A STUDY OF HUMAN ACTIVITIES RESPONSIBLE TO POLLUTION IN NAGPUR CITY, MAHARASHTRA (INDIA)

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ABSTRACT: Nagpur city is located in Maharashtra state of central India. Business hub and increased industrialization in study area is affecting the environment adversely. Irritating sound sources are tremendously increasing in the study area, includes highway No-6, Air port, market areas such as Sadar, Sitabuldi, Mahal market etc. Under recent corporate development a cargo hub is sanction for the city, which may prove the reason of various health problems for the localities. On the other hand heavy constructions in the city and MIHAN area releasing plenty of dust in the air. The MIHAN industrial area and air port with cargo hub are the main source of air and sound pollution respectively. If lawful control measures are not applied with its proper enforcement, it might be a main reason for declining the health of localities. Deposition of garbage in the precious lakes in the Nagpur city is now a common observed fact. Even the concern authorities are fighting to conserve lake water, garbage dumping in the lakes is very serious problem. Permanent wall fencing around the lake may lower the quantity of solid wastes deposition. Nag Nalla is a big waste water channel originated from the city and deteriorating the Kanhan river. A water treatment plant may solve the problem of pollution of other sources and conservation of water for agricultural purposes. Loud noise of automobiles in the city is one of the human hazards, to the accidents on roads. Physiological exertion of human body due to continued irritating sounds are lowering the work effieiency of man power. However the locked doors and windows of hospitals in order to avoid the noise, keep away the patients from free aeration and healthy environment. In present study the certain sources of pollutants are assessed to suggest their possible control measures, so as to lower the wrong human activities and conservation of environmental status in Nagpur city.

Key words: Sources, control, noise, air, water, pollution

INTRODUCTION:

Environmental pollution is a global problem and is common to both developed as well as developing countries. The decline in environmental quality as a result of pollution is evidenced by loss of vegetation cover and biological diversity, excessive concentration of heavy chemicals in the ambient atmosphere and in food grains, growing risks of environmental accidents and threats to life support system. Fertilizers, detergents, biocides, chlorofluorocarbons, plastics and pesticides, solvent, fuel, paints, dyes, medicines, food additives etc. are the chemical products made and disseminated for the benefit of humans. All these xenobiotic substances have the inherent capacity to disturb the life support system. The problem of pollution has gained serious dimensions in industrialized countries and spreading fast worldwide. The buildup of carbon dioxide concentration in the atmosphere is threatening to change the global climate pattern. Acid rains add to the problem by damaging lakes, rivers and forests. Pollution is seriously damaging the environment of planet earth at a fast rate, and threatening the survival of human life.

The problem is further complicated due to overuse of water for washing activities, irrigation, flushing away wastes, cooling, making paper etc. In fact, since centuries rivers and lakes have been used as dumping grounds for human sewage and industrial wastes of every conceivable kind. Many of them are highly toxic. Added to this are the materials leached and transported from land by water percolating through the soil and running off its surface to aquatic ecosystems.

Human ear is found sensitive to an extremely wide intensity from 0 to 180 dB, as 0 dB is the threshold of hearing and 180 dB is threshold of pain. The effect of sound on human beings depends upon its frequency or pitch. The frequency can be defined as 1 vibration sound -1. The loudest sound that a person can stand without much discomfort is about 80 dB. Transport noise is an increasingly prominent feature of the urban environment, making noise pollution an important environmental public health issue (Charoltte and Martin, 2006). In present study the loudness of sound during the day and at night is studied to assess the level of noise pollution, as compared to air quality standards given in environment protection, third amendment rules 1989.

MATERIALS AND METHODS:

The water quality is assessed with the standard methods given by National Environmental Engineering Institute, Central India, Nagpur (1986). In order to obtain overall picture of water contamination five stations were selected. Station S1 is the Nag-nala water before drains in to the Kanhan river at Sawangi village. Station S2 is the middle stretch of Kanhan river at Jawahar nagar. Confluence of Kanhan and Wainganga river at Ambhora is selected as station S3.Station S4 is the basin of Wainganga river 1 Km down stream from the confluence. Station S5 is the Gosikhurd dam constructed in the Basin of Wainganga River. All the physico-chemical parameters are performed in the field and tested in the laboratory. The results are expressed as minimum values to maximum values. (NEERI, 1986)

To assess the average sound pollution in Nagpur city the main crowding places at various directions were selected Analogue sound meter is used to measure loudness of sound in the unit of Decibel. Periodical measurement of sound is performed, during the afternoon i.e. 1.00 to 4.00 PM and 11.00 PM to 2.00 AM at night time. The results are expressed in average values.

RESULTS AND DISCUSSIONS :

Noise: Data assessed during the study period, indicates that the Nagpur city is intensely polluted by the unwanted and irritating sound exceeds over 40 to 60 dB even in the residential areas also. The growing load of population, and day by day increasing number of vehicles making conditions more miserable. However, market areas and the areas along the wide