A planetary public health crisis: Pollution

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Abstract

Air pollution has been a seri- ous environmental problem in In- dia that damages human health and causes climate change. While air pol- lution has been extensively investi- gated, few studies have provided sys- tematic research on the recent space- time changes in air pollution compo- nents, including the CO, O3, NO2, SO2, PM10, AQI and PM2.5, over all of India

Keywords : *Atmospheric Environment, Air pollution, Emission control*

Introduction

The world doesn't care enough about pollution we think of pollution as an environmental issue. we do not think of Lucien as a health issue. it kills more people than war than hunger than malaria or AIDS or tuberculosis. all of these pale in comparison in 2015 pollution related diseases accounted for nine point six million deaths 92 percent of their burden is in low and middle income countries that's big for us it's big in terms of the distribution of the prob- lem to put it in plain speak the dispersion is unfair it's not been on the public radar because there's been a lack of understanding of just how endemic this problem is and how many people are impacted. it's been forgo1en we need to make people aware the pollution is damaging them and damaging their children it may not be visible but it's nonethe- less very real it is about huge loss of economic community and vital human ability and that's why pollution should receive the a1ention and the fix that it deserves as a crusher of human capacity human beings are wired to respond to immediate threats infectious diseases like Zika like dengue that make people quickly and obviously sick really get the public a1ention by contrast non communi- cable diseases chronic diseases that are caused by pollution learning disabilities cancer chronic lung disease take years to play out the connection be- tween cause and effect is not visible and people put it in the back of their mind. we're all ex- posed they're all at risk but the effects are seen most heavily on the very young and on the poor the exposure of the poor to pollution is twofold one is involuntary exposure. where the pollution has been caused by other people the other kind of pollution that they're exposed to is one that they generate themselves artisanal gold miners who use mercury in their processes Tanner is who use XML and chromium ba1ery recyclers.

who are exposed to lead fumes in many cases They are aware of what they're doing to their bod- ies but they need to put food on the table for their families and they don't see any alternative and again it's the children that are most affected one of the most startling findings in the last several decades really has been the greater vulnerability of the developing fetus and young child to toxic chemicals and pollutants brain development is a highly choreographed tightly programmed pro- cess and any misstep can have serious effects on the child's ability to learn and to contribute to so- ciety we really have a moral obligation to take the science that we have now and apply that urgently as air pollution water pollution soil and workplace issues within each of those categories that tend to be the same kind of problems that show up again and again and again and this is how we should look at pollution what is some huge overwhelming is- sue but a series of li1le problems that each need to be solved individually there are parts of pollu- tion that have been looked at in the international development agenda there's been a lot of work to improve water supply and over the last 20 years .

Pullution data

we have seen a number of deaths from water pol- lution drop really substantially that should serve as a model for what we ought to be doing now that's an implicit assumption that's been there for long that part of development is unavoidable mas- sive pollution it does not have to be that way I was growing up in India in the 50s there was clear crisp cool wonderful things changed in 1991 when the closed Indian market opened up to the world there was a explosion of industrialization and with that expansion has come more cars more tra@c more congestion more pollution India has become vastly

more dangerous over the last 20 years because the air pollution dangerous in a way that we have re- ally never seen on the planet if you take a broader economic perspective the health effects of pollution constitute an economic problem because sick people can't go to work or they have to stay home and have other people care for them and so society incurs all of these costs air pollution and climate change which are two of the greatest threats to health are linked very closely because they have a common source fossil fuel-burning.

if we can integrate the toxics agenda into the climate change agenda will bring about eductions in climate change in greenhouse gases but will also save all our lives in 2015

Rank	City	2019 AVG	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2018 AVG	2017 AVG
1	Ghaziabad, India	110.2	205.7	29.5	89.3	86.9	96.6	62.9	45.3	33	37.7	158.6	235.8	235.9	135.2	144.6
2	Hotan, China	110.1	60.1	70.1	189.1	151.8	128.6	57.9	119.7	126	87.8	103.9	114.5	106.1	116	91.9
3	Gujranwala, Pakistan	105.3	220.4	127.4	86.4	70.9	65.8	53.3	59.2	48.8	67.4	107.6	144.9	217.3	-	-
4	Faisalabad, Pakistan	104.6	223	128.3	82	59.1	56.5	46.3	54.2	58.4	66.5	92	148.5	226.2	130.4	-
5	Delhi, India	98.6	191.7	84.8	75.3	71.4	76.6	56.7	43.2	31.9	37.2	116.7	200.7	194.8	113.5	108.2
6	Noida, India	97.7	151.8	38.1	78.3	81.8	88.6	65.3	47.4	33.1	36.5	134.3	212.4	222.6	123.6	134

India joined the Paris agreement India has accepted a very ambitious target to from coal to solar in due course almost 30 to 40 percent of India's en- ergy needs will come from solar energy it's going to be a long hard struggle but India has made a start and will see success before toolong.

There's a series of smelters and those are all shut down the mine is closed but the smelter waste is everywhere and it has been everywhere for as long as everyone there has been alive it's not a secret it's just part of life in cowboy it's a poison town soil pollution is the one area of pollution that's least recognized because it's not something you can see fioating in the air or the water has a horrible color to it so pollution toxicants don't breakdown.

Fikeen of the top 20 most polluted cities in the world are located in India, according to an analysis of air quality in several cities around the world.

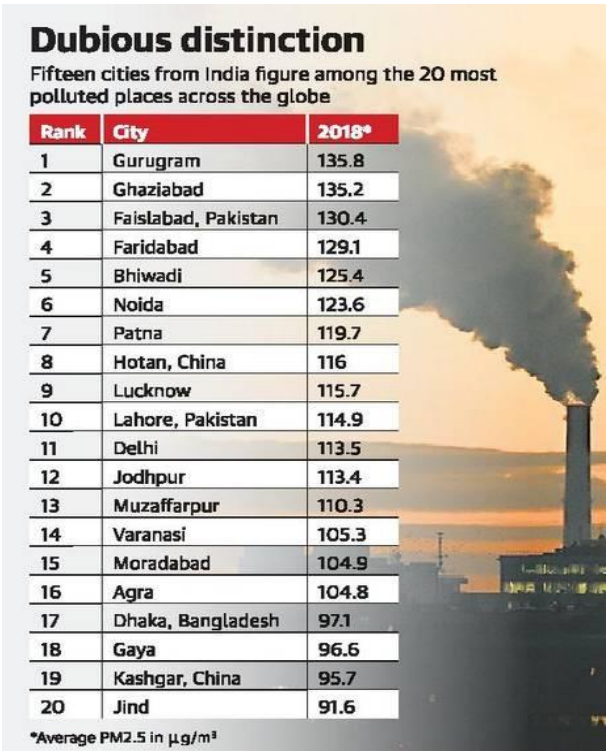

Figure 1: Top 20 polluted cities in India Soure: The Hindu

Gurugram, in Haryana, topped the list with an average annual particulate ma1er (PM 2.5) qual- ity of 135 g/m3 (micrograms/cubic metre), in 2018. Delhi — a frequent fixture on global pollution hotspots — was only the 11th most noxious city behind Lahore, Pakistan (10th) and Hotan, China (8th). The other cities in India that made the list of 20 were Ghaziabad, Faridabad, Bhiwadi, Noida, Patna, Lucknow, Jodhpur, Muzaffarpur, Varanasi, Moradabad, Agra, Gaya and Jind.

they stay in the soil and can continue to poison people for generations we show up pull out the fabric and cut it to measure for each yard we wheel-barrow in clean clay soils to cover the fabric the fabric is both a barrier and a marker later if you hit the fabric when you're digging stop below there's dirty each house it's one family that those kids don't have that daily impact with LED anymore no ma1er where you go parents never want to see their kids ge1ing poisoned a kid who has brain damage from lead poisoning is never gonna have the full potential of his life and it can't be fixed but it can be prevented in the next kid could be protected the trajectory is encouraging but the pace is slow and I think the scale those far is not su@- cient but I see growing awareness of the necessity of rising to the occasion to tackle the challenge pollution doesn't have to be solved in one day it won't be solved in one day the way to get there is to set a five-year target a ten-year target of 15 year tar- get in the beneficiaries of that process are going to be the country's children if I were to look back 20 years from now I would hope that all of these countries have adopted pollution as an issue that is something fundamental to their own development strategies and they are commi1ed to doing things in healthy and productive ways that is how the world should look

Conclusion

The air pollution components demonstrate distinct differences in spatial distribution, with high values of CO in india and state. So support to environ- ment and trees and plants.

References

[1] R. B. Clark, C. Frid, M. A1rill, *et al.*, "*Marine pollution*," 1989.

[2] C. E. Warren, "*Biology and water pollution control*.," 1971.

[3] B. Brunekreef and S. T. Holgate, "*Air pollu- tion and health*," *Le lancet*, vol. 360, no. 9341, pp. 1233–1242, 2002.

[4] C. F. Mason, *Biology of freshwater pollution*. Pearson Education, 2002.

[5] J. J. Fried, *Groundwater pollution* Elsevier, 1975.

[6] K. Wark, C. F. Warner, D. Wayne T, *et al.*, *Air pollution: its origin andcontrol*. Addison- Wesley, 1998.

[7] J. H. Bragdon and J. Marlin, "*Is pollution prof- itable*," Risk management, vol. 19, no. 4, pp. 9– 18, 1972.

[8] V. Novotny, *Water quality: prevention, identi- fication and management of difluse pollution*. Van Nostrand-Reinhold Publishers, 1994.

[9] P. Leighton, *Photochemistry of air pollution*. Elsevier, 2012.

[10] S. P. Arya *et al.*, "*Air pollution meteorology and dispersion*", vol. 6. Oxford University Press New York, 1999.

[11] B. R. Copeland and M. S. Taylor, "*Trade and transboundary pollution*," Le American Eco- nomic Review, pp. 716–737, 1995.

[12] M. Kampa and E. Castanas, "*Human health effects of air pollution*," Environmental pollu- tion, vol. 151, no. 2, pp. 362–367, 2008.

[13] D. W. Dockery and C. A. Pope, "*Acute res- piratory effects of particulate air pollution*," Annual review of public health, vol. 15, no. 1, pp. 107–132, 1994.

[14] M. Freedman and B. Jaggi, "*Pollution disclo- sures, pollution performance and economic performance*," *Omega*, vol. 10, no. 2, pp. 167–176, 1982.

[15] H. Akimoto, "*Global air quality and pollution*," *Science*, vol. 302, no. 5651, pp. 1716–1719, 2003.

[16] M. K. Hill, "*Understanding environmental pol- lution*". Cambridge University Press, 2020.

[17] F. Dutheil, J. S. Baker, and V. Navel, "Covid- 19 as a factor infiuencing air pollution?," *En- vironmental Pollution (Barking, Essex: 1987)*, vol. 263, p. 114466, 2020.

[18] F. Dong, Y. Wang, L. Zheng, J. Li, and S. Xie, "*Can industrial agglomeration pro- mote pollution agglomeration? evidence from china*," *Journal of Cleaner Production*, vol. 246, p. 118960, 2020.

[19] K. Kor and A. Mehdinia, "*Neustonic mi- croplastic pollution in the persian gulf*," Marine pollution bulletin, vol. 150, p. 110665, 2020.

[20] P. Wang, K. Chen, S. Zhu, P. Wang, and H. Zhang, "*Severe air pollution events not avoided by reduced anthropogenic activities during covid-19 outbreak*," Resources, Conservation andRecycling,vol.158,p.104814,2020.

[21] C. Via1e, C. Clerbaux, C. Maes, P. Daniel, R. Garello, S. Safieddine, and F. Ardhuin, "*Air pollution and sea pollution seen from space*," Surveys in Geophysics, pp. 1–27, 2020.

[22] S. Muhammad, X. Long, and M. Salman, "*Covid-19 pandemic and environmental pol- lution: a blessing in disguise?," Science of Le Total Environment*, p. 138820, 2020.

[23] E. Conticini, B. Frediani, and D. Caro, "*Can at- mospheric pollution be considered a co-factor in extremely high level of sars-cov-2 lethality in northern italy?," Environmental pollution*, p. 114465, 2020.

[24] C. A. Pope III, N. Coleman, Z. A. Pond, and R. T. Burne1, "*Fine particulate air pollution and human mortality: 25+ years of cohort studies*," Environmental research, vol. 183, p. 108924, 2020.

[25] J. Wang, Y. Zhou, X. Dong, M. Yin, D. C. Tsang, J. Sun, J. Liu, G. Song, and Y. Liu, "*Temporal sedimentary record of thallium pollution in an urban lake: An emerging thallium pollution source from copper metallurgy*," *Chemosphere*, vol. 242, p. 125172,2020.

[26] T. Ma, S. Sun, G. Fu, J. W. Hall, Y. Ni, L. He, J. Yi, N. Zhao, Y. Du, T. Pei, *et al.*, "*Pollution exacerbates china's water scarcity and its regional inequality*," *Nature Communications*, vol. 11, 2020.

[27] H. Fan, C. Zhao, and Y. Yang, "*A comprehensive analysis of the spatio-temporal variation of urban air pollution in china during 2014– 2018*," *Atmospheric Environment*, vol. 220, p. 117066, 2020.

[28] V. Kanawade, A. Srivastava, K. Ram, E. Asmi, V. Vakkari, V. Soni, V. Varaprasad, and C. Sarangi, "*What caused severe air pollution episode of november 2016 in new delhi?," Atmospheric Environment*, vol. 222, p. 117125, 2020.