



Water pollution Near the chhapraula industrial area, greater noida,uttar pradesh, india and rise in health issues

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Rapid industrialization is a yardstick of development of a country; however, an increase in population growth affects it adversely. India, a developing country has a challenge of maintaining a balance between industrialization, environment and human health. Greater Noida, one of the highly populated area of Uttar Pradesh, India has a large number of medium and large scaled industries from where effluents of complex and diversified nature are discharged causing in turn water pollution. The industrial area houses over 100 factories engaged in manufacturing adhesives, cosmetics, pesticides, TV tubes and also the parboiling and dehusking of large quantities of rice. The present paper discusses the potential consequences of the impact of the industrial effluents on causing various diseases like hepatitis, gut related cancers, liver ailments, stomach problems skin diseases in this area.

Key words: Heavy metals; Industrial effluents; Uttar Pradesh; Water Pollution, cancer

Introduction

In India, although industrial uprising has enabled the humans to advance further for the last two centuries, contamination by industrial releases has been one of the serious issues of environmental apprehension (1). During sequence of processes in industry, the water comes into interaction with harmful chemicals, heavy metals, inorganic wastes and even organic sludge (2). These are either discarded into rivers or other water bodies which results in accumulation of high amount of industrial waste in them. This affects the status of health of humans, plants and animals. Disposal of treated and untreated waste effluents from industries contain toxic metals and their chelates which contaminate nearby water bodies (3,4).

Greater Noida is one of the important city located in the Gautam Buddha Nagar district of the state Uttar Pradesh (India). It is located at a latitude of 28.47 44°N and longitude of 77.50 40°E. It comprises of 124 villages with a population of 107,676 (till March 2014). The area of Greater Noida is about 40,000 hectares broadly bounded by national highway NH-24 in the north-west. The city comes under NCR (National capital Territory) region of Delhi and River Hindon flows in the western side of the city. During the last decade, the number of various industries in Greater Noida has grown more than 10 times.



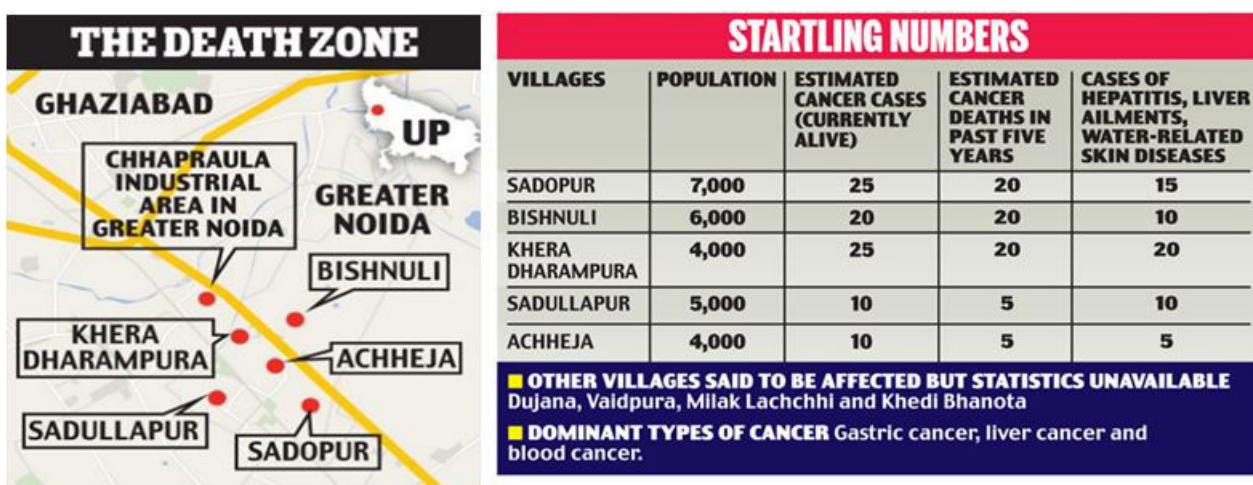
Map of Uttar Pradesh

Industrial discharges are the major sources of pollution in the area of Greater Noida (5). There are innumerable kinds of prevailing industries and industrial plantations. Depending on type of industry, various types of pollutants are released into the environment directly (industrial outlets) or indirectly (domestic sewages) due to various anthropogenic activities which in turn may pose serious threat to human health. The wastewater existence engendered is satisfied into the nearby water resources through underground pipe line which pollute the ground water. The people are consuming canal water, tube well water as well as municipal water for their quotidian requirement. Literature investigation divulges that no ground water excellence organization studies have been accepted in this province.

Wastewater released from various industries has high concentration of organic pollutants, toxic components such as heavy metals, pesticides, polychlorinated biphenyls (PCBs), dioxins, poly-aromatic hydrocarbons (PAHs), petrochemicals, phenolic components etc. These are harmful for surrounding water bodies, human health and aquatic life if discharged directly into the aquatic medium (6). When industrial effluent containing heavy metals (Cr, Pb, Hg, Ni, Cu, Zn, As, Cd etc.) reaches into the aquatic ecosystem, its biomagnifications takes place through food chain (7).

There has been a rise in cases of cancer in at least five villages (Sadopur, Achheja, Sadullapur, Bishnuli, Kheradhampur, Dujana, Vaidpur, Milak Lachchi, Khedi Bhanota, etc.) of District Greater Noida in last ten years (8). Groundwater in this belt was sweet and of good quality till about 20 years ago, but the condition got deteriorated after the setting up of Chhapraula Industrial Area at Greater Noida. There is no drain in the Industrial zone, which can carry the industrial effluent and this is the main reason the industries set up in the industrial zone are dumping effluent into the groundthrough wells. Many lives have been lost and many are suffering from gut related cancer and other ailment over the past ten years.

Villagers are suffering from brain, throat and prostate cancers. Among women, the prevalence of breast and uterus cancer is maximum. An extraordinarily high number of cases of hepatitis, liver ailments, stomach problems and skin diseases in the context of a preponderance of gut-related cancers point to carcinogens in the water (8).



(India Today: Oct 14, 201)

Cancer lords over 5 Greater Noida villages

Name of the Villages	Stomach related ailment and cancer Cases Currently Alive
Sadipur	28
Bishnuli	22
Khera Dharampura	15
Acheeja	18

Survey Collected by M. Sc students in the year 2019-20

During a walk through the villages, we also come across people who complain of kidney, liver, hepatitis and skin diseases (Data collected by M.Sc Students). Even the high mortality of cattle in the area is also seen in this area. The contamination of water has led to mushrooming of water industry in the area. There are shops selling bottled water and mineral water in jugs. Water plants have been installed on the periphery of the villages where water is relatively less contaminated. Poor factory workers travel several kilometres to fetch water or pay through their nose to escape the disease.

Tests by private entities conducted on behalf of the villagers have also proved to be inconclusive. Villagers live in continuous fear of the disease spreading as the cases of cancer continue to mount here, claiming the lives of young and old men, women and children.

CONCLUSION

To cater the needs of increasing human population there has been a parallel growth in industries however this has posed a serious problem too. The accidental discharges and/or inadequate management of untreated effluent is one of the global concerns. In Uttar Pradesh, most of the industries are situated along the bank of rivers and one of the major causes of their pollution is the discharge of untreated waste into these. Keeping this into account, Government of India has made it mandatory to treat the effluents prior to discharge, noncompliance draws heavy penalty. More stringent rules should be implemented by the government so that industries should compulsory install a waste water treatment plant/unit. Strict checks are also require in these industrial areas to save the lives of villagers.

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