



Panacea for the Air Pollution-A Review

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Abstract

Air pollution is the fusion of manmade substances in the natural air we breathe. It is nothing but the contamination of air. Pollutants can be gases, smoke, Household chemicals, pollen, particles produced from the fossil fuels and coal. There are various adverse effects on the human health from these pollutants which needs to be eradicated for a better and healthy living. The first step for the resolution of air pollution is organic way of living.

Keywords: *Pollution, smoke, organic lifestyle, chemicals*

Introduction

Air pollution is one of the major mishaps faced by today's world. There are different types of pollutants like primary pollutants and secondary pollutants [1-5]. The pollutants that directly result to pollution are called primary pollutants. For example carbon monoxide emitted from the vehicles. The pollutants that are caused from the reactions of the primary pollutants are called secondary pollutants [6-10]. For example, Ozone is formed from the reactions of primary pollutants such as hydrocarbons and nitrous oxides [11-16]. Advancements in science and technology and modern lifestyle are the main causes for the air pollution. It is always good to advance and improve the lifestyle but if that is effecting in an adverse way on our lives, what is the good happening? Organic way of lifestyle can reduce the pollution to a maximum extent [17-25]. Researchers are working on the best ways out from this complication. There is a wide effect on the human health from these pollutants (Figure 1).



FIG. 1. Air pollution.

Effects of Air Pollution

Not only on the human but also the plant and animal population are effected with the adverse effects of pollution. There are many health effects from the air pollution out of which respiratory and cardiovascular diseases are the most alarming [26-33]. Asthma, lung infection, cardiac diseases and cancer are the most serious effects. Exposure to air pollution for children causes some serious illness and might sometimes leads to chronic or even death.

Global warming is another alarming effect of air pollution which is caused by the emissions from the cars, factories, home and other harmful gases. The industrial wastes and the burning of fossil fuels are also another major cause for the Acid rains which effects the human, animal and crop pollution [34-38]. The harmful gases like nitrous oxide and sulphur combines with the atmospheric water to acidify hence forming the acid rains. The forests and the lakes are majorly affected by acid rains.

Another major effect for the fish and animal species is by the toxic chemicals from industrial wastes and mainly the agricultural chemicals being deposited on the sea surface.

Panacea for the Air Pollution

In today's modern world completely eradicating air pollution is next to impossible but it is always possible to reduce the pollution with a minimum effort from each one of us for a better tomorrow for the next generation. We have almost modernised everything today and that is what is leading to the pollution in many ways [39-41]. Using public transport to reduce the vehicle emission, conserving energy to reduce the burning of fossil fuels to produce energy, the concept of reduce, Reuse and recycle, Using energy efficient devices, Planting , Stop cutting down forests are the trivial steps to be taken from every individual to reduce the pollution.

Industrialized nations have attempted to decrease levels of sulphur dioxide and smoke to enhance individuals' wellbeing. However, an outcome, not anticipated, is that the lower sulphur dioxide levels may really aggravate a worldwide temperature alteration. Similarly as sulphur dioxide from volcanoes can cool the planet by blocking daylight, cutting the measure of the compound in the environment lets more daylight through, warming the Earth [42-47]. This impact is overstated when raised levels of other greenhouse gasses in the environment trap the extra warmth.

We know the rudiments of what can be reused and recycled paper, plastic, metal, glass. In any case, there is an expanding host of waste that can now get repurposed on account of technical advances.

Researchers have invented how to utilize human crap and that of steeds, rhinos, and elephants to power transports, rickshaws, and even homes [48-52]. There's innovation now to transform restaurant used oil into biofuel, sea squander into shoes, and sewage into gaseous petrol [53-56]. Charge Gates has even demonstrated that sewage can control the very framework that transforms sewage into drinking water.

But what about recycling and reusing something we cannot touch?

The complexion of the black smoke that comes out from the vehicle in motion is actually the unburnt carbon that is released from combustion [57-62]. This carbon when it put through a very simple chemical process produces a raw material highly used in the ink and printing sectors [63-68]. Anirudh Sharma an MIT graduate from India has invented this USA. He calls this as black gold and when this is mixed with alcohol and oil can be a cheaper alternative for the traditional ink [69-75]. This project is now tied up with a lot of companies (Figure 2).



FIG. 2. Device used to collect vehicle emission.

Another step that has been taken recently to curb pollution is Vertical gardening. China made an awesome illustration a month ago with the Asia's first Vertical Forest. The vertical woodland is said to produce 60kg oxygen consistently [76-78]. Presently, while the world is going gaga over this splendid idea, Bengaluru, India too has joined the fleeting trend with a vertical garden (Figure 3).



FIG. 3. Vertical garden on the pillars.

This idea is the brainchild of SayTrees, thus far about 3500 saplings of more than 10 species have been planted. This vertical garden is arranged in one of the mainstays of Hosur Road flyover, Bengaluru with an expectation to draw out the pleasant characteristics of the city while battling with pollution simultaneously [79-80]. Like any other, this one too needs appropriate support for proficiency and SayTrees has remembered it. A robotized trickle water system framework will water the saplings consistently and they will frequently take care of those saplings. Further, as indicated by the SayTrees, these vertical patio nurseries will help decrease urban warmth island impact and brown haze, clean outside air with pollutants and dust, go about as a sound sealing boundary, and make living space for creatures and a few different advantages.

Conclusion

These innovations by the researches will be playing their part to curb the pollution for safe healthy and better living standards. However every individual is responsible to eradicate the pollution. Organic life style can be the most important step to be taken to accomplish this. Cutting down forests, usage of household chemicals should be paralysed. We are responsible to give the better earth for our next generations.

“We do not inherit the earth from our ancestors; we borrow it from our children”

REFERENCE

1. Deshmukh AP, Srinivasarao M. Selection of an Optimal Air Pollution Management System for Commercially Operated Spray Driers located in an Industrial Estate. J Pollut Eff Cont. 2017; 5(1):181.
2. Yıldız T. Prevention of Noise Pollution caused by Highways in Settlement Areas via a Noise Insulation System. J Pollut Eff Cont. 2016; 5(1):178.

3. Li Q, Qiao F, Yu L. Risk Assessment of In-Vehicle Noise Pollution from Highways. *Environ Pollut Climate Change*. 2016; 1(1):107.
4. Hu B, Zhou J, Liu L, et al. Assessment of Heavy Metal Pollution and Potential Ecological Risk in Soils of Tianjin Sewage Irrigation Region, North China. *J Environ Anal Toxicol*. 2017; 7(1):425.
5. Jadoon S, Amin AA, Malik A, et al. Soil Pollution by the Cement Industry in the Bazian Vicinity, Kurdistan Region. *J Environ Anal Toxicol*. 2016; 6(6):413.
6. Barría PRM. Indoor Air Pollution by Particulate Matter from Wood Fuel: An Unresolved Problem. *Environ Pollut Climate Change*. 2016; 1(1):104.
7. Sagar K, Srivastava RK, Sarkar R. Suspended Particulate Matter Pollution in Jabalpur: A Case Study. *J Environ Anal Toxicol*. 2016; 6(5):396.
8. Ruggiero A. The Importance of Uncertainty in the Noise Pollution Measurements. *Environ Pollut Climate Change*. 2016; 1(1):102.
9. Sagar K, Srivastava RK, Sarkar R. Suspended Particulate Matter Pollution in Jabalpur: A Case Study. *J Environ Anal Toxicol*. 2016; 6(5):396.
10. Barría PRM. Indoor Air Pollution by Particulate Matter from Wood Fuel: An Unresolved Problem. *Environ Pollut Climate Change*. 2016; 1(1):104.
11. Sajjadi SM, Yunus MZBM, et al. Estimation of Air Pollution Cost for Optimization of Highway Alignment. *J Civil Environ Eng*. 2015; 5(6):197.
12. Zhang M, Fang Z, Zhang Y, et al. Systemic Approaches for the Potential Mechanisms of Common Respiratory Diseases Caused by Air Pollution in China. *Lung Dis Treat*. 2015; 1(1):103.
13. Helmy HM, Shakour AA, Kamel MM, et al. Impacts of Air Pollution on Colour Fading and Physical Properties of Wool Yarns Dyed with Some Natural Dyes in Residential Site. *J Textile Sci Eng*. 2015; 5(6):221.
14. Koulougliotis D, Kalimeris A, Potozi S, et al. Indoor Air Pollution: The Case of Ozone in Three Regions in Greece. *J Phys Chem Biophys*. 2015; 5(6):191.
15. Kerret D, Menahem G. The Role of Risk Perception and Collaborative Management in Explaining Stringent Municipal Regulations - The Israeli Air Pollution Case Study. *Review Pub Administration Manag*. 2015; 3(1):157.
16. Viagannou FA. Morbidity due to Air Pollution in Cotonou: An Assessment of the Psychological Cost. *Int J Econ Manag Sci*. 2015; 4(7):268.
17. Shrivastava SR, Shrivastava PS, Ramasamy J. Public Health Measures to Prevent the Adverse Impact of Air Pollution on Health. *Biol Med*. 2015; S3:001.
18. Rajput R. Understanding Hair Loss due to Air Pollution and the Approach to Management. *Hair Ther Transplant*. 2015; 5(1):133.
19. Calderón-Garcidueñas L, González-Maciél A, Vojdani A, et al. The Intestinal Barrier in Air Pollution-Associated Neural Involvement in Mexico City Residents: Mind the Gut, the Evolution of a Changing Paradigm Relevant to Parkinson Disease Risk. *J Alzheimers Dis Parkinsonism*. 2015; 5(1):179.
20. Hosgood HD, Lan Q, Rohan T. Household Air Pollution (HAP) and Cancer: What (HAP) Pens Next? *J Pulm Respir Med*. 2014; 4(4):189.
21. Matsuda M, Krempel PG, André PA, et al. Traffic-Related Air Pollution Effect on Fast Glycemia of Aged Obese Type 2 Diabetic Mice. *J Clin Exp Cardiol*. 2013; 4(7):255.

22. Lim YH, Kim H, Kim JH, et al. Benefit of Glycemic Control for Reducing the Effects of Air Pollution on Blood Pressure: A Panel Study. *J Diabetes Metab.* 2014; 5(9):434.
23. George MP, Jasmine Kaur B, Sharma A, et al. Delhi Smog 2012: Cause and Concerns. *J Pollut Eff Cont.* 2013; 1(1):103.
24. Srivastava PK, Singh M, Tripathi RD. Soil Arsenic Pollution: A Threat to Crops. *J Bioremed Biodeg.* 2013; 4(7):e137.
25. Authman MMN, Zaki MS, Khallaf EA, et al. Use of Fish as Bio-indicator of the Effects of Heavy Metals Pollution. *J Aquac Res Development.* 2015; 6(4):328.
26. Ghaly AE, Ramakrishnan VV. Nitrogen Sources and Cycling in the Ecosystem and its Role in Air, Water and Soil Pollution: A Critical Review. *J Pollut Eff Cont.* 2015; 3(2):136.
27. Zaghoul MZ. Respiratory Syncytial Virus Infection in Children. *Air Water Borne Dis.* 2013; 2(2):e122.
28. Prato M. Increased TIMP Levels in Malaria Patients: Risk or Protective Factors? *Air Water Borne Dis.* 2013; 2(2):e123.
29. Cooke III WH, Grala K, Brooks CP, et al. Development of a Sampling Scheme for West Nile Virus Testing in Urban and Rural Environments. *Air Water Borne Dis.* 2013; 2(2):111.
30. Shemesh AA, Yagupsky P. Increasing Incidence of Human Brucellosis in Southern Israel after the Cessation of a Veterinarian Control Campaign. *Air Water Borne Dis.* 2013; 2(2):112.
31. Dos Santos LGF, Ometto T, de Araújo J, et al. Absence of Anaplasmataceae DNA in Wild Birds and Bats from a Flooded Area in the Brazilian Northern Pantanal. *Air Water Borne Dis.* 2013; 2(2):113.
32. SFurquim KCS, Camargo-Mathias MI, Ferraz Hebling LMG, et al. Alterations in the Secretory Behavior of Salivary Glands of *Rhipicephalus sanguineus* Females (Latreille, 1806) (Acari: Ixodidae) Feeding in Resistant Rabbit. *Air Water Borne Dis.* 2013; 2(2):114.
33. Thompson J, Shukla A. Asbestos Risks: Past and Present. *Air Water Borne Dis.* 2013; 2(1):e121.
34. Nishimura K. An Unusual Transmission of Legionella Pneumonia: One of Waterborne Diseases. *Air Water Borne Dis.* 2013; 2(1):105.
35. Abushama HM. Zoonoses, Neglected Community and Poverty (The Connected Scenario). *Air Water Borne Dis.* 2013; 2(1):106.
36. Mandour RA. Drinking Water Toxicity in Health and Diseases. *Air Water Borne Dis.* 2013; 2(1):107.
37. Al-Sulami AA, Al-Tae AMR, Yehyazarian AA. The Effect of *Aeromonas* spp. on the Growth of *Legionella pneumophila* in vitro. *Air Water Borne Dis.* 2013; 2(1):108.
38. Braks MAH, de Roda Husman AM. Dimensions of Effects of Climate Change on Water-Transmitted Infectious Diseases. *Air Water Borne Dis.* 2013; 2(1):109.
39. Hernández C, Ramírez JD. Molecular Diagnosis of Vector- Borne Parasitic Diseases. *Air Water Borne Dis.* 2013; 2(1):110.
40. Kopp BT. Autophagy and Cystic Fibrosis: When Recycling Goes Bad. *Air Water Borne Dis.* 2013; 3(1):e125.
41. Mansour SA. Impact of Climate Change on Air and Water Borne Diseases. *Air Water Borne Dis.* 2013; 3(1):e126.
42. Clegg R, Sethi A, Sethi R. What's in your Water can be bad for your Health? *Air Water Borne Dis.* 2014; 3(1):e127.
43. Zaghoul MZ. The Contribution of Anaerobic Bacteria that Causes Periodontitis in the Pathogenesis of Chronic Obstructive Pulmonary Disease (COPD). *Air Water Borne Dis.* 2014; 3(1):e128.
44. Gasana J. Water and Health. *Air Water Borne Dis.* 2014; 3(2):e129.
45. Pai RPR, Kangath RV. Adrenal Histoplasmosis- Keeping a High Index of Suspicion. *Air Water Borne Dis.* 2014; 3(2):e130.

46. Zaghoul MZ. Human Herpes Viruses in Patients with Chronic Periodontitis and Aggressive Periodontitis. *Air Water Borne Dis.* 2014; 3(2):e131.
47. Lazarovich M. It's Time to Move Past Smoke Free Rooms: A Proposal for Standard Hypoallergenic Hotel Rooms. *Air Water Borne Dis.* 2014; 3(2):116.
48. Yang J. Metagenomics: A New Approach for Microbial Identification. *Air Water Borne Dis.* 2012; 1(5):e115.
49. Sethi R. Air Pollution and Disease and Gender. *Air Water Borne Dis.* 2012; 1(5):e116.
50. Zaghoul MZ. Noroviruses as a Cause of Nonbacterial Gastroenteritis. *Air Water Borne Dis.* 2012; 1(5):e117.
51. Gea-Izquierdo E. *Legionella longbeachae* as Approach towards a New Medium of Legionellae Transmission. *Air Water Borne Dis.* 2012; 1(5):e118.
52. Hansen C, Sethi R. Polio: Eradicated, But Can It Return? *Air Water Borne Dis.* 2012; 1(5):e119.
53. Al-Sulami AA. A Moment of Reflection Where Scientists Stand. *Air Water Borne Dis.* 2012; 1(5):e120.
54. Al-Sulami AA, Al-Tae AMR, AL-Rubyai AY. Recovery of *Helicobacter Pylori* from Sewage in Basrah Governorate and its Confirmation by 16S rRNA. *Air Water Borne Dis.* 2012; 1(5):104.
55. Downs CA. Thirdhand Smoke Exposure: An Emerging Threat from an Old Foe. *Air Water Borne Dis.* 2012; 1(4):e110.
56. Kim KH. The Environmental Significance of Airborne Diseases Due to the Use of Household Biomass Fuels. *Air Water Borne Dis.* 2012; 1(4):e111.
57. Wu D. New Insights into the Pathological Features of Asthma/COPD and Pulmonary Arterial Hypertension. *Air Water Borne Dis.* 2012; 1(4):e113.
58. Rajasree Pai R, Kangath RV. Re-emergence of Pertussis- A Global Perspective. *Air Water Borne Dis.* 2012; 1(4):e114.
59. Downs CA. Epithelial Sodium Channels Play a Role in Air & Water Borne Diseases. *Air Water Borne Dis.* 2012; 1(3):e109.
60. Zaghoul MZ. Human Metapneumovirus. *Air Water Borne Dis.* 2012; 1(3):e108.
61. Hou HJM, Gunn KS, Wu H, et al. Microbial Forensics: An Emerging Field and a National Need. *Air Water Borne Dis.* 2012; 1(3):e107.
62. Larkin J (2012) The Immune System uses iTregs to keep from giving Non-pathogenic Microorganisms a "Time-Out". *Air Water Borne Dis* 1:e106.
63. Kopp BT. Unearthing the Truth about Bacterial Reservoirs in Cystic Fibrosis. *Air Water Borne Dis.* 2012; 1(2):e105.
64. Zaghoul MZ. Adenovirus Serotypes (40,41) as a Cause of Gastroenteritis. *Air Water Borne Dis.* 2012; 1(2):e104.
65. Barbosa J, Vieira R, Costa J, et al. Prevalence of *Aspergillus* sp in Portuguese Infant and Elementary Schools. *Air Water Borne Dis.* 2012; 1(2):103.
66. Zaghoul MZ. Shigellosis. *Air Water Borne Diseases.* 2012; 1(1):e101.
67. Lannoo MJ. "Funeral by Funeral, Theory Advances". *Air Water Borne Diseases.* 2012; 1(1):e102.
68. Price R, Burke J. Occupational Exposure to Asbestos: Mortality and Liability Issues Arising in Hong Kong's Shipping Industry. *Air Water Borne Diseases.* 2012; 1(1):101.
69. Vuai SAH. Microbial and Nutrient Contamination of Domestic Well in Urban-West Region, Zanzibar, Tanzania. *Air Water Borne Diseases.* 2012; 1(1):102.
70. Bravo I. Are All Inhaled Drugs Climate Friendly? *Air Water Borne Dis.* 2012; 1(1):e103.
71. <http://www.conserve-energy-future.com/causes-effects-solutions-of-air-pollution.php>.
72. <http://study.com/academy/lesson/what-is-air-pollution-definition-sources-types.html>.

73. <https://www.niehs.nih.gov/health/topics/agents/air-pollution/>.
74. <http://observers.france24.com/en/20160819-converting-tailpipe-carbon-emissions-ink>.
75. <http://www.ndtv.com/offbeat/bengaluru-gets-vertical-garden-to-fight-pollution-all-thanks-to-its-residents-1671426>.
76. <http://in.reuters.com/video/2016/08/15/mexico-city-raises-green-awareness-with?videoId=369577981>.
77. <http://www.indiatimes.com/news/india/bengaluru-gets-its-1st-vertical-garden-to-curb-pollution-it-already-has-over-3-500-plants-273733.html>.
78. <http://www.mensxp.com/special-features/today/35686-after-china-bengaluru-gets-its-first-vertical-garden-to-fight-pollution-add-to-the-city-s-beauty.html>.
79. Abdul-Aziz KK. The Health Status and Genetic Variations of the Bivalve, *Pinctala radiata* Affected by Environmental Pollution. *J Environ hydrophobicity. Science.* 1990;250(4978):297-8.