raghuwansi	January 2021 - February 2022		
12	41599	Footi Kothi Square	Commercial	22.695792	75.82311	Smt. Madhurta Yadav	January 2021 - February 2022		
13	41572	ISCDL office campus	Construction, public place	22.723603	75.870468	Ms. Seema Sisodiya	January - December 2021	Mrs. Kalpana Sharma	January 2021 - February 2022
14	41583	56 Dukaan food street	Commercial	22.731698	75.884674	Mr. Himlesh	January - December 2021	Miss Radhika Tawar	January 2021 - February 2022
15	41598	Near Rajwada	Traffic congestion point/ commercial	22.720886	75.855045	Miss Shalini Bhagora	January 2021 - February 2022		
16	41573	Chhoti Gwaltoli DIG office*	Traffic congestion point	22.720071	75.870643	Mr. Piyush Porwal	January - December 2021	Mr. Krishna Chouhan	January 2021 - February 2022
17	41596	IPCA, industrial area	Industrial	22.76567	75.8505	Mr. Mudassir Khan	May 2021 - February 2022		
18	41580	Narwal, Sanwer Road, primary school	Traffic congestion point/ industrial	22.7310	75.8810	Mr. Aakash Malvia	August 2021 - February 2022		
19	41586	Navlakha Square	Traffic congestion point	22.877567	75.698565	Mr. Ankit Soni	January - September 2021	Miss Kajal Kankane	December 2021 - February 2022
20	41607	Regional Park	Public place			Mr. Rahul Nagar	January 2021 - February 2022		

* Also a co-location validation site

ANNEX 3

Clean Air Guide Knowledge Assessment Questionnaire

QUESTIONS

1. How can you tell if the air you breathe is polluted?
 - (a) Bad smell
 - (b) Reduction in visibility
 - (c) Increase in temperature
 - (d) Difficulty breathing it
 - (e) All of the above
2. What does PM stand for?
 - (a) Pollution Marker
 - (b) Powder Mixture
 - (c) Particulate Matter
 - (d) none of the above
3. What is the difference between PM_{2.5} and PM₁₀?
 - (a) Their size
 - (b) Their smell
 - (c) Their taste
 - (d) Their color
4. Other than PM_{2.5} and PM₁₀, are there any other air pollutants can be measured?
 - (a) Yes
 - (b) No
 - (c) I don't know
5. Air inside a home is never as polluted as air outside a home.
 - (a) True
 - (b) False
 - (c) I don't know
6. What is the Indian National Ambient Air Quality Standards daily limit for PM_{2.5}, meaning any value above this limit indicates the air is unhealthy?
 - (a) 20 PM_{2.5}
 - (b) 30 PM_{2.5}
 - (c) 60 PM_{2.5}
 - (d) 100 PM_{2.5}

7. Why is it important to measure air quality over several days or weeks instead of at just one point in time?
- (a) Exposure to unhealthy air happens over time
 - (b) Short term high values don't always affect your health
 - (c) Changes in weather affect air pollution levels from time to time
 - (d) All of the above
8. According to the Indian government air quality categories, if air quality is "Severe" ($PM_{2.5}$ over 250) what is the human health impact of that pollution?
- (a) No real health impact, it is just a nuisance
 - (b) Only the very old will be affected
 - (c) Health impact for everyone even on light physical work – especially people with lung/heart disease will be affected
 - (d) Only children will be affected
9. How do community members share their complaints and data about air pollution with their city official?
- (a) Speak to parshad
 - (b) Call CM Helpline
 - (c) Using 311 app
 - (d) All of the above
10. If we need to show local officials how air quality is changing over time in our neighborhood, what is the best type of data graph to use?

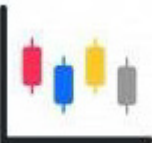
(a) Pie



(b) Line



(c) Boxplot



(d) Bar



ANSWERS

1. **The answer is E**, all of the above. All of these options can be signs that your air is polluted.
2. **The answer is C**, Particulate Matter. This is a term for a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. Others are so small they can only be detected using an electron microscope. For more information, see: <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#PM>
3. **The answer is A**, their size. The 2.5 and 10 refer to microns, which is a measure of size. For more information, see: <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#PM>
4. **The answer is A**, yes. The most common other pollutants include nitric oxide (NO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), carbon monoxide (CO), and ozone (O₃), among others. Read more at: <https://urbanemissions.info/blog-pieces/whats-polluting-delhis-air/>
5. **The answer is B**, false. The levels of indoor air pollutants are often 2 to 5 times higher than outdoor levels, and in some cases these levels can exceed 100 times that of outdoor levels of the same pollutants. In other words, sometimes the air inside can be more harmful than the air outside. For more information, see: <https://www.epa.gov/indoor-air-quality-iaq/inside-story-guide-indoor-air-quality> and <https://www.cnbc.com/2016/04/22/indoor-air-can-be-deadlier-than-outdoor-air-research-shows.html>
6. **The answer is C**, 60 PM_{2.5}. This is based on the latest Indian National Ambient Air Quality Standards limit for a 24-hour period. Every country may have a different limit, but most are close to the limit set by the World Health Organization of 50 PM_{2.5}.
7. **The answer is D**, all of the above. Air pollution readings can vary a lot, even within one day. It is important to consider what the average is over at least 24 hours, if not a week or a month, before coming to a decision about people's overall health risk due to bad air.
8. **The answer is C**, health impact for everyone even on light physical work – especially people with lung/heart disease will be affected. Indian AQI categories and ranges correspond to different values of PM_{2.5} and PM₁₀ and their resulting health impacts (see table below).

AQI Category	PM _{2.5} (ug/m ³)	PM ₁₀ (ug/m ³)	Health Impact
Good (0-50)	0-30	0-50	Minimal
Satisfactory (51-100)	31-60	51-100	Minor Breathing discomfort to sensitive people.
Moderately polluted (101-200)	61-90	101-250	Breathing discomfort to asthma patients, elderly and children.
Poor (201-300)	91-120	251-350	Breathing discomfort to all
Very poor (301-400)	121-250	351-430	Respiratory illness on prolonged exposure.
Severe (401-500)	250+	430+	Health impact even on light physical work. Serious impact on people with heart/lung disease.

9. **The answer is D**, all of the above. Citizens have many options for reporting complaints including speaking face to face to their local parshad, calling the CM Helpline, and messaging the city via the 311 app. For more information, see:
<https://www.jsi.com/resource/building-healthy-cities-assessment-report-on-citizen-reporting-systems-in-indore-city/>
10. **The answer is B**, a line graph. This type of graph is most commonly used to show a trend in data over time, since the line is easy to read and doesn't take up much space per data point. The BHC team will help assist guides in practicing making line graphs with the air quality data over the course of this study.

ANNEX 4

Questionnaires for Community Survey: Rounds 1 and 2

BUILDING HEALTHY CITIES



BUILDING HEALTHY CITIES-INDORE

INCREASING COMMUNITY PARTICIPATION IN AIR POLLUTION MITIGATION IN INDORE CITY

**COMMUNITY RESPONSE TOWARDS AIR POLLUTION
INTERVIEW SCHEDULE
ROUND 1**

COMMUNITY RESPONSE REGARDING AIR POLLUTION

1. Code of low-cost air quality sensor: _____
2. Name of the site: _____
3. Address of the site: _____
4. Name of the respondent: _____
5. Sex of the respondent:
 - (a) Male
 - (b) Female
6. How long have you been living in this community? _____
7. In general rate your community as a place to live:
 - (a) Good
 - (b) Fair
 - (c) Poor
8. Are there any reasons for which you dislike living in this community?
 - (a) Yes
 - (b) No
9. If Yes, give details: _____

10. Have you ever thought to move out from this neighborhood to another one?
 - (a) Yes
 - (b) No
11. If yes, why? _____

12. Do you think there is air pollution in your community any time during the year?

- (a) Yes
- (b) No

13. If yes, which one point applies to you:

- (a) I have not been bothered by air pollution
- (b) I have been somewhat bothered by air pollution
- (c) I have been highly bothered by air pollution

14. What is your opinion about the level of air pollution in your neighborhood over the years?

- (a) Increasing
- (b) About the same
- (c) Reducing

15. In what season are you more bothered by air pollution?

- (a) Winter
- (b) Spring
- (c) Summer
- (d) Rain

16. What is your belief regarding air pollution in your community?

- (a) Cannot be reduced from the present level
- (b) Can be reduced from the present level
- (c) Will remain at the same level

17. What do you think are the major sources of air pollution in your community?

- (a) Vehicular emissions
- (b) Emissions from industry/factories
- (c) Burning of waste
- (d) Heavy road/lane dust
- (e) Use of biofuels (wood, coal, cow dung-cake, etc.) in Chulas
- (f) Construction work
- (g) Other (specify): _____

18. Do you think efforts are being made to control air pollution in your community?

- (a) Great effort
- (b) Very little effort
- (c) No effort
- (d) Don't know

19. If yes (option a or b), can you mention the efforts being made?

- (a) Better traffic movement
- (b) Building green spaces
- (c) Curbing waste burning
- (d) Mechanical sweeping of roads
- (e) Promoting use of LPG (Ujjwala scheme)
- (f) Other (specify): _____

20. In your opinion, does air pollution adversely affect health?

- (a) Yes
- (b) No

21. If yes, what health problems can arise from air pollution?

- (a) Frequent nose, throat, breathing problem
- (b) Frequent irritation of the eyes
- (c) Skin problems
- (d) Children's health
- (e) Risk of heart diseases
- (f) Risk of cancer
- (g) Others (specify): _____

22. In your opinion, what does the word air pollution mean to people in the community?

- (a) Heavy dust in and around
- (b) Bad smell in the air
- (c) Heavy fog
- (d) Other (specify): _____

23. Air pollution is a serious problem in your community. Please encircle (1 lowest, 5 highest).

1 2 3 4 5

24. In what way could people help in controlling air pollution?

- (a) Stop using biofuels for cooking/heating
- (b) Prefer walking, using bicycles or public transport for commuting
- (c) Stop burning waste like paper, dry leaves
- (d) Do not throw household waste on the streets
- (e) Grow plants in your home and neighborhood

25. What additional measures should the government take to control air pollution in your area?

- (a) Build concrete (pucca) roads in the neighborhood
- (b) Build pathways for pedestrians/bicycles
- (c) Further improve/subsidize LPG supply
- (d) Build more green spaces (parks, gardens) and grow trees
- (e) Penalize those burning waste
- (f) Other (specify):_____

Name of Clean Air Guide

Date:_____

Signature

BUILDING HEALTHY CITIES



BUILDING HEALTHY CITIES-INDORE

INCREASING COMMUNITY PARTICIPATION IN AIR POLLUTION MITIGATION IN INDORE CITY

**COMMUNITY RESPONSE TOWARDS AIR POLLUTION
INTERVIEW SCHEDULE
ROUND 2 (January 2022)**

This interview aims to find out what factors determine air quality in 20 neighborhoods in Indore. Your feedback is important as it can assist policymakers in formulating policies relating to clean air in the city. Please answer the following questions honestly. Can you verbally confirm your willingness to participate in this survey?

(CAG waits for response – if they say no, do not complete survey).

COMMUNITY RESPONSE REGARDING AIR POLLUTION

1. Code of low-cost air quality sensor: _____
2. Name of the site: _____
3. Address of the site: _____
4. Name of the respondent: _____
5. Sex of the respondent:
 - (a) Male
 - (b) Female
6. How long have you been living in this community? _____
7. In general rate your community as a place to live:
 - (a) Good
 - (b) Fair
 - (c) Poor
8. Do you feel like your opinion of living in this community has changed since January 2021?
 - (a) Yes
 - (b) No
9. If Yes, give details of why your opinion has changed: _____

10. Have you ever thought to move out from this neighborhood to another one?

- (a) Yes
- (b) No

11. If yes, why? _____

12. Do you think there is air pollution in your community any time during the year?

- (a) Yes
- (b) No

13. If yes, which one point applies to you:

- (a) I have not been bothered by air pollution
- (b) I have been somewhat bothered by air pollution
- (c) I have been highly bothered by air pollution

14. What is your opinion about the level of air pollution in your neighborhood since January 2021?

- (a) Increasing
- (b) About the same
- (c) Reducing

15. In what season are you more bothered by air pollution?

- (a) Winter
- (b) Spring
- (c) Summer
- (d) Rain

16. What is your belief regarding air pollution in your community?

- (a) Cannot be reduced from the present level
- (b) Can be reduced from the present level
- (c) Will remain at the same level

17. What do you think are the major sources of air pollution in your community?

- (a) Vehicular emissions
- (b) Emissions from industry/factories
- (c) Burning of waste
- (d) Heavy road/lane dust

- (e) Use of biofuels (wood, coal, cow dung-cake, etc.) in Chulas
- (f) Construction work
- (g) Other (specify): _____

18. Do you think efforts are being made to control air pollution in your community?

- (a) Great effort
- (b) Very little effort
- (c) No effort
- (d) Don't know

19. Since January 2021, do you think that efforts to control air pollution have:

- (a) Increased
- (b) Stayed the same
- (c) Decreased

20. If yes to question 18 (option a or b), can you mention the efforts being made?

- (a) Better traffic movement
- (b) Building green spaces
- (c) Curbing waste burning
- (d) Mechanical sweeping of roads
- (e) Promoting use of LPG (Ujjwala scheme)
- (f) Other (specify): _____

21. In your opinion, does air pollution adversely affect health?

- (a) Yes
- (b) No

22. Has your opinion changed on this in the last year?

- (a) Yes, I know/think air pollution affects health
- (b) Yes, I know/think air pollution does not affect health
- (c) No, my opinion on this is the same as a year ago

23. Have you or your household family members experienced any of the following (non-COVID related) health problems in the last year?

- (a) Frequent running of nose/sneezing, sore throat, cough, breathing problem
- (b) Frequent irritation of the eyes
- (c) Skin problems
- (d) Heart diseases
- (e) Cancer
- (f) Others (specify): _____

24. Would you say that the number of (non-COVID related) health problems you and your family experienced is:

- (a) The same as the year before
- (b) More than the year before
- (c) Less than the year before

25. In your opinion, what does the word air pollution mean to people in the community?

- (a) Heavy dust in and around
- (b) Bad smell in the air
- (c) Heavy fog
- (d) Other (specify): _____

26. How much do you agree with the following statement: Air pollution is a serious problem in my community. Please encircle (1 do not agree at all, 5 completely agree):

1 2 3 4 5

27. Have you started or increased any of the following activities in the last year (January 2021-January 2022):

Activity	Started doing this in 2021	Increased this activity in 2021	Doing the same amount as 2020	Do not do this activity
(a) Stopped using biofuels for cooking/heating and instead used CNG or other clean gas.				
(b) Walked or used bicycles or public transport for commuting or running errands.				
(c) Stopped burning waste (including paper and dry leaves) in the yard or street.				
(d) No longer throw household waste on the street.				
(e) Wet floor or sidewalk before sweeping.				
(f) Grew plants in home and neighborhood.				
(g) Other: _____				

28. In your opinion, what additional measures should the government take to control air pollution in your area?

- (a) Build concrete (pucca) roads in the neighborhood
- (b) Build pathways for pedestrians/bicycles
- (c) Further improve/subsidize LPG supply

- (d) Build more green spaces (parks, gardens) and grow trees
- (e) Penalize those burning waste
- (f) Other (specify):_____

29. In your opinion, what would you say is the single biggest issue you personally face due to air pollution?

- (a) I do not face any issues due to air pollution
- (b) It is a nuisance issue, but does not affect my day to day life
- (c) It is affecting my or my children's health
- (d) It is affecting my ability to work or play outside
- (e) It is affecting my ability to live and sleep in my house

Name of Clean Air Guide

Date:_____

Signature

ANNEX 5

Clean Air Guide Journey Maps

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These Journey Maps were collected quarterly from March 2021 - February 2022. Convenience sampling was used to select 2-3 respondents per quarter who agreed to participate in the conversation. City officials and service managers were purposively selected each quarter so that the appropriate officers overseeing each issue were briefed and then asked to comment. CAGs filled these out using observational data as well, and recorded any activities they led to help with awareness.

No.	LCS Code	Name of the Site	Type of Site	Latitude	Longitude	Name of Clean Air Guide	Period	Name of Clean Air Guide #2	Period
1	41578	Pipliyahana Square	Construction	22.70654	75.9044	Mrs. Manjit Garg	Jan. 21 to Feb. 22		
2	41574	Luniyapura	Residential (informal settlement)	22.71303	75.86722	Mr. Jugal Kishore Chouhan	Jan. 21 to Feb. 22		
3	41591	Reti Mandi Square	Traffic congestion point	22.66378	75.8235	Miss. Isha Parulkar	Jan. 21 to Feb. 22		
4	41582	M.Y. Teaching Hospital campus	Traffic congestion point	22.71528	75.87579	Miss. Vadeeni Pradhan	Jan. 21 to Feb. 22		
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7*	41606	Amar Tekri, primary school	Residential	22.7317	75.882346	Mr. Rohit Joshi	Jan. 21 to Dec. 21	Mr. Utkarsh Dongre	Jan. 21 to Feb. 22
8*	41576	Amar Tekri, Anganwadi center	Residential (informal settlement)	22.73154	75.881192	Miss. Mini	Jan. 21 to Feb. 22		

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10	41584	In front of airport (Panchsheel Nagar)	Residential (informal settlement)/ industrial	22.72975	75.81617	Miss. Priyanka Tayre	Jan. 21 to Feb. 22		
11	41579	Indira Ekta Nagar	Residential (informal settlement)	22.69059	75.89948	Mrs. Pooja Raghuwansi	Jan. 21 to Feb. 22		
12	41599	Footi Kothi Square	Industrial	22.69579	75.82311	Smt. Madhurta Yadav	Jan. 21 to Feb. 22		
13	41572	ISCDL office campus	Commercial	22.7236	75.87047	Ms. Seema Sisodiya	Jan. 21 to Dec.. 21	Mrs. Kalpana Sharma	Jan. 21 to Feb. 22
14	41583	56 Dukaan food street	Construction, public place	22.7317	75.88467	Mr. Himlesh	Jan. 21 to Dec.. 21	Miss Radhika Tawar	Jan. 21 to Feb. 22
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16	41573	Chhoti Gwaltoli DIG office*	Traffic congestion point/ commercial	22.72007	75.87064	Mr. Piyush Porwal	Jan. 21 to Dec.. 21	Mr. Krishna Chouhan	Jan. 21 to Feb. 22
17	41596	IPCA, industrial area	Traffic congestion point	22.76567	75.8505	Mr. Mudassir Khan	May 21 to Feb. 22		
18	41580	Narwal, Sanwer Road, primary school	Industrial	22.731	75.881	Mr. Aakash Malvia	Aug. 21 to Feb.22		
19	41586	Navlakha Square	Traffic congestion point/ industrial	22.87757	75.69857	Mr. Ankit Soni	Jan. 21 to Sept. 21	Miss. Kajal Kankane	Dec. 21 to Feb. 22
20	41607	Regional Park	Residential	-	-	Mr. Rahul Nagar	Jan. 21 to Feb. 22	-	-

*CAG 7 - Amar Tekri primary school, did not report much in the way of journey map information, and given the close proximity of that site to site 8, the journey map information was combined.

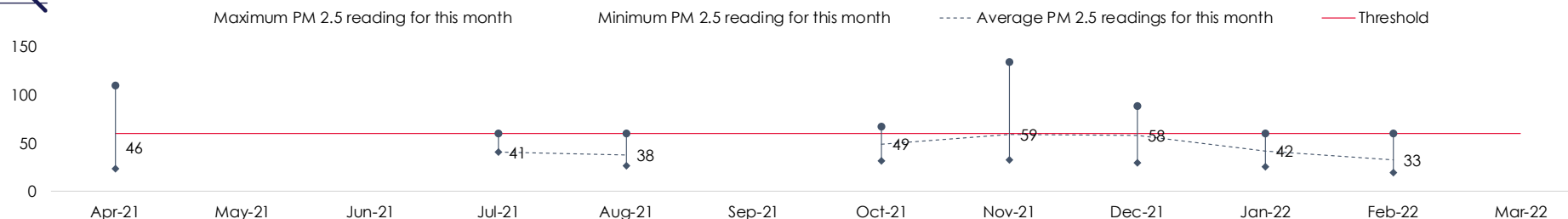
Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

Pipliyahana Square

Name of the CAG: Mrs. Manjit Garg








AIR SENSOR DATA



KEY EVENTS

	Quarter 1	Quarter 2	Quarter 4	Quarter 4
Weather and Cultural Events	Good Friday & Easter		This is Festival Season - Valmiki Jayanti & Eid, Navratra, Dasharra, and Police Celebration happened in October; Diwali in November; and Christmas in December.	
Industrial, Traffic, Medical, or Other Events	<p>CAG observed higher air pollution on Saturday, Sunday, Monday due to weekend traffic, and Weekly Bazaar every Monday throughout the year.</p> <p>Dust from construction of Sports Complex & Hotel, Bridge & Court on land near Pipliyahana LCS center. CAG observed dust settling everyday on the surface of house hold things. Vegetation around side was dull.</p>	<p>CAG observed higher air pollution on Saturday, Sunday, Monday due to weekend traffic, and Weekly Bazaar every Monday throughout the year.</p> <p>Dust from construction and also traffic conditions particularly during weekly bazaar as large number of commuters gather. Observed pollution from Construction material and auto stand at road side causing pollution.</p>	<p>CAG observed higher air pollution on Saturday, Sunday, Monday due to weekend traffic, and Weekly Bazaar every Monday throughout the year.</p> <p>Bridge construction completed in November.</p>	<p>CAG observed higher air pollution on Saturday, Sunday, Monday due to weekend traffic, and Weekly Bazaar every Monday throughout the year.</p> <p>Agri waste burning continues in this area.</p>
FEEDBACK				
Community Feedback	One of the residents of Pipliyahana Square, Mrs. Jubi Rathore shared that because of the heavy dust all around, there is itching in her eyes and headache all the time.	No feedback.	Hiralal, an autodriver mentioned that adults should taken air pollution seriously and children imitate what adults do. Ramkishore, a bus driver said that he would suggest to youth to use public buses.	A Town Safety Committee member Mr. Jain joined the Police Inspector and constables for the march to control traffic on weekly market day, and asked the public to park their vehicles in the parking area.
City Officials Feedback	Project in-charge Jagadeesh Gowda and Raghwendra Singh Chauhan said, "all the norm of construction site are taken in consideration like, labour uses mask and rap the cloth around the head and face to protect from the dust. They use green cloth and keep it wet to absorb dust."	Three city officials asked about construction laws had no information of the bylaws for construction site. By the end of the quarter, CAG had contacted DSP traffic, Mr. Umakant Choudhay and discussed the traffic condition impacting air quality of Indore. The details of this study was shared and CAG invited him for the monthly meeting of Clean Air Guides, held on 7th September 21. During the CAG's monthly meeting the air pollution sources of Indore and prospective solutions were discussed.	No feedback.	No feedback.

Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

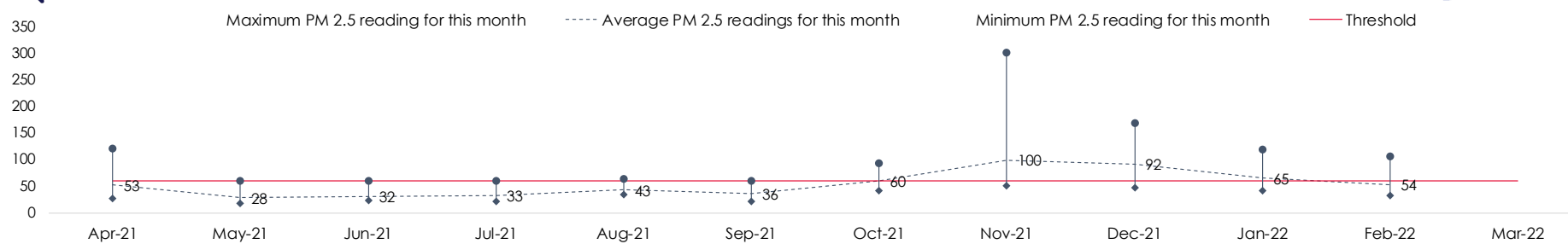
 AWARENESS RAISING				
CAG Awareness Events	None held this quarter.	None held this quarter.	Two events happened this quarter: on 29-30 October there was a rally to increase awareness among traffic police, which covered the topics of traffic management and pollution under control certification. About 30 people attended (two were female). A second event was held in November to bring students to the ICCC to see the air pollution dashboard (~100 people, 50 of which were female).	CAG helped organize the "Rally for Switch Off" campaign on 5 January for 15 days - was organized with IMC, ISCDL, Traffic Police, and NGOs. CAG received positive feedback from community, and very positive feedback by a Member of Parliament and City Government. Another was organized on 5 (30 children, ages 5-14) and 21 February (87 adolescents and young women) in GDC Hostel - topics of air quality and child safety were covered. Finally in March, 25 residents (15 female) were involved in two plantation drives to plant more trees in their community.

Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

Luniyapura

Name of the CAG: Mr. Jugal Kishore Chouhan

AIR SENSOR DATA



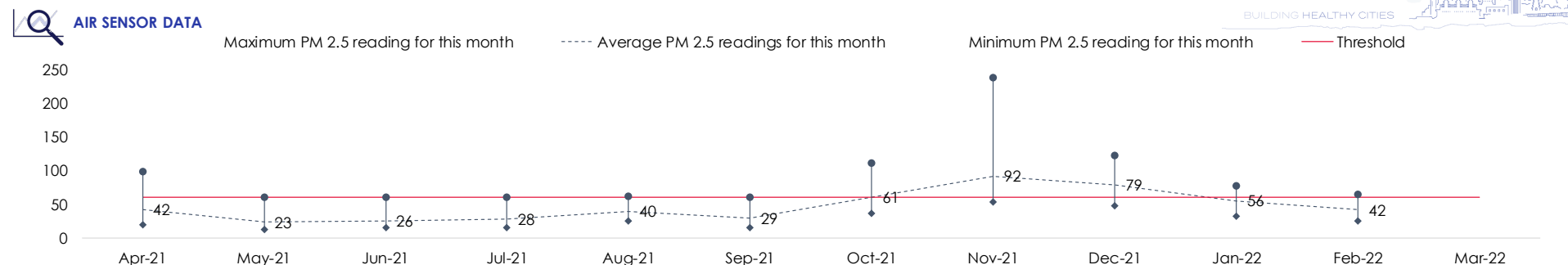
KEY EVENTS

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events	Air pollution is very high because of high number of deaths (50-60 cremations) during the peak of Covid-19 pandemic.		Because of Diwali Festival and marriage season, fireworks were burnt. Because of winter season people use biofuel for warming and heating water for bathing.	Because of marriage season, fireworks were burnt. In Holi Festival biofuels were used for Holika Dahan.
Industrial, Traffic, Medical, or Other Events	Bus stand construction and road construction went on throughout 12 months. A large number of hotels and restaurants located near the bus stand increased air pollution.	Bus stand construction and road construction went on throughout 12 months. A large number of hotels and restaurants located near the bus stand increased air pollution.	Bus stand construction and road construction went on throughout 12 months. A large number of hotels and restaurants located near the bus stand increased air pollution.	Bus stand construction and road construction went on throughout 12 months. A large number of hotels and restaurants located near the bus stand increased air pollution.
FEEDBACK				
Community Feedback	The community worried about excessive burning of dead bodies because of COVID-19 pandemic. Though there is an electric mortuary, it is not commonly used. Navratan Sonkar mentioned that because of funeral smoke, this sometimes created a bad smell. Pankaj Silavat added that during the lockdown it was disgusting, as the daily number of burning of dead bodies increased to 50-60. But after peak of pandemic, there is some relief.	Religious leader Mahendra Chaturvedi informed that as per Hindu culture, the total cost of traditional cremation rituals comes near about Rs. 3500. It is very necessary to perform the traditional rituals for the eternal peace of departed soul.	No feedback.	Ashlekh Chouhan, a resident, said, "Among the five elements of our ecosystem, one element is air. If we want our god to be happy, we need to keep and maintain the air clean." Community members started to plant trees in the neighborhood.
City Officials Feedback	Mr. xyz (as he requested not to disclose name), authority of cremation ground is not aware of precautionary guidelines of government for air pollution. He informed, "In normal days there were 50 to 60 dead body burns in a month, whereas during the pandemic period 30 to 40 dead bodies burned every day."	An employee of the electric mortuary informed that this service costs Rs. 1100 costs, but it is by and large not accepted among Hindu community because of their beliefs. On the other hand, electric cremation is preferred by the Jain/Buddhist community.	The CAG met with Mr. Kushwah, Zonal officer, Zone 12, to get the permission for writing slogans on wall of the cremation ground. The slogans are to encourage the electric mortuary and adapt healthy practices to decrease air pollution near by the community.	A Zonal Officer helped in removing the dry waste from the community.
AWARENESS RAISING				
CAG Awareness Events	None held this quarter.	None held this quarter.	The CAG held a community meeting and rally to raise awareness regarding air pollution sources. 30 people (20 female) participated. Community people also met with Zonal Officer for creating awareness regarding the use of electric crematorium, but the officer was not supportive.	CAG held a meeting and rally on air pollution sources, air quality readings and planned solutions to decrease air pollution. 90 people (75 female) participated - this was in support of the "Red light on, Engine off" campaign. The community came up with the demand to learn the 311 app in which they use to can contact city administrators regarding air pollution.

Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

Reti Mandi Square

Name of the CAG: Isha Parulkar

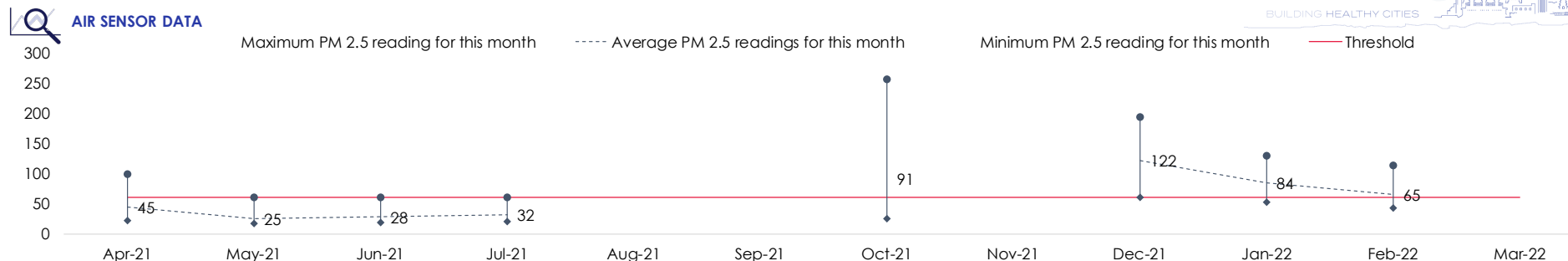


KEY EVENTS		Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events	Industrial, Traffic, Medical, or Other Events	There was reduction in air pollution during lockdown (April-May 2021).	During Rakhi festival, many families prefer Bal Bati (traditional food) where biofuels are used for cooking.	Navratri festival which is for 9 days organized leading to worsening of air quality.	Agriculture waste burning was observed in January-February 2022.
	Community Feedback	In Reti Mandi (Sand Street), sand is piled up in the area and with the wind, finer sand particles spread around. This is the main cause of air pollution in the area. This is throughout the year but mainly in summer.	In Reti Mandi (Sand Street), sand is piled up in the area and with the wind, finer sand particles spread around. This is the main cause of air pollution in the area. This is throughout the year but mainly in summer.	In Reti Mandi (Sand Street), sand is piled up in the area and with the wind, finer sand particles spread around. This is the main cause of air pollution in the area. This is throughout the year but mainly in summer.	In Reti Mandi (Sand Street), sand is piled up in the area and with the wind, finer sand particles spread around. This is the main cause of air pollution in the area. This is throughout the year but mainly in summer.
FEEDBACK					
Community Feedback	City Officials Feedback	Sand dust also raised by the public as nuisance in the area. Premlal, a laborer, informed that they don't wear masks when transferring the sand from one vehicle to another as they feel suffocated. Gopal Das, a truck owner, informed that most of the trucks are without levers. He added that no officers visit the yard and only sweepers on duty visit to clean the toilets installed by the government. Sands are dumped everywhere on road without taking any precautions.	Sagar Malviya, a shopkeeper, mentioned that it is interesting to see the air quality levels in the area. He extended support to the government in making Indore pollution free. He agreed to keep a check on social events that can cause pollution, and will help in spreading this important information on air quality. People were of the opinion that road dust, indoor smoking, and use of air conditioning are the main factors associated with air quality.	No officer from Indore Municipal Corporation has visited this site. Local political leader is also reluctant towards the issue of air pollution sources in Reti Mandi community.	Measures taken by government officers to cover trucks with green cover started in December 2021 and is expected to reduce air pollution.
	Awareness Raising	Measures taken by government officers to cover trucks with green cover started in December 2021 and is expected to reduce air pollution.	Measures taken by government officers to cover trucks with green cover started in December 2021 and is expected to reduce air pollution.	Measures taken by government officers to cover trucks with green cover started in December 2021 and is expected to reduce air pollution.	Measures taken by government officers to cover trucks with green cover started in December 2021 and is expected to reduce air pollution.
CAG Awareness Events		No rallies organized by CAG. A WhatsApp group was constituted by CAG to make local leaders (Marathi Group) aware about air quality since beginning of study.	On Environment Day, 18 citizens including 11 women participated in a meeting led by CAG. 31 plant saplings were distributed by CAG.	In this quarter the main focus was to increase awareness of community groups towards the air quality data of Reti Mandi Square. The data was also circulated on the WhatsApp group of Maharastrayan community named 'Tarun manch'.	CAG participated in "Red light on engine off" movement organized by Indore Municipal authority. Several social work students and community youth also participated in the activity.

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M.Y. Teaching Hospital campus

Name of the CAG: Ms. Vadeeni Pradhan



KEY EVENTS		Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events				Durga Pooja Diwali celebrations increased fireworks use which affected air quality, followed by winter months which further worsens air quality.	Winter months further worsened air quality. Holika Dahan when traditionally wood is ignited worsens air quality.
Industrial, Traffic, Medical, or Other Events	As this is an area with 5 hospitals, due to pandemic, there was rush in outpatient department and emergencies leading to worsening of air quality due to traffic congestion around the hospitals.	As this is an area with 5 hospitals, due to pandemic, there was rush in outpatient department and emergencies leading to worsening of air quality due to traffic congestion around the hospitals.			
FEEDBACK					
Community Feedback	Mrs. Mangla Salwe mentioned that high levels of dust are generated and many times they feel breathing problems, it is also hazardous for health specially for children.			Community were able to understand the air quality data and that it gets worse in winter (earlier perception was rainy season had the worst air quality due to foul smell).	Changes noticed by the members of the community. At traffic congestion point people now switch off the engine while red light is on. People avoid burning garbage at roadside.
City Officials Feedback	Mrs. Elizabeth Pradhan, nursing superintendent of Super Specialty Hospital, Indore, shared that due to the COVID-19 pandemic the proposed project of construction of emergency road for advanced heart surgery patients has been delayed. There is no information regarding removal of dumped waste material generated from demolished houses.	Savita Ved, resident of campus, told that it is easy to differentiate and understand the air quality with color zones used by CAG. The community members will try to cooperate as they want a good and clean environment of the colony.	Medical superintendent Dr. Sumit Shukla desired to arrange for awareness camp for patients and community.		The superintendent and Public Works Department both assured the CAG that they will take action soon as possible about dumping of waste materials. Community started planting green plants wherever possible.
AWARENESS RAISING		⊘	⊘	⊘	⚙️
CAG Awareness Events	Individual meetings as noted above.	None.		Individual meetings as noted above.	A rally was organized on 5 January for "Red Light on, Engine Off," where positive feedback was observed by commuters. In March 2022, another rally was organized where educational placards and air quality charts were used by CAG. Approximately 100 people including 40 women participated in the rally. The city traffic department displayed e-message on this initiative along with audio.

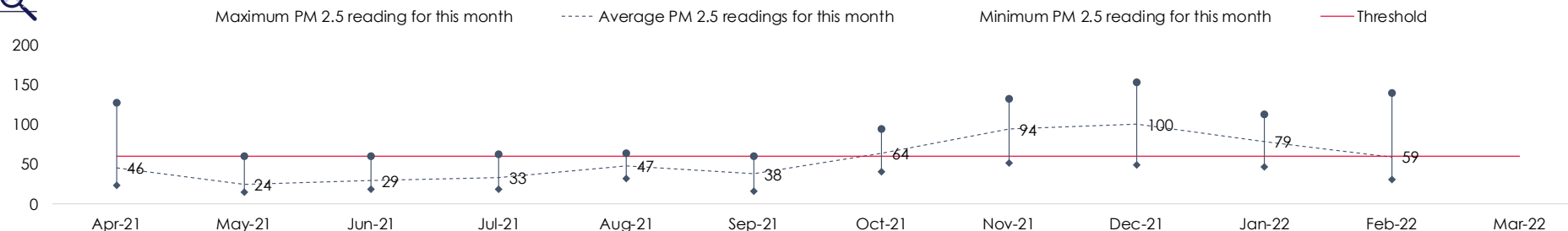
Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

Gangwal Bus Stand

Name of the CAG: Ms. Vani Joshi



AIR SENSOR DATA



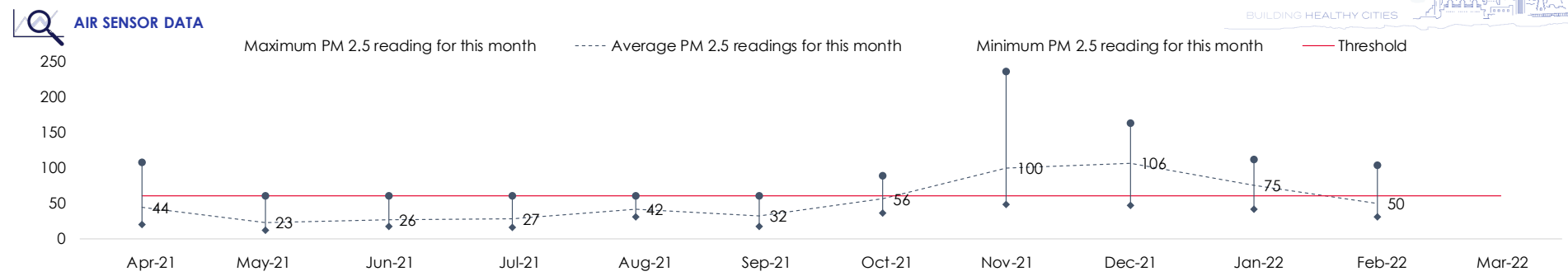
KEY EVENTS

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events	Easter and Good Friday celebration may have led to higher air pollution early in quarter.		Navratri and Diwali celebrations lead to higher air pollution.	In Winter, pollution level is very high during day time due to traffic congestion and weather conditions leading to inversion.
Industrial, Traffic, Medical, or Other Events		Jan Aashirwad Yatra, a political rally was organized leading to high air pollution.		
FEEDBACK				
Community Feedback	Mr. Sunil Jha, one of the bus stand authorities for 11 years, informed that 165-170 buses arrive and depart every day. According to him there is no change in the quality of air and he had no health issue to date. Ms. Radhika Shukla, a teacher of Vaishnav Academy School, which is next to the bus stand, said that the air quality around the school campus is good, there is no issue of air pollution in the school campus because the campus is well built with lots of tree plantation.	Jitendra Mehta, a shopkeeper, is surprised to see that most of the air quality readings are in the red zone and pollution level remains high during the days of festival and other special occasions of the city. CAG expressed need to keep a check on such events because although these are of short duration they worsen air quality as well as health.	Shopkeepers were supportive and appreciative as they were facing problems due to air pollution.	Women sweepers were made aware about air pollution and impact on health and learned to operate 311 app to seek help from city administration.
City Officials Feedback	Officials reported that buses from the bus stand keep their engine on for an average of 15 minutes before departing. They wait for the passengers while keeping the engine on. This is done to let the commuters know that the buses are ready to start the journey. But the drivers and officials of the bus stand are ignorant that by running engines of idle buses, they are increasing air pollution.		CAG met with bus stand authority but did not get encouraging response.	Bus stand authority gave positive response to the air pollution data, and called bus drivers for awareness session.
AWARENESS RAISING				
CAG Awareness Events	None.	CAG met school authorities to make them aware about air pollution, but the feedback they got was that air pollution is not considered important. Shopkeepers gave a more positive response. In the event, nearly 50 including 20 women participated.	An interaction and awareness meeting was organized with Municipal Corporation workers, as they frequently burn dry waste at the roadside. Another awareness meeting with shopkeepers was organized with 25 male participants. They extended full support to improve air quality.	"Red light on Engine off" awareness campaign was organized. Nearly 3000 including nearly 1000 women participated. People were encouraging each other to turn their vehicle engine off. This event was shared on social media in which it was highly appreciated and viewed by over one 100,000 views. Another meeting with bus stand authority and bus drivers was organized to make them aware about air quality data from sensors. Nearly 50 all male participants joined. Bus authorities were very supportive and bus drivers agreed to turn off engine while waiting for commuters.

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Palasia Square

Name of the CAG: Mr. Deepak

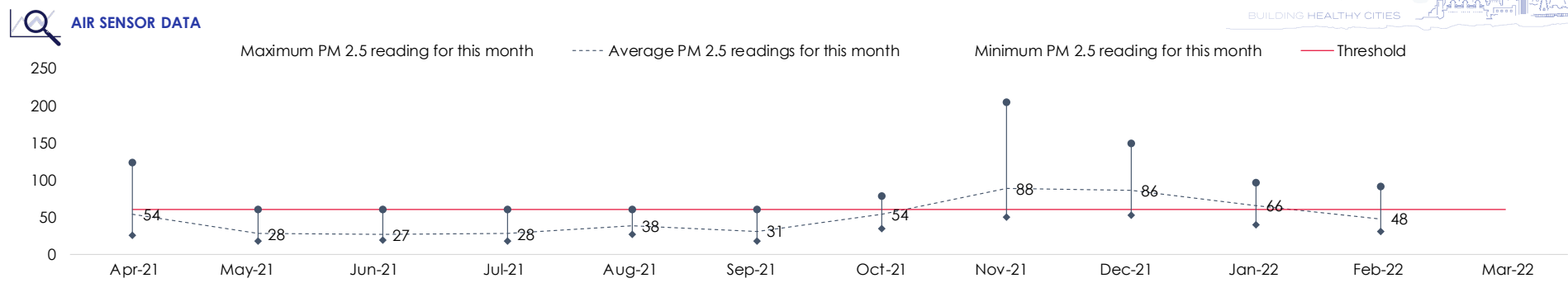


KEY EVENTS	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events	Agricultural waste burning was identified as an issue in this area.		Rise in air pollution in winter was observed as mainly due to traffic. Use of biofuels during marriages and other festivals have now been stopped.	Use of coal for some traditional <i>Tandoor</i> dishes is now lower as compared to previous months but is still being used in some places. However, burning of agricultural waste has now been stopped.
Industrial, Traffic, Medical, or Other Events				
FEEDBACK				
Community Feedback	Restaurant manager Mr. Umesh Thapa informed the CAG that they use CNG as fuel and have both chimney and fan. Their workers use mask while working. A worker of restaurant (Rohit Thappa) who has been working for the last 10 years has no health problem.	Earlier some restaurants were using ventilating fans only for venting cooking smoke. After convincing and informing regarding the ill effect of PM10 and PM2.5, the owner of restaurant agreed to install chimney in place of fan.		Some people still desire to use <i>Tandoor</i> dishes and may be going to other places where these dishes are still being cooked on coal.
City Officials Feedback				City officials monitor air quality with support from MyFM (a radio channel) organized by a Hindi newspaper Dainik Bhaskar. Indore Municipal Corporation (Nagar Nigam) has set up a stall for making cloth bags by women (paid by IMC) but free to customers to reduce plastic waste.
AWARENESS RAISING				
CAG Awareness Events	None.	None.	None.	CAG organized "Red Light On Engine Off" campaign which received positive feedback from commuters. CAG also organized another awareness event in March 2022 where 25 persons including 8 women participated.

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Amar Tekri, Anganwadi center*

Name of the CAG: Miss. Mini Joshi



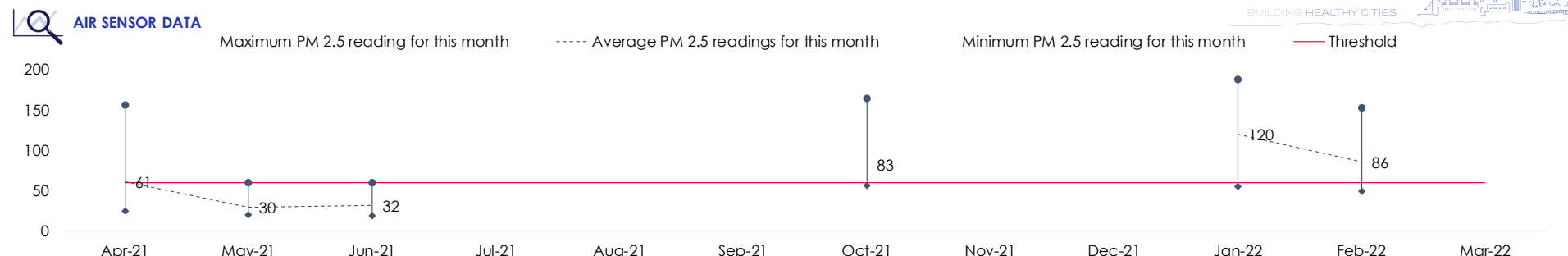
KEY EVENTS		Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events		Navratra festival especially on last 3 days of this 9 day festival as "havan" is organized where wood is burnt along with some grains and leaves. Dust storm/high winds in summer increase road dust.	Goga Navmi event organized by a selected community.	Navratra festival, another 9 day event before Dusshara, where fireworks and effigies of devils are burnt. Diwali festival followed by cold weather conditions increased air pollution.	Holika Dahan where traditionally wood is ignited, worsens air quality.
Industrial, Traffic, Medical, or Other Events					
FEEDBACK					
Community Feedback		In summer, due to mosquito breeding, there is more use of coils as repellent. Amritlal Nahar, resident, said that they use all-out machines to get rid of mosquito but also burn mosquito coils.		Sita Bai, local resident said cigarettes and mosquito coils are main sources of air pollution.	
City Officials Feedback		City officials advised use of Indore 311 App so that IMC could spray insecticides to reduce mosquitoes instead of using coils.			
AWARENESS RAISING					
CAG Awareness Events		None.	Awareness session held on understanding harms of passive smoking inside the house. The community members were aware about external air quality around them.	A rally arranged on 22 October with slogans displayed. CAG involved municipal councilor of the area and teachers, 80 persons including 60 women participated. Use of oven and not biofuels was accepted by community.	None.

*CAG 7 - Amar Tekri primary school did not report much in the way of journey map information, and given the close proximity of that site to this one, the journey map information was combined.

Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

Narwal, Sanwer Road, Anganwadi center

Name of the CAG: Ms. Nisha Malvia

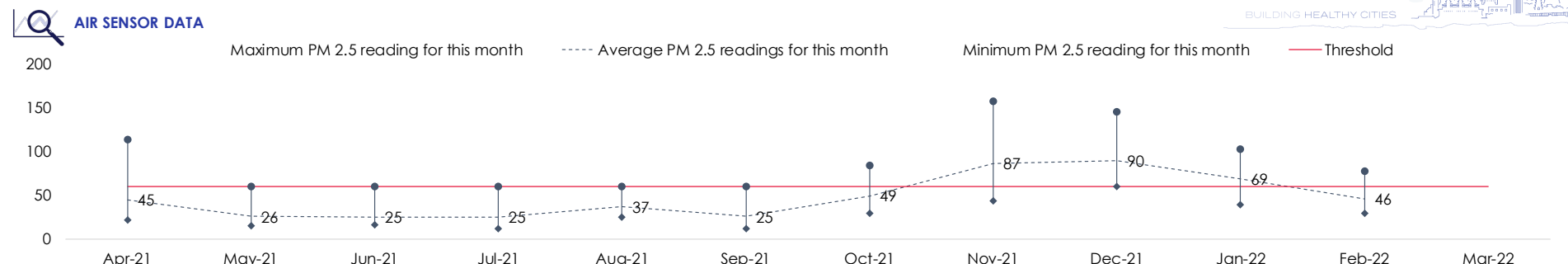


KEY EVENTS	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events	Increase in air pollution observed in April due to weather conditions and during marriage season.		Diwali festival increased air pollution due to use of fireworks.	Holika Dahan, where traditionally wood is ignited, worsens air quality.
Industrial, Traffic, Medical, or Other Events	It is near industrial area. CAG observed more pollution in summer.	It is near industrial area. CAG observed more pollution in summer.	It is near industrial area. CAG observed more pollution in summer.	It is near industrial area. CAG observed more pollution in summer.
FEEDBACK				
Community Feedback	Shushila and Yashodha, local residents, said that a municipal garbage vehicle is not coming to this part of the community because the road is not made of concrete. Thus residents dump the waste nearby which leads to foul smell and causes diseases. After a few days they burn it.	Community feels open burning of waste in the area is an important source of pollution.		
City Officials Feedback	Mrs. Kamla bai, a sweeper, motivates the community to register a complaint to municipal office about the lack of trash pick up.			
AWARENESS RAISING	🚫	🔧	🚫	🔧
CAG Awareness Events	None.	CAG held a meeting with community members in April 2021 in which 13 persons including 12 women participated. Community now understands air quality around them after session by CAG. Local political leader was not interested as his term of five years was finishing.	None.	A rally was organized on 6 January 2022. Meeting with community members was held covering air quality using color drawings. They discussed sources of pollution and effect on health. Nearly 100 people including 60 women attended. Mainly women groups came up to decrease air pollution by planting trees in many of the houses. After the meeting, a rally was organized to generate large-scale awareness regarding the adoption of good practices to decrease air pollution within the community. It was observed that more people were inclined to dispose waste in IMC vehicles, leading to reduction in open waste burning. IMC vehicles have now been directed to access all parts of the slum to collect waste.

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In front of airport

Name of the CAG: Ms. Priyanka Tayre

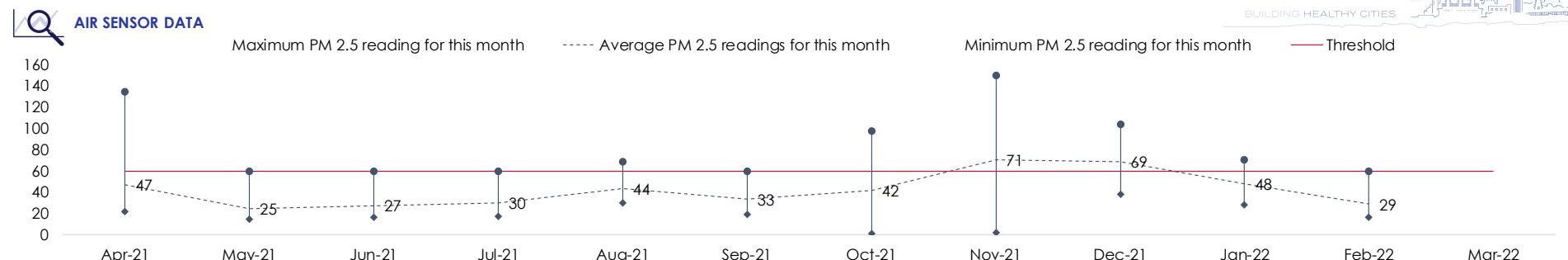


KEY EVENTS	Quarter 1	Quarter 2	Quarter 3	Quarter 4
	<p>Weather and Cultural Events</p> <p>Population of this area consists mainly of Marathi speaking communities who organize specific festivals like Ambedkar Jayanti and Budh Poonnima.</p>	<p>Ganesh Chaturthi celebrated with large community gatherings and processions.</p>		
Industrial, Traffic, Medical, or Other Events	Heavy traffic was observed throughout the year due to nearby airport.	Heavy traffic was observed throughout the year due to nearby airport.	Heavy traffic was observed throughout the year due to nearby airport.	Heavy traffic was observed throughout the year due to nearby airport.
FEEDBACK				
	<p>Community Feedback</p> <p>Air quality near the airport is quite good as tree plantation is done by the airport authority and IMC. Roads are broad and traffic is managed quite efficiently. Local development is also very restricted in this area.</p>			
City Officials Feedback				
AWARENESS RAISING	⊘	⚙️	⊘	⚙️
	<p>CAG Awareness Events</p> <p>None.</p>	<p>CAG arranged an event in local school. Children were made aware about air quality who discussed air quality issues with their teachers.</p>	<p>None.</p>	<p>A meeting was organized in February 2022 where 25 people including 20 women participated. Community members were made aware about the air quality using color coded chart. Members volunteered for tree plantation in the community to improve air quality. In collaboration with local NGO, CAG participated in 'Red light on engine off' campaign where color-coded charts on air pollution data were also displayed.</p>

Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

Indira Ekta Nagar

Name of the CAG : Mrs. Pooja Raghuwansi

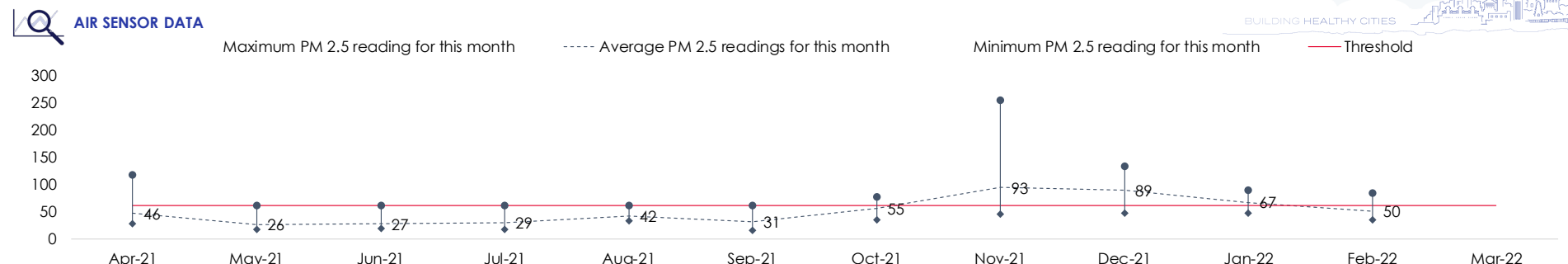


KEY EVENTS	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events	There was a dust storm in April, worsening air quality.		Diwali celebrations, where fireworks are used, was followed by winter months which worsened air quality.	Winter months worsened air quality.
Industrial, Traffic, Medical, or Other Events	Daal Mill is a factory where pulses are processed. This is a major source of air pollution throughout the year.			
FEEDBACK				
Community Feedback	Gopal Raghuwansi, Sonu Bankherey and Kamla Bai informed that garbage collection vehicle is only collecting garbage from the houses and does not pick up roadside garbage as it contains mud, leaves, polythene/plastic bags, etc. Driver asks community members to separate leaves and other things from poly bags before they pick these. Hence roadside garbage gets dumped. Community members will then burn the dry waste as rotten waste may lead to foul smell and may cause diseases.	Though community members are aware of Daal Mill as source of pollution, they do not raise issues as many women of the area are employed there and fear being sacked if any complaints are made.	People reported that IMC workers burned collected solid waste including discarded plastic bags.	Many of the community members have stopped burning of waste and use of mosquito coils. They are now careful for these sources of air pollution.
City Officials Feedback	Driver of garbage vehicle said that they are instructed not to bring mix garbage of bio-waste and dry waste like polythene as it harms the machine which makes fertilizer from bio waste.		CAG visited Daal Mill and observed women working in the mill without mask with heavy dust due to grinding of pulses (channa, also called Bengal Gram).	
AWARENESS RAISING	⊘	⊘	⊕	⊕
CAG Awareness Events	None.	None.	A meeting with women's group of nearly 60 women and 6 men was organized to make them aware about air quality levels by describing color-coding of air quality and discussed local sources of air pollution. They were also trained on use of 311 app.	Families of pregnant women were contacted to bring awareness about air quality levels around them. CAG did not arrange a 'Red light on engine off' vehicle campaign due to death of her grandmother.

Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

Footi Kothi Square

Name of the CAG: Ms. Madhuria Yadav

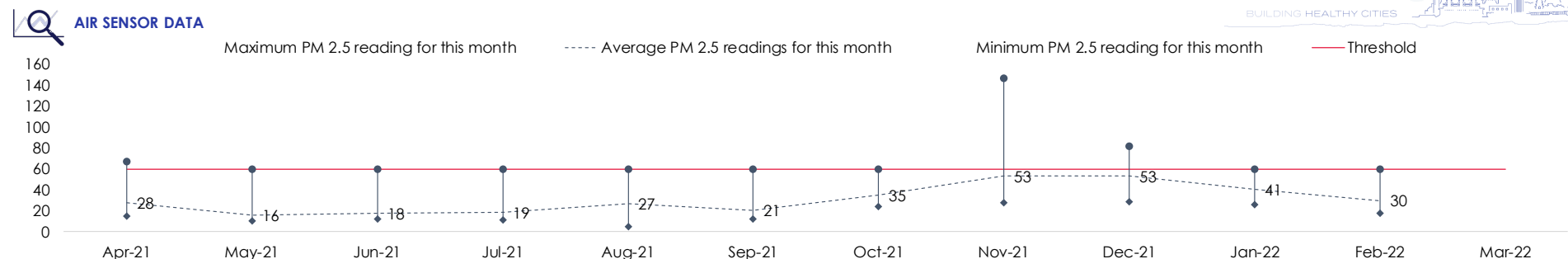


KEY EVENTS	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events	Many marriage ceremonies were organized in resorts in May 2021.	CAG observed better air quality during rainy season as dust particles settled down with rains. Ganesh Chaturthi festival organized in August 2021.	Many marriage ceremonies were organized this quarter.	
Industrial, Traffic, Medical, or Other Events	Traffic due to vegetable markets in the area is an important source of air pollution throughout the year. People come in their vehicles and in the absence of dedicated parking area, there is traffic congestion.	Traffic due to vegetable markets in the area is an important source of air pollution throughout the year. People come in their vehicles and in the absence of dedicated parking area, there is traffic congestion.	Traffic due to vegetable markets in the area is an important source of air pollution throughout the year. People come in their vehicles and in the absence of dedicated parking area, there is traffic congestion.	Traffic due to vegetable markets in the area is an important source of air pollution throughout the year. People come in their vehicles and in the absence of dedicated parking area, there is traffic congestion.
FEEDBACK				
Community Feedback	Rama Bai, vegetable seller, views that the quality of air around Footi Kothi is not very bad as every day after the vegetable market there is cleaning of the place done by municipal authority. Major source of air pollution is due to vehicles driven by people who come to purchase vegetables and keeping the vehicle on while purchasing. She felt that parking spaces are urgently required near the market. She agreed to make customers aware about the air pollution due to vehicles.	Fruits and vegetable sellers use placards to educate customers to park the vehicle before buying vegetables. Community members were getting interested to know the levels of air quality around them.	Community members planned tree plantation program in which every family will plant at least one plant in their house. Shopkeepers asked customers to switch off vehicles in temporary parking space while purchasing vegetables.	Students and local community leaders conducted tree plantation. After rally, parking area has been demarcated by community. This has resulted in better air quality at the market. Now the vehicles are not allowed to enter in the vegetable market, so more space is available to roam around and there is less feeling of suffocation and eye itching. Tree plantation has been initiated by a community leader and school children in a garden nearby.
City Officials Feedback				After awareness rally, traffic police has been managing traffic flow and parking of vehicles. IMC officials visited area and appreciated efforts made for community awareness. They will also look into broadening of roads to decongest roads in this area.
AWARENESS RAISING				
CAG Awareness Events		Individual meetings.	Individual meetings.	CAG organized rally on 5-6 January 2022. About 50 persons including 20 women joined. Slogans on air quality were displayed by vegetable sellers.

Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

ISCDL office campus

Name of the CAG: Mrs. Seema Sisodiya

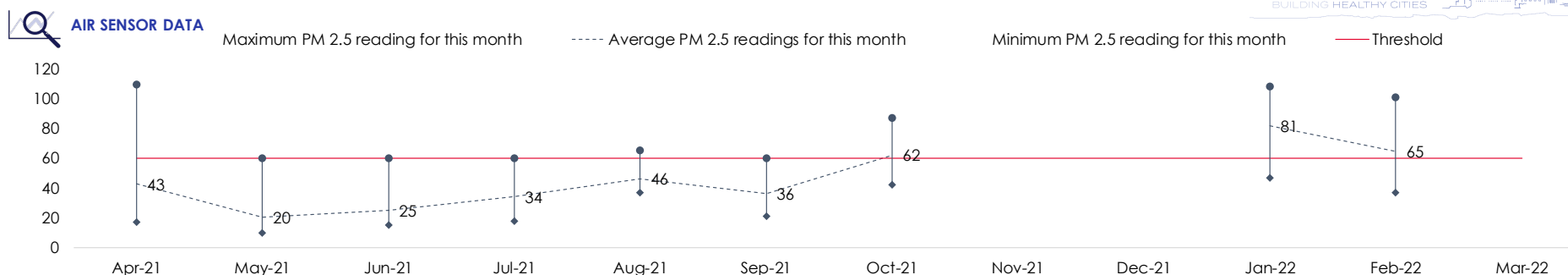


KEY EVENTS	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events			Winter weather conditions aggravate air pollution.	Lohri festival was celebrated in January 2022 where bundles of wood are burned in many neighborhoods. Holika Dahan organized in March when traditionally wood is ignited.
Industrial, Traffic, Medical, or Other Events			In many households, farm waste is burned in winters for warming and thus increasing pollution.	Burning leaves by IMC workers increased pollution.
FEEDBACK				
Community Feedback				Scale of Holika Dahan was reduced this year due to awareness.
City Officials Feedback	In March 2021, Indore Municipal Commissioner Ms. Pratibha Pal held a meeting with the representatives of Central Pollution Control Board to improve the quality of air at Indore. Representatives emphasized that heavy traffic not only creates air pollution but also noise pollution.	On 13 August 2021, a stakeholders meeting was organized to discuss proposed Multisectoral Healthy City Action Plan for Indore. CEO, Smart City chaired the meeting. BHC staff Dr. Damodar, Neeraj Mishra, and Alsa were the main speakers. The proposed action plan was shared with concerned stakeholders.		Burning of dry leaves was conveyed by CAG, leading to action taken by IMC to stop this. Penalties were initiated for open burning by IMC. CAG observed use of diesel by Namkeen shops which is cheaper fuel but more polluting. There is reduction in open burning and use of biofuels.
AWARENESS RAISING				
CAG Awareness Events	None.	None.	Youths sitting in the Nehru park, which is quite close to Smart City office, discussed various aspects of pollution like what are PM10 and PM2.5, sources of pollution, impact of pollution.	CAG did not organize any rallies, but arranged group talks.

Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

56 Dukan food street

Name of the CAG: Ms. Radhika Tanwar



KEY EVENTS	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events			In winter pollution (November to January) increase in pollution observed due to more use of biofuel and smoking.	Traditionally, many marriages are organized on auspicious days and such a period is called "marriage season." As a large number of marriage ceremonies are arranged in a shorter period of time, there is higher changes of pollution due to cooking for large number of guests (including some dishes cooked on biofuel), use of fireworks, and traffic congestion all leading to increase in air pollution.
Industrial, Traffic, Medical, or Other Events	Regular excessive traffic because of food zone.	Regular excessive traffic because of food zone.	Regular excessive traffic because of food zone.	Regular excessive traffic because of food zone.
FEEDBACK				
Community Feedback	Kamalpreet Singh, a restaurant owner, informed that most of them are using CNG gas cylinder, electric oven, and a few also use coal for cooking. As a precautionary measure cooks and waiters uses cap, mask, hand gloves and sanitizer to protect themselves. Most of the employees have no health problem. Amit, a customer, said that air over here is good. He was not aware of any smoking zone. CAG observed that a good number of people were smoking publicly and people were not aware of smoking zones.		Around 55% of public were happy to shift the cooking from biofuel to LPG.	Shanker Sharma, a cook, said, "Use of electrical burner is increasing economic pressure on owner, because of this the workers are suffering."
City Officials Feedback			In spite of the ban by the administrators for the use of biofuel for cooking, a few of the food vendors are still in the practice of using it. Ashok Parmar, a restaurant worker, said that banning biofuels has made good impact on environment.	The city administrator took legal step to stop the commercial use of biofuel for cooking purpose. The CAG investigated and found that use of biofuels has been stopped by the vendors. Vendors were now using LPG or electric appliances for cooking purposes.
AWARENESS RAISING	⊘	⊘	⊕	⊘
CAG Awareness Events	Individual meetings.	None.	A rally was organized in December 2021 where around 50 people including 15 women participated. A main message was to stop using biofuels for cooking purposes on the food street.	None.

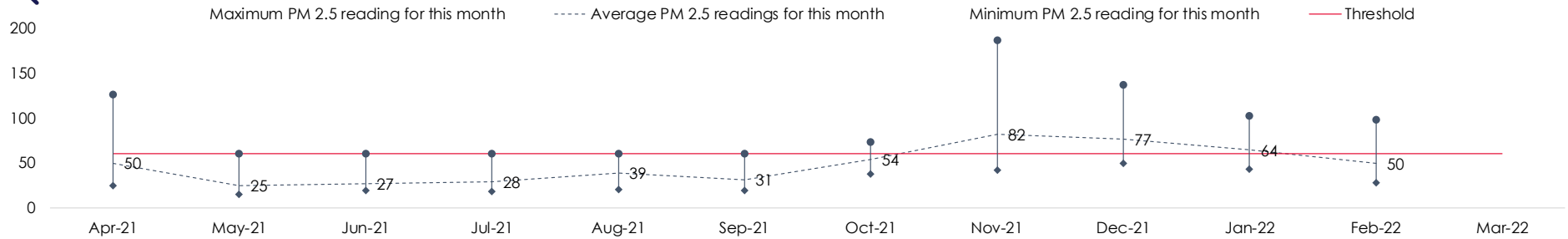
Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

Near Rajwada

Name of the CAG: Miss. Shalini Bhagora



AIR SENSOR DATA



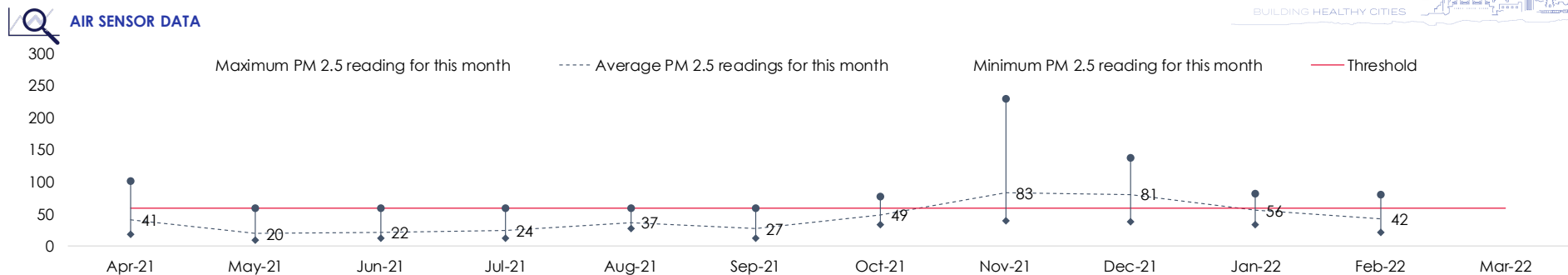
KEY EVENTS

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events				On 22 March Rangpanchmi in Rajwada area is a big event when approximately half a million people gather.
Industrial, Traffic, Medical, or Other Events			After lockdown was lifted, widening of roads and construction work started in September 2022 and still continuing. This has led to rise in air pollution.	After lockdown was lifted, widening of roads and construction work started in September 2022 and still continuing. This has led to rise in air pollution.
FEEDBACK				
Community Feedback			Many shopkeepers mentioned loss in business, health effects due to flying dust.	Many shopkeepers mentioned loss in business, health effects due to flying dust.
City Officials Feedback				
AWARENESS RAISING	⊘	⊘	⊕	⊘
CAG Awareness Events	None.	None.	Organized public awareness rally on air quality on 3 November 2022 where 200 people including approximately 120 women participated.	None.

Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

Chhoti Gwaltoli DIG office

Name of the CAG: Mr. Piyush Porwal

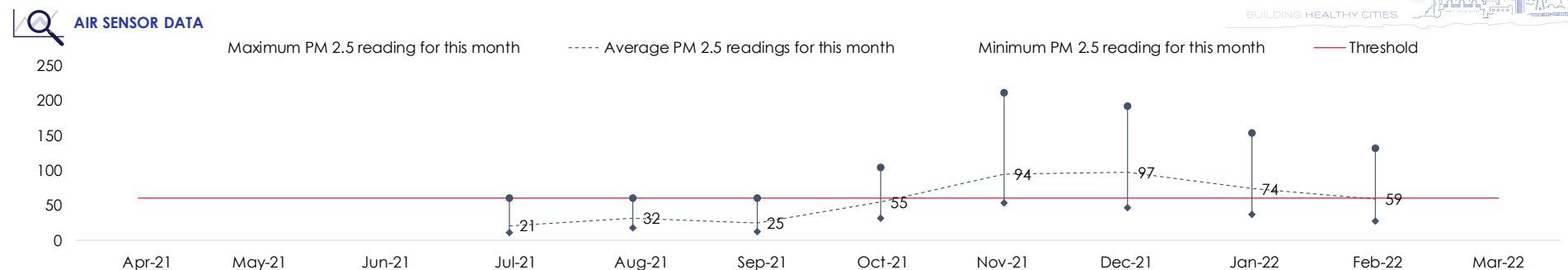


KEY EVENTS		Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events		Higher air pollution in summer due to traffic.		Diwali celebrations where fireworks are used, followed by winter months which worsens air quality.	Winter months worsens air quality. Holika Dahan Festi
Industrial, Traffic, Medical, or Other Events		This area has many garages and vehicle repair workshops, generally leading to vehicular congestion on roads.	This area has many garages and vehicle repair workshops, generally leading to vehicular congestion on roads.	There are instances of tire burning also for warmth in winters.	There are instances of tire burning also for warmth in winters.
FEEDBACK					
Community Feedback				People were reluctant to stop burning old tires.	
City Officials Feedback		Mr. Deepesh, Supervisor, informed that both the sensors are showing exactly the same reading of PM10 and PM2.5. He informed that during Sundays and festival seasons when fireworks are used specially then the reading goes high. During the lockdown period data came down.		Officials informed that usually communities burn tires in winter at night to escape penalty. There has been little action by the police to crack down on this.	
AWARENESS RAISING					
CAG Awareness Events		None.	A meeting was organized where 20 people including 8 women participated. The participants included DIG office police officers and the mechanics of nearby garages, were made aware regarding the level of air quality, captured from the LCS installed in their locality. They were surprised to see variations in air quality around them.	A community rally was organized on 2 October where about 80 persons including 30 women participated.	A rally made aware the travelers for 'Red light on engine off' practice. This opportunity was also used to inform them about air quality with the help of color coding.

Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India






IPCA industrial area

Name of the CAG: Suraj Tomar & Muddasir Khan



KEY EVENTS	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
Weather and Cultural Events					Poor air quality was observed in winters (mainly on Sundays as loading of trucks with goods takes place on Sundays). Festivals do not have impact on air pollution in industrial area.		Poor air quality was observed in winters (mainly on Sundays as loading of trucks with goods takes place on Sundays). Festivals do not have impact on air pollution in industrial area.	
Industrial, Traffic, Medical, or Other Events	Being an industrial area, main sources of air pollution included industrial emissions, vehicular emissions, and burning of industrial waste.		Being an industrial area, main sources of air pollution included industrial emissions, vehicular emissions, and burning of industrial waste.		Being an industrial area, main sources of air pollution included industrial emissions, vehicular emissions, and burning of industrial waste.		Being an industrial area, main sources of air pollution included industrial emissions, vehicular emissions, and burning of industrial waste.	
FEEDBACK								
	Community Feedback							
	City Officials Feedback							

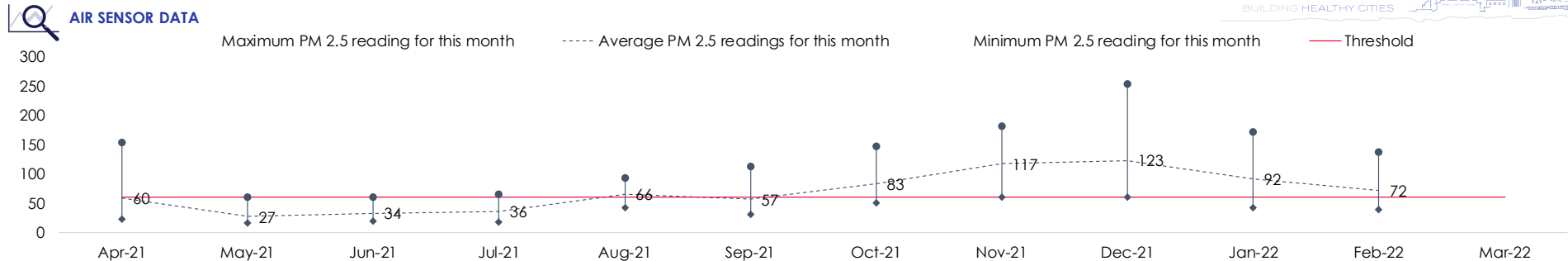
Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

 AWARENESS RAISING				
CAG Awareness Events	None.	<p>First campaign with workers was organized in September 2021. Nearly 60 people including 6 women participated. They were curious to understand the air quality data.</p>	<p>2nd campaign was organized in October 2021 with around 50 workers including 5 women. Meeting with Mr. Samir, Human Resource Manager, staff and workers of IPCA industry and discussed regarding the prominent air pollution sources of the locality. The air pollution data of few past months were shared to them. This made them to understand how pollution level increases with season and pollution generating events. The Supervisor wanted to display pictures showing colored range of air quality on campus.</p>	<p>3rd campaign was organized with workers in January 2022. There was discussion on the plan for using bicycle at least once a week for a while. CAG also participated in the 'Red light on engine off' campaign.</p>

Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

Narwal, Sanwer Road, primary school

Name of the CAG: Mr. Akash Malvia



KEY EVENTS		Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events	Industrial, Traffic, Medical, or Other Events	CAG observed increase in industrial pollution in April as well as in the marriage season (April-May 2021). It is near industrial area. CAG observed more pollution in summer.			Jolika Dahan was celebrated in this community in March 2022.
FEEDBACK					
Community Feedback	City Officials Feedback	Ramlal, a shopkeeper, informed that air quality is not good as all the time dust floats because of heavy traffic peaking in the morning and evening hours leading to irritation in the eyes. No complaints have been made. He suggested that tree plantation can help in controlling air pollution.		Narwal community people who are using main road daily are aware regarding the air pollution generating at their traffic square, and discussed with various plans that can minimize the level of air pollution of the area.	After awareness campaign, more people are inclined to dispose waste in IMC vehicles, leading to reduction in open waste burning. IMC vehicles have now been directed to access all parts of the informal settlement to collect waste. Home guards engaged by traffic police to decongest traffic.
AWARENESS RAISING		⊘	⊕	⊘	⊕
CAG Awareness Events		None.	Students of the primary school and shopkeepers of the area were made aware regarding the air quality.	None.	A rally was organized on 6 January 2022 where nearly 100 people including 60 women participated. Air quality awareness including using colored pictures, common sources of air pollution, effect of air pollution on health. Students of the primary school and shopkeepers were made aware regarding the air quality. They undertook the tree plantation activity.

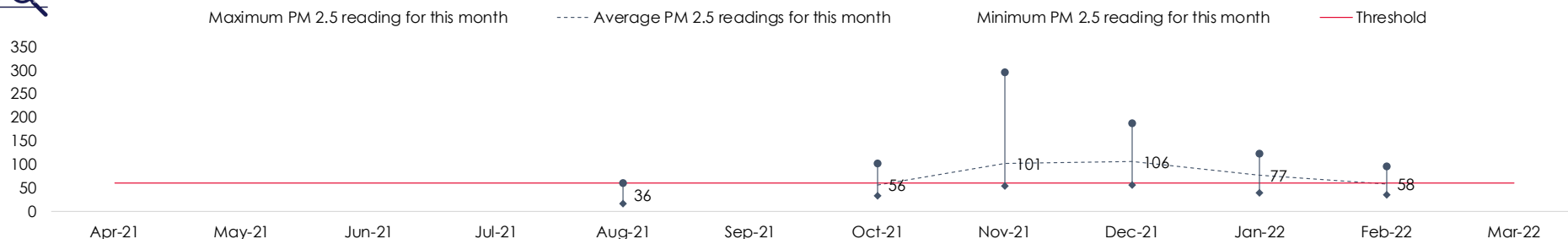
Annex Supplement: Increasing Community Participation in Air Pollution Mitigation in Indore, India

Navlakha Square

Name of the CAG: Ankit Soni



AIR SENSOR DATA



KEY EVENTS	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Weather and Cultural Events		CAG observed better air quality in rainy season.	Procession during marriage ceremonies was observed as important source of air pollution in December 2021	
Industrial, Traffic, Medical, or Other Events	Bus stand nearby leading to traffic congestion was important source of air pollution. The bus stand was removed in April 2022 leading to improved air quality.	Bus stand nearby leading to traffic congestion was important source of air pollution. The bus stand was removed in April 2022 leading to improved air quality.	Bus stand nearby leading to traffic congestion was important source of air pollution. The bus stand was removed in April 2022 leading to improved air quality.	Bus stand nearby leading to traffic congestion was important source of air pollution. The bus stand was removed in April 2022 leading to improved air quality.
FEEDBACK				
Community Feedback	Dinesh Rawat, Driver and Raju cleaner, informed that they have updated Pollution Under Control Certificate (PUC) card which is done with the renewal of their heavy vehicle license. They always maintain the documents and do not take any risks as they drive on long routes.		People of the community informed that pollution in the area increases as the ground area of bus stand is not concrete so whenever bus moves dust causes heavy pollution. As many buses are old the emit heavy smoke. There is no regular and strict checking of PUC.	
City Officials Feedback	Ranjit Baghel, Traffic Police inspector, informed that they ask for the PUC card from the drivers. They do make challan minimum of Rs. 500 if the PUC card has expired recently. If PUC card expired long back then they charge heavy amount of Rs. 1500 and more.			Approached traffic police; they ensured PUC check up of vehicles and enforcement of the 'red light on, engine off' campaign.
AWARENESS RAISING	⊘	⚙️	⚙️	⚙️
CAG Awareness Events	None.	Shopkeepers and daily travelers of Navlakha traffic square were made aware regarding the air quality data (PM10 and PM2.5) captured from LCS placed at this traffic junction.	Community meeting conducted at Navlakha traffic square where participants were made aware regarding the air quality data (PM10 and PM2.5) captured from LCS placed at this traffic junction.	Two awareness programs were organized for 14 drivers and separately for community members (25 people including 18 women). CAG discussed and shared the data of air pollution of the area to drivers of the buses, shopkeepers and daily travelers of Navlakha traffic square. People were shocked to see the air quality data (PM10 and PM2.5) captured from LCS. CAG also participated in the campaign 'Red light on engine off.' Awareness about switching off engine, health issues and PUC.

ANNEX 6

Clean Air Guide Air Quality Data Collection Sheet, with Examples

Building Healthy Cities-Indore Increasing Community Participation in Air Pollution Mitigation in Indore City Air Pollution Status (Monthly Report)

1. Code of LCS: _____

2. Name of the site: _____

3. Address of the site: _____

4. Type of site: _____

4. Monthly Reading of PM_{2.5} and PM₁₀

Date	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
PM _{2.5}															
PM ₁₀															

Date	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
PM _{2.5}																
PM ₁₀																

Name of CAG: _____

Signature of CAG: _____

Date: _____

Approved by: _____

Building Healthy Cities-Indore
Increasing Community Participation in Air Pollution Mitigation in Indore City
Community Participation Report

1. Code of LCS: _____ 2. Name of the site: _____
3. Address of the site: _____ 4. Nature of site: _____
5. Month: _____ 6. No. of activities conducted: _____
7. Type of community activities: _____

No.	Name of the Activity	Date	No. of Community Participants	Issue Discussed/ Action Taken

8. Action taken by municipal authorities: Yes No

9. If yes, describe: _____

10. Future plan: _____

11. Remarks by Clean Air Guide: _____

Name of CAG: _____ Signature of CAG: _____

Date: _____ Approved by: _____


Completed Clean Air Guide Air Quality Data Collection Sheets

BUILDING HEALTHY CITIES-INDORE
Increasing Community Participation in Air Pollution Mitigation in Indore City
Air Pollution Status (Monthly Report)

1. Code of LCS : 41576 2. Name of the Site : Indore-4
 3. Address of the Site: Amar Tekri 4. Nature of Site : Slum Area
 4. Monthly Reading of PM_{2.5} and PM₁₀ : November - 2021

Date	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
PM _{2.5}	96	80	94	170	204	76	80	94	90	82	78	69	66	98	122
Factor		Phantom	Chander	Diwali	Diwali	Diwali									Diwali
PM ₁₀	212	176	207	385	464	173	177	208	199	181	175	154	152	213	266
Factor															

Date	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
PM _{2.5}	107	98	90	96	111	88	75	76	79	64	50	50	62	54	50	
Factor	Next Day				Diwali											
PM ₁₀	230	211	195	206	239	191	163	166	174	143	113	114	139	123	118	
Factor																

Name of CAG : Mini JoshiSignature of CAG : Date : 30/11/21

Approved by : _____

BUILDING HEALTHY CITIES-INDORE
Increasing Community Participation in Air Pollution Mitigation in Indore City
Air Pollution Status (Monthly Report)

1. Code of LCS : 41578 2. Name of the Site : Indore - 5
 3. Address of the Site: PIPLIYANAN SQUARE 4. Nature of Site : Typic Congestion Point
 4. Monthly Reading of PM_{2.5} and PM₁₀ : Nov 2021

Date	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
PM _{2.5}	77	54	63	96	134	48	57	58	58	59	53	48	47	61	65
Factor		Dharwar		Dharwar	Dharwar	Bar Baji				Chak Pota					
PM ₁₀	169	118	140	225	319	107	130	131	131	133	120	111	107	139	147
Factor		Dharwar													

Date	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
PM _{2.5}	69	67	63	66	76	60	51	52	57	45	34	33	38	37	37	
Factor				Chak Pota					Chak Pota							
PM ₁₀	154	146	137	146	166	133	117	117	124	94	74	71	82	81	82	
Factor				Chak Pota					Chak Pota							

Name of CAG : MANJIT LARGA

Signature of CAG : Manjit Larga

Date : _____

Approved by : _____

BUILDING HEALTHY CITIES-INDORE
Increasing Community Participation in Air Pollution Mitigation in Indore City
Air Pollution Status (Monthly Report)

1. Code of LCS : 41582 2. Name of the Site : M.Y Teaching Campus
 3. Address of the Site : M.Y Teaching Campus 4. Nature of Site : Traffic Congestion Point
 4. Monthly Reading of PM_{2.5} and PM₁₀ : _____

S.No.	Date	PM _{2.5}	PM ₁₀	Factors
1.	1/02/2022	113	220	Traffic
2.	2/02/2022	98	191	Traffic
3.	3/02/2022	46	97	Traffic
4.	4/02/2022	55	109	Traffic
5.	5/02/2022	91	178	Traffic
6.	6/02/2022	65	129	Bwening
7.	7/02/2022	100	194	Traffic
8.	8/02/2022	99	192	Traffic
9.	9/02/2022	71	140	Traffic
10.	10/02/2022	62	126	Traffic
11.	11/02/2022	45	92	Traffic
12.	12/02/2022	60	119	Traffic
13.	13/02/2022	47	97	Traffic
14.	14/02/2022	51	106	Traffic
15.	15/02/2022	57	116	Traffic
16.	16/02/2022	50	106	Traffic
17.	17/02/2022	43	87	Traffic
18.	18/02/2022	56	114	Traffic
19.	19/02/2022	64	129	Traffic
20.	20/02/2022	57	112	Traffic
21.	21/02/2022	51	100	Traffic
22.	22/02/2022	60	117	Traffic
23.	23/02/2022	80	157	Traffic
24.	24/02/2022	59	118	Traffic
25.	25/02/2022	50	103	Traffic
26.	26/02/2022	55	110	Traffic
27.	27/02/2022	70	138	Traffic
28.	28/02/2022	70	139	Traffic
29.				
30.				
31.				

Name of the CAG :

Vadeeni Pradhan

Signature of CAG

Vadeeni

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