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IMPACT ASSESSEMENT OF ENVIRONMENTAL POLLUTION OF NATIONAL AND GLOBAL LEVEL

Dr. D. Vijaya Kumar[1] , M. Naganjali[2] and P. Sai Pradeep[3]

[1]Professor Department of Civil Engineering, Rise krishnasai Prakasam group of institutions,ongole

[2]Assistant Professor , Department of Civil Engineering, Rise krishnasai Prakasam group of institutions, ongole.

[3]Assistant Professor Department of Civil Engineering, Rise krishnasai Prakasam group of institutions, ongole.

ABSTRACT: -

Environmental pollution is the unfavorable alteration of our surroundings through direct/indirect effect of changes in energy patterns radiation levels, chemicals and physical constitution and abundance of organism. All pollutants are contaminants but not all
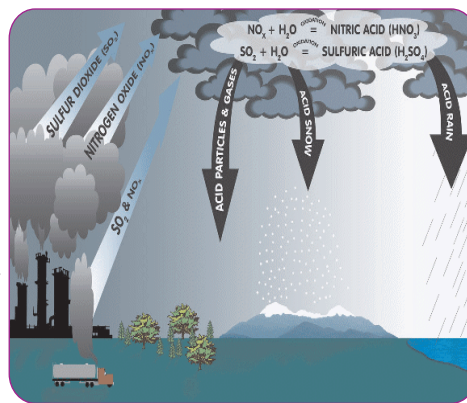
contaminants are pollutants. Differentiating pollution from contamination can't be done solely on the basics of chemical analysis because such analysis provide no information on bio volubility on toxicity however pollution cleanup at remediation of soils as water would involve exactly the same actions as contamination clean up at remediation.

KEYWORDS: pollution, alternation, contamination, energy patterns, chemical analysis, remediation.

INTRODUCTION :

Each of every organism has its own environment throughout the life; every organism is totally dependent on the environment. The characteristics of each environment depend on various human activities. The human wants to rule the environment and nature but he could not whenever recreates problems to the environment. The human self develops uncertainty for his life and his future generators. Hence, understanding to environment.

Over the years the environmental challenges, especially into form of pollution have amplified at global and natural levels. At global level four types of pollutions are quite notable Air, Water, Soil, and X-rays.

Since industrial revolution in Europe in 18th century the emission of green house gases has multiplied and this has serious environmental implications. For instant 250 biggest companies of the world account for one third of all manmade greenhouse gases emission globally coal India, gazprom and Exxon   Mobil are three top most listed companies for highest co2 emission and people are being their products without questions their credentials. To put it more rigorously, these 250 listed companies were expected to cut 3% emission per year to limit tax generator as per the goal set by the parries climate agreement (2015). But actually only 30% of those 250actually have set goals to cut such emissions (time of india,1 nov,2017),in 2014 Delhi was marked by the WHO as the most polluted city in the world (annual mean PM 2.5being 153) and later in 2016 it slightly improved with eleventh rank in the world(annual mean PM 2.5being 122 micro gram per meter). However, some experts and organizations like green peace question it by pointing out that more data station points (10 in 2016 against 6in 2014) for monitoring have diluted the earlier result, further the WIFO report of 2016 is based on data (annual average) from 2008-2013.

Hence if current data are taken into account, Indian cities would perhaps rank worse. Needless to say that 2017 has been worse in terms of air pollution in Indian average Oct 2017 was more polluted than Oct 2016- average air quality 275 in Oct 2016. Oct 2017 had 15 (very poor)days compare to Oct 2016 with 5 very poor days. However, highest AQI in Oct 2016 was 445 (on Oct 31) against the highest AQI in Oct, 2017 being 403 (On Oct 20). Anyway eleven most polluted cities in the world(as per WHO 2016) are as per table I.

Table-I
Top eleven most polluted (PM 2.5) cities in the world (2016)

S.NO	MOST POLLUTED (PM 2.5)CITIES IN THE WORLD	(PM 2.5)
1	Zibo (Iran)	217
2	Gwalior (India)	176
3	Allahabad	170
4	Riyadh (Saudi Arabia)	156
5	Al jubail(Saudi Arabia)	152
6	Patna	149
7	Raipur	144
8	Bamanda (Cameroon)	132
9	Xiangtan (China)	128
10	Baoding (china)	126
11	Delhi (India)	122
W.H.O report 2016		

From these details, it is crystal clear that out of these eleven most polluted cities in the world five cities are in India.

Gwahor, Allahabad, Patna, Raipur and Delhi, regarding PM10 level, the highest polluted city in the world was or Vista(Nigeria) with annual mean of 594 micro gram per cubic meter polluted by push war (Pakistan) of 540 micro gram per cubic meter , Gwalior with 329 micro gram per cubic meter ranks tenth in the 10 highest PM 10 level cities (and is the only Indian city among top 10 highest PM 10level). In this regard Delhi ranks 25th position with 229 micro gram per cubic meter (annual average) in addition W.H.O 2016 report clearly mentioned that urban air pollution levels were lowest is high income countries (Europe, Americans, and western pacific region). As the more land, highest urban air pollution levels were experienced in low and middle income countries.

Every year world water day is celebrated on 22nd march. But except observing some rituals we hardly take any concrete measure that is 65%dip in water level of India's wells in the last decade. As per lancet journal, in 2015, water pollution led to 64 lake deaths, air pollution to 18.10 lake deaths, and total 90lakh deaths in the world from all types of pollution in 2015.

There are 63968 habitants and contaminated water in India and of these 28000 habitants in india.9especially in west Bengal, Bihar, and Jharkhand, up, Assam, Manipur, Rajasthan and Chhattisgarh)

Department of drinking water, government of India (tourists of india.1st April 2017). Admitted in parliament that 2010-2015 more than 16528 persons died due to diseases caused by water contamination.

A global research by orb media formed that in New York and Washington plastic fiber contamination is tap water was 94%lebonon (Beirut) 93%, India (New Delhi) 82%. Uganda (Kanpur) 80% and equator (Quito) 79%. Actually microscopic fragments enter from synthetic fiber clothing, tire dust and micro beads (the times of India, 16 Oct 2017).

Further a 21st century institutional architecture for India's water reforms submitted to union government of India clearly mentioned that water table are falling in most of part of India. 60% of India districts face ground water over exploitation and series quality issues second there is fluoride, arsenic, mercury and uranium in ground water.

Third, water use efficiency is India's agriculture is among the lowest in the world (25-35%). Further, drying up of India's peninsular rivers is mainly caused by over extraction of ground water.

Loss in water bodies due to urbanization 2000-2016

s. no	Cities	%loss in water bodies
1	Seurat	95
2	Raipur	80
3	Bangalore	79
4	Kolhapur	75
5	Ghaziabad	75
6	Delhi	62
7	Guwahati	60
8	Patna	50
9	Allahabad	50

In 2012, MCD got water samples tasted and result were alarming, 100% of samples in nerela 87% of samples in sadar paharganj, 70% of sample in Karol bags, 61% of samples in south zone, 58% of samples in civil line zone,58% of samples in shahadara, and 33.3% of samples is central zone were found unfit for dr5inking (Hindu Stan times,22 march 2017).

Three main causes of water pollution is Delhi are Algal growth and related contaminations in water pipes mixing of sewage water will drinking water due to leakage of pipelines, and outlined water pipe systems. Similarly there were 2300 ponds in Ernakulum dist in Kerala in 1980's put it declared to 800 now. Further Naini Lake in Nainital (uttarakhand) suffers four mounds of debris and dead fish.

In Dhal lake (Kashmir) about 20 million liters of untreated sewage are drained daily and further fish tourist foot fall leads to high waste dumping in Bangalore too 67 lakes surveyed have no drink able water. Dhal Lake lost 24.5%of its area during 1950-2017 due to unregulated changes in land use.

In Chandigarh too, Sukhna Lake is choked due to silt in a nearby villages, in Bangalore Subramanyapura Lake weeds have taken roots and chemicals and sewage in the lake water have spoiled its quality froth found during the free monsoon rains, due to urbanization water bodies are shrinking across India.

CONSEQUENCES OF POLLUTION:
Fine particles, especially from PM1 and PM 2.5, affect the human body (as well as animals) the following ways
a) It affects lungs worsening of chronic obstructive pulmonary disorder and reduction in lung function
b) It affects blood particles pass through walls of blood vessels affecting flow of blood and also causing thrombosis
c) It affects vascular system atherosclerosis reduction in diameter of blood vessels and high blood pressure
d) It affects heart changes in heart function increase in heart rhythm problem lungs of people living in Delhi/NCR are turning back white these of hill residing people are pink and healthier

REMEDIES:
a) There should be genuine political and administrate will and associated plan of action for mitigation of different types of pollution
b) Central/state pollution central boards as well as local bodies should proactive going beyond the rhetoric and empty promises
c) Focus should be as long term measures not short term fire freighting measures
d) Infect adequate public transport facilities like local trains (in Mumbai) metro, buses etc, should be enhanced tremendously in the terms more coaches and more trips in lieu of individual cars, scooters, bikes

e) Further adequate cycle tracks, battery rickshaws and pedestrian an tracks should be developed in all cities/towns

f) No parking zones in crowded areas be declared and implemented strictly and parking fee be enhanced 3-4 times

g) Brick kilns hot mix plans, stone crushers etc in and around cities be shutdown and road dust should be removed regularly treating vacuum cleaning machines especially nights.

h) More use of clear energy devices like solar, wind,   bulbs/tubes, LPG, CNG gas save energy and avoid pollution from use of fossil fuel etc.

I) Building materials should be transported in covered vehicles and such materials should kept covered on shops stores and work sites.

j) Using non biodegradable plastic as carry bag ete should be strictly banned in order to present chocking of drains

k) Water pollution should be removed by ensuring treated water supply especially in area of contaminated water.

l) All water bodies should be restored and daily cleaned as a mass drive

m) All municipal bodies/industries should be punished if untreated water and effluents are drained into rivers

n) Water conservation and management should be left to the engineers rather all stake holder like scientists social scientists, local people, NGO''s should be involved for participatory and bottom up approach for both ground water and surface water management

o) "Anupam varma" committee recommended for banning of 12 only more pesticides and review of 27 chemicals in 2018 and suggested phasing out of 6 pesticides by 2020.

p) India for sole food leader "kavitha karuganti" has criticized this committee and ministry of agriculture and forms welfare for not banning of many pesticides like monocrotophose, enduosulpos

q) Thus protecting the business interests of MNC's like Monsanto and profits from glyph sate to learnt GN crops selling both GM seeds

r) All stake holders in India have to go a genuine long way to prevent and mitigate environmental pollution in different ways in thirsts words and deeds

s) So that well being of her people may be ensured at the earliest.

REFERENCES:

(1)Dr. subhash Sharma ˝environmental pollution˝ employment new delhi-12 December 2017

(2)Anonymous, "Water: A millennial priority". The Acme Agro vat and Beverage Ltd., Dhaka, Bangladesh. 2004.

(3)WHO, "Arsenic compounds Environmental Health Criteria". 2nd ed. World Health Organization, Geneva. 2001

(4)Khan, A.W., "Arsenic contamination in groundwater and its effect on human health with particular reference to Bangladesh". Journal of Preventive and Social Medicine, 16. 65-73. 1997

(5)Bader, J.S., "Ground-water contamination, The United State of America and Puerto Rica, U. S. Geological Survey, Washington DC, USA". pp: 103. 1973.

(6)Meyer, C.F., "Polluted ground: Some causes, effects, controls, and monitoring". Rept. EPA-600/4-73-0016, U. S. Environmental Protection Agency, Washington DC, USA, pp: 282. 1973.

(7)Smith, A.H., "Cancer risks from arsenic in drinking water". Environmental Health Perspectives, 97. 259-257. 1992.