

# AIR AND WATER OF CONDITION OF URBANIZATION

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Urbanization is one of the most controversial problems of modern society. Although it is an essential process of social and economical development of humans, it also the source of the problems that people never faced before. Anyone familiar with the world development trends knows that nearly half of the world's population lives in urban areas and the number are expected to grow by 2% every year. Modern urbanization process has tons of problems, starting with insufficient housing and ending with global ecology impact. The paper is designed to cover the basic ideas of ecological impact and how significant it can be if we don't realize it soon.

## ***Air pollution***

Under the term "ecological disaster" we understand that one constant system changes to another unstable system. For example, increase in average temperature on Earth leads to melting of polar ice, which can have an unpredictable consequence; or spread of the ozone hole can bring all sorts of diseases or death to a many life forms. One or all of these disasters would occur as the product of our activity if the countries won't pay enough attention to greenhouse effect of emission.

Urban air pollution is one of the most important environmental problems. High concentration of transportation, industry and people turns the city into perfect polluter of the air. According the statistical data, the main sources of air pollution are vehicle exhaust, industrial emissions, and domestic use of wood, coal and refuse for heating and cooking. But in the city the lion share of air pollution belongs to transportation. Vehicles contribute about 14% of total global air pollution but in big cities it can contribute up to 80% of the city's emission.

The problem is not only in developed countries. In many developing countries, rapid urbanization has resulted in increasing air pollution in many cities. WHO air quality guidelines are often not met and, in mega cities such as Beijing, Calcutta, Mexico City and Rio de Janeiro, high levels of Suspended Particulate Matter (SPM) prevail. The result of air and water pollution is chronic and infectious respiratory disease; water borne diseases; increased mortality rates, particularly among children; and premature deaths – the highest rate being among the poor. Air pollution is not only the cause of lung disease, but also has become the cause of heard attacks, birth defects and cancer.

In developing countries, transportation is not the main source of air pollution. For example China and India together have about 600 million bicycles and much, much fewer cars. If in the US every second person has a car, in China only every 79<sup>th</sup> person has a car, so the sources of pollution are different. People move from rural to urban areas to find better job and a better life, so many cities in China have a housing problem. Because the city can't offer decent housing, people live in small self-built shelters and usually heating and cooking is done by burning a very low quality coal, because it is the only cheap source of energy.

## ***Water pollution***

Water pollution problems vary in severity around the world, depending on population densities, the types and amounts of industrial and agricultural development, and the number and efficiency of waste treatment systems that are used.

For a millennia, people have used water as a convenient sink into which to dump wastes. The pollution comes from many sources, including untreated sewage, chemical discharges, petroleum leaks and spills, and agricultural chemicals that are washed off or seep downward from farm fields. In one area after another, the amounts and types of waste discharged have outstripped nature's ability to break them down into less harmful elements. Pollution spoils large quantities of water which then cannot be used, or at best can be used for restricted purposes only.

A growing number of regions face increasing water stresses because more people are both polluting and demanding more water for all uses from a renewable but finite resource. They are thus suffering from scarcities caused by failure to adapt to the amount of water that is regularly made available by rain and snowfall. Water demands are so high that a number of large rivers decrease in volume as they flow downstream, with the result that downstream users face shortages, and ecosystems suffer, both in the rivers and in adjacent coastal areas.

South and Southeast Asia are facing severe water pollution problems. Rivers such as the Yellow (China), Ganges (India), and Amu and Syr Darya (Central Asia) top the list of the world's most polluted rivers. In cities in the developing countries of the region, most water bodies are now heavily polluted with domestic sewage, industrial effluents, chemicals and solid wastes. Most rivers in Nepal's urban areas have been polluted and their waters are now unfit for human use, while drinking water in Katmandu is contaminated with coliform bacteria, iron, ammonia and other contaminants.

Researchers like to characterize humanity's impact on the environment through three factors: population, consumption and technology. Someone said: "The pollution problem is a consequence of over population". The humanity almost doubled within the century and soon we are going to double again, no wonder that we are facing the pollution problems. There are not much can be done about population growth, because we all have the freedom of living and breeding. Everyone would like to leave behind the posterity. So maybe we must concentrate on cutting back on consumption. We must try to use fewer, like saving the energy by turning off the unused electrical equipment or thinking twice before buying the co-called transportation "SUV" which travels only eleven miles on one gallon of gas, which is insane. And finally, we must try to develop our technology on high level and share with others. More efficient and safe technology is our last hope on better environment. Imagine, what will happen if all transportation will work on battery or by the wind. It is so exciting to think about all the benefits that humanity can derive from it.

Urbanization will continue to play a leading role in the economy, environment and people's life. The challenge is just to learn how to live with urbanization while using its benefits and guiding undesirable and negative impacts in manageable direction.