



# **Public Opinion of Air Pollution in Delhi**

## ***METHODOLOGY***

### **Sampling and Data Collection Methods**

This study was conducted among a representative sample of 500 citizens of Delhi aged 15 and older. All interviews were conducted through in person survey methods.

The study was conducted in October and November 2016.

To achieve a geographically representative sample, the NCT of Delhi was divided into five geographic zones: north, south, east, west and central; and from each zone interviews were conducted randomly.

To achieve a demographically representative sample, quota-based sampling was used to select respondents. The demographic variables used for determining the sample included gender, age and education.

- ✓ **Gender:** Male and female
- ✓ **Age:** 15-29 years, 30-44 years, 45-59 years, and 60 years and above
- ✓ **Education:** Primary or less including illiterate, secondary level, and graduation and above

<b>Age of Respondents</b>	<b>% of sample</b>
15-29 years	42
30-44 years	31
45-59 years	18
60 years and above	9
<b>Educational Attainment</b>	<b>%</b>
Primary or less, including illiterate	31
Secondary level	46
Graduation and above	23
<b>Occupation</b>	<b>%</b>
Student	20
Housewife	16
Employed in government sector	6
Employed in private sector	30
Self-employed	18
Unemployed	10

## 1. AWARENESS OF AIR POLLUTION

How would you describe the air quality in Delhi?	Total	15-29	30-44	45-59	60 years +
Very clean	0	0	0	0	0
Somewhat clean	4	5	5	1	4
Neither clean nor dirty	8	9	7	6	9
Somewhat dirty	22	19	23	23	31
Very dirty	66	68	65	70	56

How would you describe the air quality in Delhi?	Total	Male	Female	Primary or less	Second level	Grad and above
Very clean	0	0	0	0	0	0
Somewhat clean	4	4	4	4	4	4
Neither clean nor dirty	8	6	9	14	6	2
Somewhat dirty	22	21	24	27	26	8
Very dirty	66	69	63	55	64	86

## 2. CONCERN ABOUT AIR QUALITY

To what extent are you concerned about the air quality in Delhi?	Total	15-29	30-44	45-59	60+
<b>Very concerned</b>	48	49	47	50	42
<b>Somewhat concerned</b>	40	40	41	42	31
<b>Neither concerned nor unconcerned</b>	11	10	10	8	25
<b>Not very concerned</b>	1	1	2	0	0
<b>Not at all concerned</b>	0	0	0	0	2

To what extent are you concerned about the air quality in Delhi?	Total	Male	Female	Primary or less	Second level	Grad and above
<b>Very concerned</b>	48	53	42	34	50	63
<b>Somewhat concerned</b>	40	39	41	45	40	32
<b>Neither concerned nor unconcerned</b>	11	6	17	19	10	4
<b>Not very concerned</b>	1	1	0	1	0	1
<b>Not at all concerned</b>	0	1	0	1	0	0

### 3. REASONS FOR CONCERN

[If very or somewhat concerned] Please give your reasons for saying so:	Total	15-29	30-44	45-59	60 +
<b>Tuberculosis and lung infection</b>	24	25	25	22	24
<b>Asthma and breathlessness</b>	57	55	60	58	58
<b>Eye infection</b>	12	13	12	11	9
<b>Skin infection</b>	14	15	16	8	12
<b>Global warming</b>	6	7	7	4	3
<b>Decrease in life span</b>	3	4	2	1	6
<b>Effect on weather</b>	10	10	8	12	15
<b>Cancer</b>	12	12	8	18	9
<b>Health problem (not specified)</b>	17	17	18	17	15
<b>No response</b>	4	4	4	6	0

[If very or somewhat concerned] Please give your reasons for saying so:	Total	Male	Female	Primary or less	Second level	Grad and above
<b>Tuberculosis and lung infection</b>	24	17	33	20	22	32
<b>Asthma and breathlessness</b>	57	64	49	55	53	67
<b>Eye infection</b>	12	13	11	14	13	10
<b>Skin infection</b>	14	10	19	14	15	12
<b>Global warming</b>	6	6	6	4	6	8
<b>Decrease in life span</b>	3	4	3	2	3	5
<b>Effect on weather</b>	10	9	12	9	11	11
<b>Cancer</b>	12	10	14	7	15	11
<b>Health problem (not specified)</b>	17	15	19	18	17	16
<b>No response</b>	4	3	6	6	4	3

#### 4. CAUSES OF AIR POLLUTION

What do you believe are the leading causes of air pollution?	Total	15-29	30-44	45-59	60 years +
<b>Vehicular emissions</b>	88	88	88	91	78
<b>Burning of biomass and garbage</b>	46	44	50	51	38
<b>Exhausts from factories</b>	50	49	48	56	44
<b>Indoor fuel burning</b>	6	5	8	7	9
<b>Construction activities</b>	14	12	19	13	13
<b>Others (crackers and sinking green cover)</b>	2	2	1	1	7
<b>Don't Know</b>	12	15	9	7	16

What do you believe are the leading causes of air pollution?	Total	Male	Female	Primary or less	Second level	Grad and above
<b>Vehicular emissions</b>	88	88	87	85	87	92
<b>Burning of biomass and garbage</b>	46	44	49	37	49	54
<b>Exhausts from factories</b>	50	60	38	44	49	60
<b>Indoor fuel burning</b>	6	7	6	10	6	3
<b>Construction activities</b>	14	17	12	10	16	17
<b>Others (crackers and sinking green cover)</b>	2	1	3	5	1	0
<b>Don't Know</b>	12	10	14	9	10	18

## 5. SINGLE GREATEST CAUSE OF AIR POLLUTION

Which of the causes you mentioned do you believe is the single greatest cause of air pollution?	Total	15-29	30-44	45-59	60 +
<b>Vehicular emissions</b>	56	59	56	50	51
<b>Burning of biomass and garbage</b>	16	14	17	19	13
<b>Exhausts from factories</b>	18	18	18	20	16
<b>Indoor fuel burning</b>	3	2	4	2	2
<b>Construction activities</b>	3	3	2	7	4
<b>Other (crackers and sinking green cover)</b>	2	3	1	1	7
<b>Don't Know</b>	2	1	2	1	7

Which of the causes you mentioned do you believe is the single greatest cause of air pollution?	Total	Male	Female	Primary or less	Second level	Grad and above
<b>Vehicular emissions</b>	56	51	61	54	54	62
<b>Burning of biomass and garbage</b>	16	15	18	13	19	14
<b>Exhausts from factories</b>	18	25	10	19	18	18
<b>Indoor fuel burning</b>	3	3	2	4	3	2
<b>Construction activities</b>	3	3	4	2	4	4
<b>Other (crackers and sinking green cover)</b>	2	1	3	4	1	0
<b>Don't Know</b>	2	2	2	4	1	0

## 6. KNOWLEDGE OF SOLUTIONS

Do you know the solutions to air pollution?	Total	15-29	30-44	45-59	60 +
<b>Yes</b>	91	94	92	84	93
<b>No</b>	9	6	8	16	7

Do you know the solutions to air pollution?	Total	Male	Female	Primary or less	Second level	Grad and above
<b>Yes</b>	91	96	86	84	92	99
<b>No</b>	9	4	14	16	8	1



## 7. SUGGESTED SOLUTIONS

<b>[IF YES) Give your suggestions for reducing air pollution in Delhi.</b>	<b>Total</b>	<b>15-29</b>	<b>30-44</b>	<b>45-59</b>	<b>60 +</b>
<b>Number of personal vehicles should be less</b>	14	15	13	14	8
<b>Number CNG-based vehicles should be more</b>	19	20	18	18	16
<b>Promotion of plantation</b>	30	30	32	25	26
<b>Ban on burning of plastic and biomass</b>	19	23	19	14	13
<b>Generation of awareness</b>	21	22	22	20	18
<b>Increase in use of public transport</b>	10	9	12	10	8
<b>Enforcement of laws</b>	10	11	7	12	11
<b>Factories causing air pollution should be closed and banned</b>	14	15	10	19	13
<b>Ban on old vehicles</b>	9	7	12	12	5
<b>Ban on crackers</b>	5	7	4	1	8
<b>Proper maintenance or regular services of vehicles</b>	7	6	6	7	13
<b>Promotion of proper garbage system by government</b>	7	8	7	8	3
<b>Others</b>	21	20	23	22	13

<b>[IF YES) Give your suggestions for reducing air pollution in Delhi.</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>Primary or less</b>	<b>Second level</b>	<b>Grad and above</b>
<b>Number of personal vehicles should be less</b>	14	10	19	16	14	11
<b>Number CNG-based vehicles should be more</b>	19	15	23	16	21	18
<b>Promotion of plantation</b>	30	32	27	31	34	35
<b>Ban on burning of plastic and biomass</b>	19	12	29	16	25	13
<b>Generation of awareness</b>	21	23	19	19	17	32
<b>Increase in use of public transport</b>	10	8	13	7	9	16
<b>Enforcement of laws</b>	10	12	8	6	10	13
<b>Factories causing air pollution should be closed and banned</b>	14	14	14	11	14	17
<b>Ban on old vehicles</b>	9	12	6	10	8	11
<b>Ban on crackers</b>	5	3	7	6	4	5
<b>Proper maintenance or regular servicing of vehicles</b>	7	7	7	8	6	6
<b>Promotion of proper garbage system by government</b>	7	5	10	4	8	9
<b>Others</b>	21	19	23	24	18	21

## 8. RESPONSIBILITY FOR SOLUTIONS

Who do you believe is the most responsible for advancing these solutions?	Total	15-29	30-44	45-59	60 +
<b>Local government</b>	49	44	54	52	47
<b>National Government</b>	30	30	29	32	27
<b>Private businesses</b>	13	16	9	16	2
<b>People of Delhi</b>	72	71	77	68	69
<b>Others</b>	0	0	0	0	0
<b>Don't know</b>	8	9	6	7	13

Who do you believe is the most responsible for advancing these solutions?	Total	Male	Female	Primary or less	Second level	Grad and above
<b>Local government</b>	49	49	48	37	53	57
<b>National Government</b>	30	27	33	21	29	44
<b>Private businesses</b>	13	13	12	8	15	14
<b>People of Delhi</b>	72	79	64	72	69	77
<b>Others</b>	0	0	0	0	0	0
<b>Don't know</b>	8	3	14	16	7	0

## 9. WILLINGNESS TO ACT

How willing would you be to do something to advance solutions for air pollution in Delhi?	Total	15-29	30-44	45-59	60 +
<b>Very willing</b>	49	48	53	45	49
<b>Somewhat willing</b>	32	34	31	37	20
<b>Neither willing nor unwilling</b>	18	17	15	18	29
<b>Somewhat unwilling</b>	0	0.5	0	0	0
<b>Not at all willing</b>	1	0.5	1	0	2

How willing would you be to do something to advance solutions for air pollution in Delhi?	Total	Male	Female	Primary or less	Second level	Grad and above
<b>Very willing</b>	49	58	39	36	47	71
<b>Somewhat willing</b>	32	32	33	32	36	25
<b>Neither willing nor unwilling</b>	18	10	27	30	17	4
<b>Somewhat unwilling</b>	0	0	0	0	0	0
<b>Not at all willing</b>	1	0	1	2	0	0

## 10. SUPPORT FOR BAN OR PHASE OUT OF DIESEL

Do you believe the government should phase out or ban diesel vehicles?	Total	15-29	30-44	45-59	60 +
Yes	69	63	74	78	53
No	14	19	12	7	18
Don't know	17	18	14	15	29

Do you believe the government should phase out or ban diesel vehicles?	Total	Male	Female	Primary or less	Second level	Grad and above
Yes	69	79	56	61	66	84
No	14	12	17	17	16	8
Don't know	17	9	27	22	18	8

## 11. USE OF PUBLIC TRANSPORTATION

How often do you use public transportation?	Total	15-29	30-44	45-59	60 +
Every day	15	15	13	19	14
Several times a week	41	41	44	38	33
About once a week	14	19	12	10	13
Less than once a week	22	17	27	22	27
Never	8	8	4	11	13

How often do you use public transportation?	Total	Male	Female	Primary or less	Second level	Grad and above
Every day	15	23	6	17	15	13
Several times a week	41	48	32	30	45	46
About once a week	14	15	14	15	13	16
Less than once a week	22	11	34	26	22	17
Never	8	3	14	12	5	8

## 12. PREFERENCE FOR PUBLIC TRANSPORTATION

What do you think is a good public transportation option for Delhi?	Total	15-29	30-44	45-59	60 +
<b>Metro train with increased number and frequency</b>	52	57	56	42	38
<b>CNG-based vehicles</b>	20	21	20	28	7
<b>DTC buses with increased number and frequency</b>	20	19	22	17	29
<b>Others (transport vehicles should not be allowed in the city, and use of electric and cycle rickshaws for short distance)</b>	26	22	34	24	18
<b>No reply</b>	18	17	14	20	33

What do you think is a good public transportation option for Delhi?	Total	Male	Female	Primary or less	Second level	Grad and above
<b>Metro train with increased number and frequency</b>	52	55	49	43	58	53
<b>CNG-based vehicles</b>	20	27	13	23	18	22
<b>DTC buses with increased number and frequency</b>	20	19	22	21	19	22
<b>Others (transport vehicles should not be allowed in the city, and use of electric and cycle rickshaws for short distance)</b>	26	32	18	21	26	33
<b>No reply</b>	18	11	26	21	17	14

**QUESTIONNAIRE**

**A STUDY OF LEVEL OF CITIZENS' AWARENESS OF AIR POLLUTION IN DELHI**

**Conducted by Purpose, USA and Human Development Society, India**

**Respondent No.: .....**  
**(office use)**

Name of area in city: .....

Geographic zone in city (east, west, north, south, central): .....

**1. GENERAL INFORMATION**

1.1. Name of respondent: ..... Address: .....

Mobile No.: ..... .....

1.2. Gender: 1. Male 2. Female

1.3. Age: 1. 15-29 years 2. 30-44 years 3. 45-59 years 4. 60 years and above

1.4. Education: 1. Primary or less, including illiterate 2. Secondary level  
3. Graduation and above

1.5. Occupation: .....

**2. AIR POLLUTION**

2.1. How would you describe the air quality in Delhi?

- 1. Very clean 2. Somewhat clean 3. Neither clean nor dirty
- 4. Somewhat dirty 5. Very dirty

2.2. To what extent are you concerned about the air quality in Delhi?

- 1. Very concerned 2. Somewhat concerned 3. Neither concerned nor unconcerned

4. Not very concerned                      5. Not at all concerned

2.3. If very or somewhat concerned, give reasons for saying so:

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2.4. What do you believe are the leading causes of air pollution? (Do Not Read Choices)

1. Vehicular emissions                      2. Burning of biomass and garbage  
3. Exhausts from factories                4. Indoor fuel burning      5. Construction activities  
6. Don't know                                7. Others (specify) .....

2.5. Which of the causes you mentioned do you believe is the single greatest cause of air pollution?

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2.6. Do you know the solutions to air pollution?                      1. Yes                      2. No

2.7. Give your suggestions for reducing air pollution in Delhi.

.....  
.....

2.8. Who do you believe is the most responsible for advancing these solutions?

1. Local government                      2. National government                      3. Private businesses  
4. People of Delhi                              5. Others (specify) .....                      6. Don't know

2.9. How willing would you be to do something to advance solutions for air pollution in Delhi?

1. Very willing                      2. Somewhat willing                      3. Neither willing nor unwilling  
4. Somewhat unwilling                      5. Not at all willing

2.10. Do you believe the government should phase out or ban diesel vehicles?

1. Yes                                      2. No                                      3. Don't know

2.11. How often do you use public transportation?



1. Every day            2. Several times a week            3. About once a week  
4. Less than once a week            5. Never

2.12. What do you think is a good public transportation option for Delhi?

.....  
.....

Date: .....

Signature of interviewer/interviewee: .....