

# The Air and Water Pollutants that Causes Toxic Effects to the Human Beings in Industrialized Area and Control Water Pollution and Sources

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## Introduction

The significance of water for sustenance of life can't be overemphasized. Regardless of whether it is being used of running water in our homes, raising cows and developing harvests in our ranches, or the expanded uses in industry, stay vast. It is significant along these lines, to not that consumption of this ware either through pollution, or indiscreet use results in serous outcomes. Pollution May be Defined as the toxic pollutants particles are include in atmosphere or environment that is called pollution an air contamination pollutants material adversely effects on human beings or environment. The substance can be gases or water droplets particles or crystal particles in the atmosphere. A contamination pollutant can be made through by man-made. Pollution are divided into two category the one category primary pollutants and the other has secondary pollutant the primary pollutants carbon dioxide are produced from motor cars and vehicles and lorries buses vans etc. I the sulphuredioxide are produced from industry. Nitrogen dioxide is released from ecosystem such as living organism. And the other hand secondary pollutants are directly mixed with environment such as ozone etc. air pollution adversely effects on human body such as lung cancer chronic cancer asthma breathing bronchitis and emphysema and pulmonary and air pollution effects on respiratory system of the human beings and adversely effects on the human beings eyes and digestive system, furthermore air pollution effect nasal cavity hair and the human being can not exactly taking breathing from environment and come inflammation in the human being can not exactly taking breathing from environment and come inflammation in the human being etc. Water pollution or industrialization pollution is concerned with industrial contamination pollution or water pollution comprise of ocean, lakes, rivers ground water and sea water and different variety kinds of toxic chemicals or metals mixed CD,PB,ZN, CR,FE, with water and a lot of disease may be caused from water pollution such as water born disease or vector born disease and that are adversely effect on human and many of diseases would be caused from water pollution abnormally are parathyphoid fever, dysentery, jaundice, amoebiasis and Malaria typhoid, cholera the toxic chemical or toxic Metals are present in water pollution and that may might cause different kinds of diseases DDT are very harmful for human brain and pescitides are terminating the human brain central nervous system and chloride can be injurious the endocrine gland and damaged the reproductive system of the humans and the Other Metal are exist in water pollution industrialization area and that are very dangerous for infant children that drink from mother and cause the blue baby syndrome and other Metal

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Lead this solid particle element might damage the human nervous system and furthermore disease may be caused as well as such arsenic causes skin cancer liver damaged and vascular disease and other site an important toxic chemical metals fluorides are found in water pollution industrialization area and that are very harmful for human and that will be break the spinal and damage your teeth etc. and petrochemical are present in water pollution so these are dangerous for aquatic animals and aquatic plants.

## Water pollution

Water is viewed as dirtied if a few substances or condition is available to such an extent, that the water can't be utilized for a particular reason. Olaniran NS [1] characterized water contamination to be the nearness of unnecessary measures of a peril (poisons) in water so that it is no long appropriate for drinking, washing, cooking or different employments. Contamination is the presentation of pollution into the earth [2]. It is made by mechanical and business squanderer, rural practices, ordinary human exercises and most remarkably, models of transportation. Regardless of where you go and what you do, there are leftovers earths ecological and its occupants from multiple points of view. The three fundamental kinds of contamination are: Land Pollution, Air Pollution and Water Pollution. Both with the end goal of this exploration, accentuation are on water contamination and control.

## Sources of waste water pollution

Water contamination in Nigeria as indicated by Gbamanija SPT [3] emerges from different exercises, among which are: i) Sewage spillages ii) High populace thickness iii) Oil spillage iv) Threat of Nipa palm and water hyacinth v) Modern waste dumped into our waters vi) Contamination of ground water through boring exercises vii) Flooding amid blustery season which conveys squander stores into our waters. viii) Building restrooms and visionaries over running water or even the ocean as it the training in some riverine zones. ix) Radioisotopes x) Overwhelming metal xi) Burning xii) Lethal waste transfer adrift xiii) Mineral handling plant (for example coal generation) xiv) Disintegrated dregs xv) Deforestation xvi) Mining xvii) Littering xviii) Pesticides xix) herbicides and manures xx) Coming up short septic framework xxi. House hold synthetics xxii) Creature squanders. Water contamination is commonly actuated by people. It results from activities of people carried on to better self. These could be treated under the different exercises that man takes part in, that lead to contamination. The development of human populace, modern and rural practices is the significant reasons for contamination [4]. Water contamination turns out to be more regrettable because of congestion in urban territories. Farming, household and mechanical squanders are the real poisons of agnatic living spaces. Sewage is the greatest poison of new water when released into them. Sewage is the waterborne squanderer of society and the release of untreated sewage into a stream is exceptionally gigantic and undesirable. The striking result is a considerable and prompt drop in the measure of broke down oxygen in the water. This happens in light of the fact that natural issue animates decomposers particularly microscopic organisms which separate suspended solids in the sewage. As they breathe, the decomposers go through broke up oxygen (O<sub>2</sub>) and the Biological Oxygen Demand (BOD) decreases. The widely varied vegetation of the streams experience change and decrease in number because of death by suffocation. Exceedingly contaminated streams have repulsive smell and contain practically zero vegetation or fauna. Another wellspring of water contamination is the release of heated water from cooling motors in the ventures. This expands water temperature and brings

down the metabolic rate of living beings. This at that point raises their oxygen request. The impacts of contamination are more prominent in shallow, encased or moderate streaming streams. Overabundance compost, herbicides and pesticides when washed by downpour into streams makes genuine peril life. Abundance phosphorus in manure cause genuine entroplication. Aside from composts, cleanser is additionally extremely poisonous to marine life when washed into water. Concoction poisons from distaffs have been observed to be creature cancer-causing agents. The coloring businesses in Nigeria (tie and color) produce synthetic substances, for example, zinc sulfate and copper salts which are non-biodegradable, when they are released into waterways; they produce wrecking impacts on amphibian situations. Contamination represents a genuine hazard to life particularly when the water is a wellspring of drinking and for household purposes for people dirtied waters are powerful specialists of illnesses, for example, cholera, typhoid and tuberculosis. A noteworthy water toxins has been oil spilled in huge amounts from tankers of broken oil funnels from oil enterprises which murders ocean weeds, mollusks, marine feathered creatures, shellfish, angles and other ocean living beings that fill in as nourishment for people. This prompts calcium insufficiencies in our eating routine. A few bug sprays like DDT are especially perilous when permitted into waterways since its focus increments along the natural way of life. Clams for a precedent can gather DDT to a fixation. Multiple times that of DDT in ocean water. The impacts of water contamination in certain regions has been to a degree of irreversibly changing oceanic biological systems. This is perilous to plants and creatures including people. Since water contamination has direct outcomes on human well creatures, a viable showing procedure in the formal instruction segment is fundamental for a superior seeing in order to build up the correct frame of mind towards water. This is the reason the guided revelation approach is a showing methodology which when satisfactorily used and joined with different techniques for science training will leave enduring impact on the student just as assistance him take care of the issues of his quick condition [5].

## Water pollution effects

Water contamination has a dual impact on nature. It effectly affects the living and furthermore on nature. The impacts of contamination on people and amphibian networks are numerous and changed. Water contamination causes roughly 14,000 passings for each day, generally because of defilement of drinking water by untreated sewage in creating nations. An expected 700 million Indians have no entrance to an appropriate latrine, and 1,000 Indians youngsters' kick the bucket of looseness of the bowels consistently thus numerous different nations as well. Almost 500 million Chinese need access of safe drinking water. Unquestionably with all these, we can anticipate that that there is going should be a decrease in profitability. Biomass and assorted variety of networks are normal when huge measure of dangerous materials are discharged into the streams, lakes and waterfront waters in the sea. A lot of oceanic contamination includes sewage in which natural waste prevail. This waste can build optional efficiency while adjusting the character of the amphibian network. Most fishes particularly the species wanted as sustenance by man are among the touchy species that vanish with the least extreme contamination. Water contamination prompts harm to human wellbeing. Illness conveying operators, for example, microscopic organisms and infections are conveyed into the surface and ground water. Drinking water is influenced and wellbeing risks result. Direct harm to plants and creatures sustenance likewise influences human wellbeing. Plants supplements including nitrogen, phosphorus and different substances that help the development of sea-going vegetation could be in abundance causing algal despair and over the top weed development. This makes water to have scent, taste and once in a while shading. At last, the biological equalization of a waterway is adjusted. Sulfur dioxide and nitrogen oxides cause corrosive downpour which brings down the PH estimation of soil and outflow of carbon dioxide cause sea fermentation, the continuous lessening in the PH of the Earth's Oceans as CO<sub>2</sub> ends up broke down.

## Pollution and control management

- i. Wash your vehicle far from any tempest water channels.
- ii. Try not to toss junk, synthetic concoctions or solvents into sewer channels

- iii. Reviews your septic framework each 3 – 5 years
- iv. Abstain from utilizing pesticides and composts that can keep running off into water frameworks
- v. clear your garage as opposed to hosing it down
- vi. Continuously siphon your waste-holding tanks on your pontoon
- vii. Use non-dangerous cleaning materials
- viii. Tidy up oil and other fluid spills with kitty litter and compass them up
- ix. Try not to wash paints brushes in the sink. Another route is to join or engage with contamination aversion is to rehearse endeavors without anyone else or join tasks or program. A portion of these are accessible with the Environmental Protection Agency site (EPA). Guideline and observing is a powerful method for contamination the board. Numerous countries worldwide have established enactment to direct different kinds of contamination just as to relieve the unfavorable impacts of contamination. Contamination control intends to control the outflows and effluents into the air, water and land or soil. Without contamination control, the squanderer items from utilizations, warming, farming, mining, assembling, transportation and other human exercises, regardless of whether they collect or scatter, will corrupt the earth. Contamination anticipation and waste minimization are more attractive than contamination control. Be that as it may, contamination could be limit by receiving these practices (i) by reusing (ii) by reusing (iii) squander minimization (iv) by moderating (v) by avoiding (vi) by fertilizer. Aside from all these referenced above, you can likewise utilize contamination control gadgets which incorporate Dust accumulation framework for example pack houses, typhoons, electrostatic precipitators, scrubbers for example confound shower scrubber, ejector adventure scrubber, precisely supported scrubbers, splash tower, wet scrubber, sewage treatment for example sedimentation (essential treatment), initiated muck bio channels (auxiliary treatment, likewise utilized for mechanical waste water), circulated air through tidal ponds, built wetlands (additionally utilized in urban spillover); modern wastewater treatment for example ultra-filtration, API oil-water separators, bio channels, broke down air buoyancy (DAF), powdered enacted carbon treatment; the last yet not the least are vapor recuperation framework and phytoremediation

## Literature Review

The fast rise of industrial development increases the economy of the Country republic, but also information the environmental pollution by therapeutic pollutants such as toxic wastes of heavyweight metals similar As arsenic, Pb lead Hg mercury Cr chromium gases and burn Hansda A, et al., [6] currently pollution heavy weight metals. Pollution is a large issue in the whole world. The factory like heat up and mining, of a major concentration or quantity of heavy metals toxic elements in the atmosphere or surroundings which caused by health problem to the populates [7]. The manufacturing of waste product of water pollution contain of toxic heavy metal wastes product are mostly soluble in water are simply mixed with land or ground water which variations the whole world nature composed of these dims [8]. The small number of heavy weight solids pollution is simple, prolong term an non reversibly in the ecosphere air pollution that effect the human body or lung cancer prolong term health effect. The former is always sufficient and reversible with few symptoms like eye irritation nausea and headaches and after could lead to summary chronic capacity asthma heart inflammation disorder disease cancer and death [9]. The human body cleansing natural process the majority of inhaled Trap never save the downward system respiratory [10]. The breathe system of the other human being receptors contain of the covering dermal way, eye and the system of way oral of duodenal system of internal. The skin is protect the whole body. The eye is sensitive organ [9] toxins may undergo a number of alterations in the liver they are added via in variety types of part of a body hair, bone, or fatty portions ejection routes contain exhalation urination in the breast milk bowl travels, [9,11] in 1992 Nigeria proved CO<sub>2</sub> emission from industrial

processes (Ukemenam,2014) water pollution may be caused disease, typhoid, hepatitis viral dysentery Bhatt RV, et al. [12] with specific vapour particles such as nitrogen dioxide and carbon dioxide and sulphur dioxide and ozone bacterial volatile and chemical hydrocarbon compounds (vocs )and the fumes are the extreme types of air pollutants come across inside [13] furthermore admit in the food chain and that can be injurious for invertebrates or aquatic animals just like marine fish or vertebrates more invertebrates are those living organism which have not got backbone as a sponge ants etc. vertebrates are defined as those living organism which have got back bone for example human animals cat dog fish etc. and that the mainstream of phosphates. Additionally fallen petroleum greasy on the water and that can be made chemicals that are mainstream injurious for aquatic animals [14].

The level of the higher Cr Chromium in water waste sewage represent extreme pollutants from industry textile and tanneries [14] and the other hand Cr chromium majority digestion or surrounding or environment breathing inhalation etc. it may be caused lung cancer and skin ulceration hole of nasal septum [15]. The agency of international for research on cancer category Chromium as carcinogenic to human health [15] several human health abnormality disorder disease such as skeletal disease, neurotoxicity inflammation disease such as heart disease are associated with metal of solid exposure to the human being [16] metal solid pollution in sewage water have generated due fast industrial development and city followed by indiscriminating, removal of wastes unintended, unrestrained concentrated cultivated practices leakage having pollution sites Sharma RS, et al. [17]. Heavy of the metal element are present in surface water such as Cu, Cr, Pb, Cd, Un, Ni, Fe, etc. [18]. The surface water is carefully related to human health. Additionally metal element concentration may cause risk and adverse effect on human health may cause smallness of inhalation breathiness water pollution is a truly contamination by NO<sub>3</sub> TH, TDS, N<sub>2</sub>O, SO<sub>4</sub> and F making it unstable for water drinking and may be cause high risk to the human health. NO<sub>3</sub>,F are considered to be poisonous for the human body Wongsasuk P, et al. [19] the water born disease mainly in south Africa, has altered the facade of landmass opening up earth or land for agricultural giving electricity power water born disease or vector born ailment bringing wealth to the poor people. The disease may cause such as guinea larva, schistosomiasis, lymphatic filariasis and onchocerciasis (Alan Fenwick 2006) December 2004 marked 29 centenary of the toxin gas outflow from company's union carbide chemical plant in Bhopal in the state of Madhya Pradesh India that killed 3800 people and children and women are killed in this accident [20]. The European Scientists investigated. the Different variety of gases are converted into a strong acid or sulphur dioxide are react with water and formation of sulphuric acid and likewise carbon dioxide are react with aqua water and made a carbonic acid. Additional nitrogen dioxide are mixed with base and formation of Nitric acid and that are effect on human health and effect the an aquatic animals or marine fish dumping water or aquatic plants.

## Discussion

Air pollution and water pollution industrialized area produced by through man made air pollution are very harmful to human health and other organism. Air pollution contain different kinds of gases such as carbondioxide and sulphurdioxide and nitrogen dioxide these gases are mixed with environment these polluted gases particles effect the human body and such as nasal cavity and lung respiration and brochit and so on etc. water pollution these pollution concerned with industrialized area such as factory paper factory leather factory and textile factory and so on etc., these waste water pollution contain different inorganic Metals Such as CR, ZN, FN, Lead so these Metal are mixed with water and destroy our water such as ocean and sea water underground water surface water and these waste water polluted wasted disposal material are effect our agriculture and waste water pollution are very harmful to the human body and the inflammation causes from water pollution such as diarrhaea typhoid Malaria and so on etc., water pollution are very dangerous for aquatic animals underneath sea water here is living another creature such as fish fish is living survive and so these water are very harmful to the fish eggs and etc., and air pollution and water pollution controlled by education Television and Media and People aware by programme. We want to do controlled these pollution

by people educated and important role involved beaucratic and Politicians to controlled air pollution and water pollution [21-26].

## Conclusion

Water contamination is a natural issue that is of real worry to us in Nigeria and the world on the loose. Human commitment to water contamination is colossal by method for pooing; dumping of reject, mechanical squanders and washing of garments and so forth. Evidently, natural instruction is of tremendous significance to utilize especially in schools and ought to have a spot in the school educational programs. Thusly they will be less disposed to dirty our waters. The air pollution and water pollutants that pollution are exist in atmosphere or ecosystem. The air pollution and water toxic pollutants this is a serious major problems in ecosystem. Both air pollution and water pollutants are injurious for human being or aquatic animals or aquatic plants.

## Recommendation

It is relevant that ecological training is presented in schools and be made necessary. Bureaucratic, State and Local Government ought to build up organizations to screen our condition and similarly to make certain that our condition is kept perfect and free from shelter dumps. Mechanical homes or family ought to similarly teach a sterile domain especially in their region, as per be aphorism that says philanthropy creatures at home. Our enterprises ought to go advance in endeavouring to reuse these losses as opposed to dumping them for downpour water to clear these decline into our waterways and streams making them undrinkable.

## References

- Olaniran, N.S. "Environment and health: An introduction." Environment and Health. Lagos. Micmillan Nig. Pub. Co for NCF (1995): 34-151.
- Owa, F.D. "Water pollution: Sources, effects, control and management." *Mediterr J Soc Sci* 4 (2013): 65-65.
- Gbamanja, S.P.T. "The Pedagogy of water pollution." *STAN J Environ Educ* 43 (1998).
- Eguabor, V. "Strategies for teaching water pollution in secondary schools." *STAN J Environ Educ* 2 (1998): 49.
- Ogwuzor, K.E. "Teaching water pollution by guided discovery." *STAN J Environ Educ* 52 (1998).
- Hansda, Arti, Vipin Kumar, Anshumali Anshumali and Zeba Usmani. "Phytoremediation of heavy metals contaminated soil using plant growth promoting rhizobacteria (PGPR): A current perspective." *Recent Res Sci Technol* 6 (2014).
- Parmar, Mukesh and Lokendra Singh Thakur. "Heavy metal Cu, Ni and Zn: toxicity, health hazards and their removal techniques by low cost adsorbents: A short overview." *Int J Plant Animal Env Sci* 3 (2013): 143-157.
- Ramamurthy, Armuthur S and Ramin Memarian. "Phytoremediation of mixed soil contaminants." *Water Air Soil Pollut* 223 (2012): 511-518.
- EPA, US. "National Emissions Inventory (NEI) Documentation." EPA US: William Jefferson Clinton North, AR, USA (2014).
- Pope III, C. Arden, Richard T. Burnett, Michael J. Thun and Eugenia E. Calle, et al. "Lung cancer, cardiopulmonary mortality, and long-term exposure to fine particulate air pollution." *JAMA* 287 (2002): 1132-1141.
- Monn, Christian, and Susanne Becker. "Cytotoxicity and induction of proinflammatory cytokines from human monocytes exposed to fine (PM<sub>2.5</sub>) and coarse particles (PM<sub>10-2.5</sub>) in outdoor and indoor air." *Toxicol Appl Pharmacol* 155 (1999): 245-252.
- Bhatt, R.V. "Environmental influence on reproductive health." *Int J Gynecol Obstet* 70 (2000): 69-75.
- Kavcar, Pınar, Aysun Sofuoğlu, and Sait C. Sofuoğlu. "A health risk assessment for exposure to trace metals via drinking water ingestion pathway." *Int J Hyg Environ Health* 212 (2009): 216-227.

14. Lokhande, Ram S., Pravin U. Singare, and Deepali S. Pimple. "Pollution in water of Kasardi River flowing along Taloja industrial area of Mumbai, India." *World Environ* 1 (2011): 6-13.
15. Arain, Mubashir Aslam, Zeba Haque, Nasira Badar, and Noman Mughal. "Drinking water contamination by chromium and lead in industrial lands of Karachi." *JPMA. J Pak Med Assoc* 59 (2009): 270.
16. WHO, Geneva. "Guidelines for drinking-water quality." *World health organization* 216 (2011): 303-304.
17. Sharma, R. S and T. S. Al-Busaidi. "Groundwater pollution due to a tailings dam." *Eng Geol* 60 (2001): 235-244.
18. Singh, Vinod K., Devendra Singh Bikundia, Ankur Sarswat, and Dinesh Mohan. "Groundwater quality assessment in the village of Lutfullapur Nawada, Loni, District Ghaziabad, Uttar Pradesh, India." *Environ Monit Assess* 184 (2012): 4473-4488.
19. Wongsasuluk, Pokkate, Srilert Chotpantarat, Wattasit Siri Wong, and Mark Robson. "Heavy metal contamination and human health risk assessment in drinking water from shallow groundwater wells in an agricultural area in Ubon Ratchathani province, Thailand." *Environ Geochem Health* 36 (2014): 169-182.
20. Broughton, Edward. "The Bhopal disaster and its aftermath: A review." *Environ Health* 4 (2005): 1-6.
21. Fenwick, Alan. "Waterborne Infectious diseases could they be consigned to history?." *Science* 313 (2006): 1077-1081.
22. Holgate, S., J. Samet, H. Koren, and R. Maynard. "Air Pollution and Health Academia Press." London, UK (1999).
23. Musa, H. "Water Pollution." "Water Pollution in Focus" Contribution from the former Suleja LGA Chairman 21 (2013): 9-39.
24. Nzewi, U. "Strategies for teaching water pollution." *STAN J Environ Educ Series* (2) 31 (1998): 33-34.
25. Tang, Wenzhong, Baoqing Shan, Hong Zhang and Wenqiang Zhang, et al. "Heavy metal contamination in the surface sediments of representative limnetic ecosystems in eastern China." *Sci Rep* 4 (2014): 1-7.
26. Ukemenam, O.S. "Causes and consequences of air pollution in Nigeria." *Am J Public Health* 2 (2014): 293-307.

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