

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 1487
TO BE ANSWERED ON 24/12/2018

Deaths due to pollution

1487. SHRI RAVI PRAKASH VERMA:
SHRI NEERAJ SHEKHAR:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether one out every eight deaths in India has been reported due to air pollution, as per a recent study report;
- (b) if so, the details thereof along with the names of twenty most polluted cities in the country; and
- (c) the details of action Government would take to improve air quality and to curb air pollution in the country immediately, in response to such an alarming report?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(DR. MAHESH SHARMA)

- (a) A few reports have appeared in the media regarding the impact of air pollution on human health estimated based on models, simulations and extrapolations. However, there are no conclusive data available in the country to establish direct correlation of death/disease exclusively due to air pollution. Air pollution is one of the triggering factors for respiratory ailments and associated diseases. Health effects of air pollution are synergistic manifestation of factors which include food habits, occupational habits, socio-economic status, medical history, immunity, heredity, etc., of the individuals.
- (b) Central Pollution Control Board is monitoring ambient air quality in 731 locations covering 312 cities/towns in 29 States and 6 Union Territories across the country under National Air Quality Monitoring Programme (NAMP). CPCB does not rank cities with respect to air quality. However, an analysis of ambient air quality monitored during 2017 reveals that the annual average concentration of NO₂ in 25 cities exceeded the National Ambient Air Quality Standards (NAAQS) for residential, industrial, rural and other areas and that of PM₁₀ exceeded in 212 cities and PM_{2.5} in 31 cities (Annexure).
- (c) The Government has taken several steps to address air pollution, which inter alia include notification of National Ambient Air Quality Standards; revision of emission standards for industrial sectors from time to time; setting up of monitoring network for assessment of ambient air quality; introduction of cleaner / alternate fuels like gaseous fuel (CNG, LPG etc.), ethanol blending, launching of National Air Quality index; leapfrogging from BS-IV to BS-VI fuel standards; notification of Construction and Demolition Waste Management Rules; banning of burning of biomass; streamlining the issuance of Pollution

Under Control Certificate; issuance of directions under Section 18(1)(b) of Air (Prevention and Control of Pollution) Act, 1981 and under Section 5 of Environment (Protection) Act, 1986 for controlling air pollution; installation of on-line continuous (24x7) monitoring devices by major industries; notification of Graded Response Action Plan for Delhi and NCR; comprehensive action plan for air pollution control in Delhi and NCR; formulation of National Clean Air Programme (NCAP); organization of clean air campaigns, etc.

Annexure referred in reply to the Rajya Sabha Unstarred Question No. 1487 due for answer on 24/12/2018 regarding 'Deaths due to Pollution'

Table - 1

Cities exceeding NAAQS with respect to NO₂ during 2017
(Residential / industrial / rural / other area, NAAQS NO₂ > 40 µg/m³)

| Sl No. | State | City | NO ₂ Annual average (ug/m ³) |
|--------|----------------|---------------------|--|
| 1. | Maharashtra | Dombivali/Ambarnath | 70 |
| 2. | Maharashtra | Badlapur | 68 |
| 3. | Delhi | Delhi | 68 |
| 4. | Maharashtra | Ulhasnagar | 67 |
| 5. | Maharashtra | Pune | 65 |
| 6. | West Bengal | Howrah | 63 |
| 7. | Maharashtra | Pimpri-Chinchwad | 61 |
| 8. | Uttar Pradesh | Meerut | 52 |
| 9. | West Bengal | Baharampur | 48 |
| 10. | West Bengal | Barasat | 47 |
| 11. | Maharashtra | Thane | 47 |
| 12. | West Bengal | Barrackpore | 47 |
| 13. | West Bengal | Ranaghat | 46 |
| 14. | West Bengal | Kalyani | 46 |
| 15. | West Bengal | Krishnanagar | 46 |
| 16. | Jharkhand | Jamshedpur | 45 |
| 17. | Uttar Pradesh | Kanpur | 45 |
| 18. | Maharashtra | Navi Mumbai | 45 |
| 19. | Jharkhand | Saraikela Kharsawan | 44 |
| 20. | Andhra Pradesh | Chittoor | 44 |
| 21. | Maharashtra | Sangli | 43 |
| 22. | Maharashtra | Bhiwandi | 42 |
| 23. | West Bengal | Kolkata | 41 |
| 24. | West Bengal | Tamluk | 41 |
| 25. | West Bengal | Kharagpur | 41 |

Table – 2

Cities exceeding NAAQS with respect to PM₁₀ during 2017
(Residential / industrial / rural / other area, NAAQS PM₁₀ > 60 µg/m³)

| Sl No. | State | City | PM ₁₀ Annual average (ug/m3) |
|--------|------------------|---------------------|--|
| 1. | Uttar Pradesh | Ghaziabad | 280 |
| 2. | Uttar Pradesh | Lucknow | 246 |
| 3. | Uttar Pradesh | Varanasi | 244 |
| 4. | Delhi | Delhi | 241 |
| 5. | Uttar Pradesh | Kanpur | 224 |
| 6. | Punjab | Jalandhar | 223 |
| 7. | Uttar Pradesh | Moradabad | 217 |
| 8. | Uttar Pradesh | Noida | 216 |
| 9. | Uttar Pradesh | Khurja | 208 |
| 10. | Uttar Pradesh | Gajraula | 206 |
| 11. | Rajasthan | Bhiwadi | 200 |
| 12. | Uttar Pradesh | Bareilly | 195 |
| 13. | Uttar Pradesh | Gorakhpur | 186 |
| 14. | Rajasthan | Jodhpur | 180 |
| 15. | Rajasthan | Jaipur | 177 |
| 16. | Maharashtra | Dombivali/Ambarnath | 176 |
| 17. | Uttar Pradesh | Saharanpur | 174 |
| 18. | Meghalaya | Byrnihat | 174 |
| 19. | Himachal Pradesh | Baddi | 173 |
| 20. | Punjab | Amritsar | 168 |
| 21. | Bihar | Muzaffarpur | 167 |
| 22. | Rajasthan | Bharatpur | 164 |
| 23. | West Bengal | Raniganj | 163 |
| 24. | West Bengal | Asansol | 163 |
| 25. | Punjab | Ludhiana | 162 |
| 26. | Maharashtra | Badlapur | 159 |
| 27. | Bihar | Patna | 156 |
| 28. | West Bengal | Durgapur | 154 |
| 29. | Uttar Pradesh | Anpara | 153 |
| 30. | Uttar Pradesh | Meerut | 153 |
| 31. | Maharashtra | Mumbai | 151 |
| 32. | Maharashtra | Ulhasnagar | 149 |

| Sl No. | State | City | PM₁₀ Annual average (ug/m3) |
|---------------|----------------------|---------------------|---|
| 33. | Jammu & Kashmir | Jammu | 149 |
| 34. | Himachal Pradesh | Nalagarh | 147 |
| 35. | Maharashtra | Chandrapur | 146 |
| 36. | Jharkhand | Ranchi | 142 |
| 37. | Uttar Pradesh | Raebareli | 141 |
| 38. | Uttar Pradesh | Allahabad | 140 |
| 39. | Punjab | Khanna | 139 |
| 40. | Nagaland | Dimapur | 138 |
| 41. | Punjab | Gobindgarh | 136 |
| 42. | Tamilnadu | Tuticorin | 132 |
| 43. | Jharkhand | Saraikela Kharsawan | 131 |
| 44. | Punjab | Bhatinda | 131 |
| 45. | Jharkhand | Jamshedpur | 131 |
| 46. | Rajasthan | Kota | 130 |
| 47. | West Bengal | Kharagpur | 129 |
| 48. | Uttarakhand | Haldwani | 129 |
| 49. | Uttarakhand | Rishikesh | 128 |
| 50. | Karnataka | Bidar | 127 |
| 51. | Maharashtra | Akola | 127 |
| 52. | Bihar | Begusarai | 126 |
| 53. | Uttarakhand | Rudrapur | 126 |
| 54. | Odisha | Kalinga Nagar | 126 |
| 55. | Rajasthan | Udaipur | 126 |
| 56. | Karnataka | Timukuru | 125 |
| 57. | Uttar Pradesh | Unnao | 125 |
| 58. | Maharashtra | Thane | 125 |
| 59. | Gujarat | Ahmedabad | 120 |
| 60. | West Bengal | Kolkata | 120 |
| 61. | Himachal Pradesh | Kala Amb | 119 |
| 62. | Odisha | Rourkela | 117 |
| 63. | Gujarat | Vapi | 114 |
| 64. | Nagaland | Kohima | 114 |
| 65. | Uttar Pradesh | Jhansi | 113 |
| 66. | West Bengal | Tamluk | 112 |
| 67. | Uttarakhand | Kashipur | 111 |
| 68. | Punjab | Hoshiarpur | 111 |
| 69. | Dadra & Nagar Haveli | Silvassa | 111 |

| Sl No. | State | City | PM₁₀ Annual average (ug/m3) |
|---------------|----------------|-----------------|---|
| 70. | Meghalaya | Umiam / Umsning | 110 |
| 71. | West Bengal | Howrah | 110 |
| 72. | Madhya Pradesh | Gwalior | 110 |
| 73. | Chandigarh | Chandigarh | 109 |
| 74. | Madhya Pradesh | Singrauli | 109 |
| 75. | West Bengal | Baharampur | 109 |
| 76. | Assam | Tezpur | 108 |
| 77. | Gujarat | Vadodara | 108 |
| 78. | Gujarat | Anklesvar | 108 |
| 79. | Telangana | Hyderabad | 108 |
| 80. | Daman & Diu | Daman | 106 |
| 81. | Gujarat | Rajkot | 106 |
| 82. | Uttarakhand | Haridwar | 106 |
| 83. | Gujarat | Surat | 106 |
| 84. | Odisha | Paradeep | 106 |
| 85. | Maharashtra | Amravati | 106 |
| 86. | Assam | Guwahati | 106 |
| 87. | Maharashtra | Navi Mumbai | 105 |
| 88. | Goa | Panaji | 105 |
| 89. | West Bengal | South Suburban | 104 |
| 90. | Gujarat | Jamnagar | 104 |
| 91. | Chattisgarh | Raipur | 103 |
| 92. | West Bengal | Barasat | 103 |
| 93. | West Bengal | Ranaghat | 103 |
| 94. | Maharashtra | Nagpur | 102 |
| 95. | Maharashtra | Pune | 102 |
| 96. | Punjab | Patiala | 101 |
| 97. | Maharashtra | Jalna | 101 |
| 98. | Andhra Pradesh | Vijaywada | 99 |
| 99. | West Bengal | Bardhaman | 97 |
| 100. | West Bengal | Haldia | 97 |
| 101. | West Bengal | Ghatal | 96 |
| 102. | Odisha | Talcher | 96 |
| 103. | Karnataka | Belgaum | 95 |
| 104. | Punjab | Sangrur | 95 |
| 105. | Assam | Nalbari | 95 |
| 106. | Odisha | Angul | 94 |

| Sl No. | State | City | PM₁₀ Annual average (ug/m3) |
|---------------|------------------|---------------------|---|
| 107. | Karnataka | Bijapur | 94 |
| 108. | Odisha | Konark | 94 |
| 109. | West Bengal | Krishnanagar | 93 |
| 110. | Madhya Pradesh | Bhopal | 93 |
| 111. | Punjab | Dera Bassi | 93 |
| 112. | Karnataka | Raichur | 92 |
| 113. | West Bengal | Suri | 92 |
| 114. | West Bengal | Bolpur | 92 |
| 115. | West Bengal | Rampurhat | 92 |
| 116. | Karnataka | Bangalore | 92 |
| 117. | West Bengal | Bankura | 92 |
| 118. | Odisha | Bhubneshwar | 91 |
| 119. | West Bengal | Rishra | 91 |
| 120. | Punjab | Naya Nangal | 90 |
| 121. | Maharashtra | Kolhapur | 90 |
| 122. | West Bengal | Barrackpore | 90 |
| 123. | Punjab | Pathankot/Dera Baba | 90 |
| 124. | Odisha | Jharsuguda | 90 |
| 125. | Goa | Vasco | 89 |
| 126. | Bihar | Sasaram | 87 |
| 127. | Karnataka | Devanagere | 87 |
| 128. | Odisha | Cuttack | 86 |
| 129. | Tamilnadu | Trichy | 86 |
| 130. | West Bengal | Medinipur | 86 |
| 131. | Goa | Honda | 86 |
| 132. | West Bengal | Purulia | 86 |
| 133. | Madhya Pradesh | Katni | 86 |
| 134. | West Bengal | Kalyani | 85 |
| 135. | Madhya Pradesh | Prithampur | 85 |
| 136. | Himachal Pradesh | Paonta Sahib | 84 |
| 137. | Bihar | Rajgir | 84 |
| 138. | Goa | Cuncolim | 84 |
| 139. | West Bengal | Chinsura | 83 |
| 140. | Odisha | Balasore | 83 |
| 141. | Maharashtra | Aurangabad | 83 |
| 142. | Andhra Pradesh | Kurnool | 82 |
| 143. | Madhya Pradesh | Amlai | 82 |

| Sl No. | State | City | PM₁₀ Annual average (ug/m3) |
|---------------|------------------|------------------|---|
| 144. | Maharashtra | Pimpri-Chinchwad | 82 |
| 145. | Odisha | Sambalpur | 82 |
| 146. | Assam | Sibsagar | 81 |
| 147. | Maharashtra | Nashik | 81 |
| 148. | Maharashtra | Latur | 81 |
| 149. | Madhya Pradesh | Indore | 80 |
| 150. | Telangana | Kothur | 80 |
| 151. | Madhya Pradesh | Satna | 80 |
| 152. | West Bengal | Uluberia | 79 |
| 153. | Telangana | Sangareddy | 79 |
| 154. | West Bengal | Tribeni | 79 |
| 155. | Karnataka | Hubli-Dharwad | 79 |
| 156. | Andhra Pradesh | Anantapur | 78 |
| 157. | Telangana | Patencheru | 78 |
| 158. | West Bengal | Sankrail | 78 |
| 159. | Bihar | Bodhgaya | 77 |
| 160. | West Bengal | Dankuni | 77 |
| 161. | Jharkhand | West Singhbhum | 77 |
| 162. | Maharashtra | Jalgaon | 77 |
| 163. | Odisha | Puri | 77 |
| 164. | Telangana | Ramagundam | 76 |
| 165. | Maharashtra | Sangli | 76 |
| 166. | Assam | Nagaon | 75 |
| 167. | Karnataka | Mangalore | 75 |
| 168. | Chattisgarh | Bilaspur | 75 |
| 169. | Madhya Pradesh | Ujjain | 75 |
| 170. | Madhya Pradesh | Dewas | 75 |
| 171. | Andhra Pradesh | Kadapa | 74 |
| 172. | Goa | Usgao | 74 |
| 173. | Andhra Pradesh | Eluru | 74 |
| 174. | Madhya Pradesh | Jabalpur | 74 |
| 175. | Andhra Pradesh | Vishakhapatnam | 73 |
| 176. | Goa | Ponda | 73 |
| 177. | Himachal Pradesh | Sunder Nagar | 73 |
| 178. | Bihar | Darbhanga | 72 |
| 179. | Telangana | Karimnagar | 72 |
| 180. | Andhra Pradesh | Vizianagaram | 72 |

| Sl No. | State | City | PM₁₀ Annual average (ug/m3) |
|---------------|------------------|-------------|---|
| 181. | Madhya Pradesh | Nagda | 71 |
| 182. | Assam | Tinsukia | 70 |
| 183. | Telangana | Warangal | 70 |
| 184. | Andhra Pradesh | Srikakulam | 70 |
| 185. | Madhya Pradesh | Sagar | 69 |
| 186. | Assam | Daranga | 69 |
| 187. | Andhra Pradesh | Guntur | 69 |
| 188. | Andhra Pradesh | Chitoor | 69 |
| 189. | Karnataka | Kolar | 68 |
| 190. | Maharashtra | Bhiwandi | 68 |
| 191. | Goa | Amona | 67 |
| 192. | Tamilnadu | Madurai | 67 |
| 193. | Andhra Pradesh | Kakinada | 66 |
| 194. | Himachal Pradesh | Una | 66 |
| 195. | Goa | Codli | 66 |
| 196. | Andhra Pradesh | Nellore | 65 |
| 197. | Madhya Pradesh | Chhindwara | 65 |
| 198. | Andhra Pradesh | Prakasam | 65 |
| 199. | Himachal Pradesh | Parwanoo | 65 |
| 200. | Andhra Pradesh | Rajahmundry | 65 |
| 201. | Telangana | Adilabad | 65 |
| 202. | Maharashtra | Solapur | 64 |
| 203. | Goa | Tilamol | 63 |
| 204. | Andhra Pradesh | Tirupati | 63 |
| 205. | Himachal Pradesh | Damtal | 62 |
| 206. | Assam | Lakhimpur | 62 |
| 207. | West Bengal | Malda | 62 |
| 208. | Telangana | Nizamabad | 62 |
| 209. | Goa | Bicholim | 62 |
| 210. | Tamilnadu | Chennai | 62 |
| 211. | Tripura | Agartala | 62 |
| 212. | Odisha | Berhampur | 61 |

Table – 3

**Cities exceeding NAAQS with respect to PM_{2.5} (annual average) during 2017
(Residential / industrial / rural / other area, NAAQS PM_{2.5} > 40 µg/m³)**

| SI No. | State | City | PM _{2.5} Annual average (µg/m ³) |
|--------|------------------|---------------|--|
| 1. | Delhi | Delhi | 106 |
| 2. | Uttar Pradesh | Lucknow | 102 |
| 3. | Bihar | Muzaffarpur | 89 |
| 4. | West Bengal | Kolkata | 71 |
| 5. | West Bengal | Durgapur | 69 |
| 6. | Bihar | Begusarai | 68 |
| 7. | West Bengal | Asansol | 67 |
| 8. | Chandigarh | Chandigarh | 64 |
| 9. | West Bengal | Howrah | 64 |
| 10. | Odisha | Kalinga Nagar | 57 |
| 11. | Telangana | Hyderabad | 54 |
| 12. | Karnataka | Belgaum | 53 |
| 13. | Madhya Pradesh | Singrauli | 50 |
| 14. | Madhya Pradesh | Gwalior | 47 |
| 15. | Odisha | Jharsuguda | 47 |
| 16. | Karnataka | Bangalore | 46 |
| 17. | Odisha | Sambalpur | 46 |
| 18. | West Bengal | Kalyani | 46 |
| 19. | Odisha | Angul | 45 |
| 20. | Odisha | Talcher | 45 |
| 21. | Odisha | Balasore | 45 |
| 22. | Goa | Cuncoim | 45 |
| 23. | West Bengal | Barrackpore | 44 |
| 24. | Madhya Pradesh | Prithampur | 44 |
| 25. | Odisha | Cuttack | 43 |
| 26. | Madhya Pradesh | Indore | 43 |
| 27. | Odisha | Rourkela | 42 |
| 28. | Madhya Pradesh | Bhopal | 41 |
| 29. | Madhya Pradesh | Katni | 41 |
| 30. | Himachal Pradesh | Sunder Nagar | 41 |
| 31. | Madhya Pradesh | Chhindwara | 41 |