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Air Pollution In The Urban Environment

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IN most urban areas in the Third World, air pollution has become among the most serious health problems. Some chemical pollutants commonly found in urban areas, which affect human health or about which there is concern, even if the precise health impact remains unknown. To date, most concern regarding health effects has centered on lead (in food, water and air); indoor air pollutants from fuel combustion; toxic/ hazardous waste and ambient air pollution. Lead is a particular concern, especially for children because of increasing evidence that relatively low concentrations of lead in the blood may greatly affect their mental development and this is an effect that persists into adulthood. A recent study revealed that 60% children affected by air pollution in Dhaka City. Lead can affect a person's intelligence and harm the liver, kidneys and the central nervous systems.

The dwellers of Dhaka city bear the lead in their blood 8 times higher than World Health Organization (WHO) guide line. (The acceptable level of lead is 25 microgram/deciliter). But in the Dhaka city it was found 200 microgram/deciliter. The Mexico city was the highest air polluted city in the world (Air Pollution level in Mexico city is 383 nanograms/cubic meter). But now-a-days Dhaka is the most air polluted city in the World. Air pollution level in the Dhaka city is 463 nanograms/cubic meter. (1 nanogram = 10^{-1} mg).

Exposure to lead may also contribute significantly to higher risks of heart attacks and stroke in adults. The four major sources of lead are: Exhausts from petrol engine motor vehicles (except vehicles that are used lead free petrol); lead water piping (especially where water supplied are acidic); Industrial emissions; and lead in paint. A study of blood lead levels in adults volunteers in ten cities between 1979 and 1981 found the highest lead concentration in Mexico city residents; lead blood levels were above the WHO guide line and also 2-4 times higher than in cities where

low lead or lead free gasoline was used. In Mexico city and in Bangalore (One of India's major metropolitan centers), 10% of the sampled population had blood lead concentrations well above the WHO guideline above which biochemical changes in the blood begin to occur. A study in Mexico city had lead levels in their blood high enough to neurological and motor-physical development.

Regarding indoor air pollution, emission from coal, wood and other biomass fuels burnt indoors likely to be the main chemical hazards. These certainly affect more rural than urban dwellers. Certainly in many cities coal and biomass fuels are widely use, especially among poorer households. The most serious health risks are from burns and smoke inhalation. Chronic effects of smoke inhalation include inflammation of the respiratory tract caused by continued exposure to irritant gases and fumes which "reduces resistance to acute respiratory infection, and infection in turn enhances susceptibility to the inflammatory effects of smoke and fumes establishing a vicious cycle of pathological change. These processes may lead to emphysema and chronic obstructive pulmonary disease which can progress to the stage where impaired lung function reduces the circulation of blood through the lungs, causing right-side heart failure (corpulmonale)"

Corpulmonale is a crippling killing disease, characterized by a prolonged period of distressing breathlessness preceding death. There are also the health impacts of air pollutants outdoors. In many Third World cities, the concentrations of air pollutants are already high enough to cause illness in more susceptible individuals, and premature death among the elderly, especially those with respiratory problems. Current levels of air pollution may also be impairing the health of far more people but the links have not been proven. The limited data on air pollution in Third World cities also suggests that it is generally getting worse.

An estimated 1.4 billion urban residents Worldwide are exposed to annual average for suspended particulate matter or sulfur dioxide (or both) which are higher than the standard recommended by the WHO. The (limited) data available for Third World cities suggest the trend is towards increasing concentration comparable estimates are not possible for nitrogen oxide that and carbon monoxide although studies in particular cities or city districts suggest ambient air pollution levels that can impair health.

In certain industrial centers, air pollution levels can be sufficiently high to show demonstrable health impairment. For instance, in Cubatao (Brazil), air pollution levels have been linked to reduce lung function of children. Nonferrous metals smelters are often major contributors to although no well documented were found in the Third World. A recent study in the Katowice district in Upper Silesia (Poland) showed how four nonferrous metal industrial plants were responsible for a high output of lead and cadmium into the air, and these showed up as some of elevated lead and cadmium concentrations in the blood of 20% of children. Some of those tested (especially children) were also found to exhibit the early detectable symptoms of toxic lead effects.

Links between health problems and air pollution levels have been suggested by comparisons between the health of people in highly polluted areas within cities and those in less polluted areas. Some of these have shown a strong association between the incidence of respiratory infections and pollution levels. In addition, in cities where acute episodes of high concentrations of air pollution occur at particular times (for instance, when high emissions coincide with particular weather conditions) and increased incidence of mortality among particularly vulnerable groups in common. In Latin America, recent studies suggest that air pollution levels are sufficiently high in Sao Paulo, Rio-de-Janerio and Belo Horizonte,

Bogota, Santiago, Mexico city, Monterrey and Guadalajara, Caracas and Lima that a high priority should be given to their control. An estimate suggests that over 2.0 million children suffer from chronic cough because of urban air pollution and that air pollution causes an extra 24,300 death a year in Latin America. This same source esti-

imated that some 65 million person days of workers' activities were lost due to respiratory related problems caused by air pollution (Source: Waller, Robert E (1991), "Field Investigations of air" in W.W. Holland, R. Detels and G. Knox (Editors), Oxford Textbook of Public Health Volume-2 (Second Edition)).

In the winter season, air pollution level increases, human life become troublous. According to opinion of the specialists, Asthma, Bronchitis, Allergy, Pneumonia and Respiratory related problems are increasing in the Dhaka City due to air pollution. There are about two lakh transports in the Dhaka City (according to World Bank Report). In the Dhaka city, every day 100 kg. lead, 60 tons Carbon-monoxide, 16 tons Nitrogen, 14 tons Hydrocarbons, 1.5 tons Sulfur-dioxide and 3.5 tons other particles are mixing with air (The Daily Sangbad, 22-January-2000). There is a proverb that prevention is better than cure. Vitamin A, D and C rich food are essential to prevent above-mentioned diseases. Winter vegetables like carrot, tomato, cabbage, cauliflower, spinach (palang shak) etc. are enrich in vitamins and minerals. These types of vegetables increase body resistance power. As a result these vegetables are helpful to prevent these types of diseases. These vegetables are very cheap but enrich in vitamins and minerals. We should include these types of vegetables in our daily meal plan. In other word, balanced diet should intake every day, which enable us to lead disease-free life.

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