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POLLUTION SCENARIO IN THE COUNTRY

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ABSTRACT

Pollution is the contamination of the atmosphere and land by gaseous , liquid, or solid wastes that can endanger human or plant health or can attack the surrounding materials. During the first 90 years of the Industrial Revolution, the world burnt about 60 billion metric tons of fossil fuel (Mahmood.1987). Industrialization led to urbanization and its attendant problems of pollution. A phenomenal growth in world population has been taken since man took to industry.
It is necessary to maintain a good air quality to protect human health and environment from adverse effects of pollutants. This can be achieved by controlling the emission of pollutants at source, for emissions and regular monitoring of pollution levels in air. We should discourage smoking. Science provides many practical solutions to minimize the present levels at which pollutants are introduced into the environment and for creating up environmental problems. In our everyday lives, a great deal can be done to minimize pollution, if we take care to recycle materials whose production creates pollution. From the religious point of view, Islam teaches us to use available resources effectively and efficiently and to keep our surrounding neat and clean.

Key-words: Pollution, air, noise, biodegradable pollutants, environment.

Pollution is the contamination of the atmosphere and land by gaseous , liquid, or solid wastes that can endanger human or plant health or can attack the surrounding materials. During the first 90 years of the Industrial Revolution, the world burnt about 60 billion metric tons of fossil fuel (Mahmood.1987). Industrialization led to urbanization and its attendant problems of pollution. A phenomenal growth in world population has been taken since man took to industry.

At the beginning of the last century, the world population was estimated to be less than 2 billion. The population reached to 2.5 billion in 1950 & 3 billion in 1960 and the population of the world become more than doubled between 1950 and 1995. The population was 5.7 billion in 1995 and crossed over 6 billion after 2000. It will be expected that from 1995 to 2025, the world population was expected to increase by 1.4% per year to 8.5 billion people (Alam, 2001). Atmospheric air is a mixture of gases which are colorless, odorless and tasteless. Its major constituent gases are nitrogen (78%), and oxygen (20%)., with the remaining 1% comprises of Argon, Carbon dioxide, Neon, Helium, Methane. Krypton, Hydrogen, Carbon monoxide, Xenon, Ozone, oxides of Sulphur, water vapors and particulate matters. Indiscriminate release of toxic chemicals in the atmosphere from industrial and commercial operations, power generation, transportation, automobile exhaust, burning of industrial and municipal wastes, forest, fire, sea sprays, dust, etc. have seriously affected the quality of our atmospheric air (Alam , 1991; Qureshi.2001).

There are two main types of polluting materials. Bio-degradable pollutants are materials such as sewage, that rapidly decompose by natural process. These pollutants become a problem when added to environment faster than they decompose. Non-degradable pollutants are materials that either do not decompose or decompose slowly in the natural environment. Once decomposition occurs , it is difficult to remove these pollutants from the environment. Non-degradable compounds such as dichlorodiphenyltrichloroethane (DDT), dioxins, polychlorinated biphenyl (PCBs) and radioactive materials can reach to dangerous levels of accumulation as they are passed up the food chain into the bodies of progressively larger animals. For example, the molecules of toxic compounds may collect on the surface of aquatic plants without doing much damage to the plants. A small fish that grazes on these plants accumulates a high concentration of the toxin. Larger fish that eat the small fish will accumulate even greater and possibly the life–threatening concentrations of the compound. This process is known as bioaccumulation (Anonymous, 2000).

In non-degradable compound, dioxins are manmade unintentional byproducts that are emitted from various industries that employ chlorine in their manufacturing processes. These include pesticides, herbicides and plastic industry. It is during the manufacturing process that dioxin is produce rather emitted from here. Other sources of dioxin are incomplete combustion of municipal domestic waste, fuel burning like that of oil, coal, wood, forest fires incineration of chloro-chlorinated products- plastics all hospital waste, bleached paper. Smoke from vehicles, home heating and even cigarettes release dioxin. Chlorinated

plastics ,principally PVC (polyvinyl chloride) especially its recycling in the country without appropriate precautions are a major source of dioxin emissions. Unhygienic and open burning of hospital waste is one of the major and most hazardous contributors of dioxin in the atmosphere. Since dioxin is insoluble in water and less volatile, therefore it remains in the atmosphere for a longer time, binging itself to dust particles and organic matter in the atmosphere.. It is soluble in body fat and remains accumulated there for longer time in the process playing its severely negative role (Alam and Manzoor,2005a).

The Asian Development Bank has identified five key Pakistani industries i.e. textiles, leather, sport goods, surgical instruments and carpets which are extremely increasing pollution in the environment. Among these , leather and textile industries are major source of industrial waste water that is polluting rivers and lakes causing environmental problems in major cities of Pakistan. The resulting impact on human health and environment has been severe. It refers to Pakistan Human Rights Commission Reports in1998 which quantified loss to Pakistan economy by the environmental degradation at $ 1.65 billion. The loss is in addition to the impact of environmental degradation on health and lives(Ansari *et al*, 200!). In cloth production , the ADB study points out the require uses of a large number of detergents, dyes, acids, soda , salts enzymes which lead to a large amount of wastewater . In leather tanning, a large amount of chemicals such ad sodium chloride, ammonium sulphate, pigments and dyes are used. If not treated, waste-ware from both cloth manufacturing and leather tanning has serious consequences for environment and human health For humans. It is carcinogenic and allergy inducing and for environment, effluents pose a threat to inland and coastal fisheries which seepage into water table and introduces toxic chemicals into soil and food chain (Alam.1991; Alam and Manzoor, 2005a)

In Pakistan, the industrialized areas of Karachi, Lahore, Faisalabad, Peshawar, Multan, Hyderabad etc. are suffering by environment related problems. Under these circumstances in the severely- affected areas , the vegetation have been totally wiped out from the growing areas. There is a report that of air pollutants in Karachi, Rawalpindi and Lahore was 6.4 times higher than the World Health Organization(WHO) guidelines and 3.8 times higher than Japanese standards in recent years.(Ashraf *et al*, 2001). The Jang Development Reporting Cell during the period 1994-2003 with 10 years, the average rain fall recorded is 101 mm to 1278 mm annually, also showing in Lahore as 681mm, Peshawar 517 mm , Quetta 206 mm and Karachi 129 mm (Alam ,1991).

According to Environmental Performance Index, 2006, Pakistan ranked 127 in the list of 133 countries arranged in the ascending order of the pollution rate. This is based on the pollution of water, air and soil. (Sindh, EPA,1999).

Pakistan generates about 70,000 tons of solid waste daily. Around 6,113 tons of garbage is generated in Karachi every day, out of which 5,057 tons is lifted and remaining is left unanswered. In a city of over 16 million, this is a major contributor to the filth and disgust that hangs over the port city.(Anonymous, 2006). There are the three types of garbage, municipal waste, hospital waste are industrial waste. Karachi is known for dust allergy as is everywhere in and out polluted with dust particles and vehicu1lar smoke that also contain carbon dioxide and sulphur. Exposure to these elements are harmful. In addition to industrial pollution, Karachi atmosphere is affected by motor vehicles plying on the city roads. Karachi will have a total of 2,177,315 vehicles by the end of 2005. These included 540,063 motorcycles, 634,531 cars and jeeps and wagons, 1,658,918 rickshaws, 49,967, taxis, 99,247, buses and minibuses, 1742,957,trucks, 198,883, delivery vans and pick-ups. (Alam and Rizwan, 2005b).The pollution caused by industrial emissions and automobile exhaust can cause asthma. In large cities that have air pollution problems, the number of emergency departments suffering from asthma attacks escalates when air quality is very poor. Carbon monoxide (CO) is produced when fuels such as gasoline are burnt. Because it is colorless, tasteless, odorless and non- irritating and it can affect the exposed person without any warning. It produces weakness and confusion, depriving the person of the ability to seek safety (Alam and Manzoor,2005a).

There are also some indications that noise pollution can increase susceptibility to viral infections and toxic substances. The alarm and severity has been replaced by frustration, anger and intolerance. Often our morning starts with an alarming bell. Then there is the school-van driver who honks uncontrollably and children rush to it. Many household chores depend on machines like the noise creating machine, vacuum cleaner, grinder and others. Fruit and vegetable vendors also contribute fair by blaring out loud on their megaphones Night functions using megaphones also create trouble for frustration. Traffic noise has become a part of our life. That is the main cause of frustration and mental illness. Even near the hospital and schools people deliberately ply their bikes without silencers and use pressure horns. The rickshaw is the most painful to our eardrums. Some working places are maligned because of noise pollution like fish market. Factory also generate noise pollution (Anonymous, 2000).

Loud sounds can cause an arousal response in which a series of reactions occur in the body. Adrenalin is released into the blood stream, heart rate, blood pressure and respiration increase, gastrointestinal motility is inhibited, peripheral blood vessels contract and muscles become tense. In these studies, noise has been related to the following diseases: headache, fatigue, insomnia irritability, neuroticism., tension, hypertension, hypotension, cardiac disease, lunacy, narcolepsy ,ulcers and colitis.

Combustion of firewood, garbages, coals and fossil fuels generated in the cities, result in the serious ejection of oxides of carbon, sulphur and nitrogen, small particulates and organic compounds which affect the overall peaceful environment all the times of the agricultural practices such as pesticides and herbicides sprays also cause air pollution. Operation of automobiles on the road releases significant quantities of oxides of Carbon, Sulphur, Nitrogen Methane, Lead. Cadmium, traces of heavy metals ,chlorofluorocarbons(CFCs).It is known that one chlorine atom can destroy 10,000 to 100,000 ozone molecules of ozone shield.(Ansari *et al* , 1999). Aerosol spray, freon gases, hydrocarbons and toxic aromatic compounds whereas incineration of municipal wastes release acid fumes, particulate matter and reactive and odorous compounds. The toxic substances in the environment constitute a serious threat to human health as these substances can enter the human body through air, water and food in varying amounts in each day throughout a lifetime. Inhalation of air, which is polluted with biological and toxic substances, may produce various disorders such as respiratory and pulmonary diseases, skin and eye diseases, allergy and infertility (Stern ,1984).

Atmospheric air pollution also causes the appearance and incidence of chromic bronchitis, optic irritation and lung carcinoma among urban population. The release of carbon dioxide and carbon monoxide in the atmosphere affects the central nervous system even at low concentration. Both sulphur dioxide ($SO_{2)}$ and nitrogen dioxide(NO_2) when inhaled irritate the respiratory system. The SO_2 which causes formation of acidic condition in the atmosphere which causes damages to crops and forest, erosion of buildings and structures.

Several million tons of these pollutants are emitted by photochemical plants, smelting processes, iron and steel mills, pulp and paper mills, coal cleaning and coke production, cement plaints glass manufacturing etc. petrochemical and paper mills release highly toxic elements in the atmosphere. Several industrial operations such as metallurgy, electroplating, manufacturing processes, mining, milling and commercial operations release traces of heavy metals into the environment from where, these metals can enter human body through air, water and food chain. These metals (Mercury, Cadmium, Lead, Nickel, Chromium, Cobalt, Selenium, Antimony, Arsenic, Stannous, Bromine, Bismuth, Titinium, etc.) accumulate in various organs such as live, heart, lung and brain and cause various disorders in the body. These metals cause hepatitis, colitis, tachycardia, anemia, insomnia, dizziness, hallucination, ostomalicia, etc. These metals being biologically non-degradable accumulate in the vital organs of human being such as brain, nervous system, kidney, liver, intestinal tract and lungs and adversely affect the biochemical processes.

Prolonged exposure to low levels of Hg produces symptoms of nervous disorder and myocardial necrosis and higher dose may damage liver and brain tissues. Cadmium (Cd) induces lipid deposition in arteries of heart and kidneys and produces athero-sclerosis and hypertension. Excess intake of arsenic (As) causes myocardial necrosis whereas higher amount of Br damages heart tissues. Higher amount of selenium (Se) creates problem such as depression, dermatitis, gas bio-intestinal disorder. Three elements namely mercury, cadmium and lead are highly toxic and constitute a serious hazard to man and other living organisms (Anonymous, 2006).

Suggestions: It is necessary to maintain a good air quality to protect human health and environment from adverse effects of pollutants. This can be achieved by controlling the emission of pollutants at source, for emissions and regular monitoring of pollution levels in air. We should discourage smoking. Science provides many practical solutions to minimize the present levels at which pollutants are introduced into the environment and for creating up environmental problems. In our everyday lives, a great deal can be done to minimize pollution, if we take care to recycle materials whose production creates pollution. From the religious point of view, Islam teaches us to use available resources effectively and efficiently and to keep our surrounding neat and clean.

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