Environmental and health. Effects on the Population's Health Status.

Overview

With the growing population number and the industrial revolution in the 20th century, the seemingly limitless earth started to show marks. Since then, the human manipulation of the environment has continued to rise, which has lead to dramatic changes of the ecosystems.

Humans are, as all other species, dependent of the nature for survival. Therefor the changes that we have induced affect ourselves.

Those mainly responsibile for the environmental problems are the developed countries, however the negative consequences mostly affect the developing countries where people are the most vulnerable already as it is.

Selected environmental problems

Global warming

The mean temperature on earth fluctuates naturally. However, during the 100 years there has been an *acceleration* of the temperature rise which shows strong association with human activity.

Green house gases are those which stop thermal radiation from escaping earth into space. These include CH_3 and CO_2. The increased emission of these gases has lead to an increase in mean temperature of the surface of the earth. It is estimated that the temperature will increase with an average of 1.4 to 5.8 ^{0}C from 1990 to 2100.

Consequences:

• Increased mean temperature - > changes of ecosystems, disease migration and outbreaks

• Increased frequency and intensity of natural disasters - > destruction of cities, environmental refugees

• Melting of polar ices - > elevated sea level, destruction of ecosystems and cities, increased outbreak of water borne diseases

• Drought - > expansion of deserts, worsening of the hunger crisis in the poorest parts of the world

Ozone layer depletion

The ozone is an instable form of oxygen present in the stratosphere which protects us from UV radiation. The balance between formation and destruction of O_3 layer can be disturbed by different substances, such as NO_2 and chlorofluorocarbon (also called Freon), which shift the balance in favor of destruction.

- NO_2 is formed from NO which is found in exhaust gases.

- Freon was previously used as driving gas in spray cans, as cooling media in refrigerators and freezers and in production of porous plastics.

Consequences:

• Skin cancers

• Cataract

• Decreased immunity

• Reduced fish and plant yield

Acid rain

This phenomenon is largely caused by industrial emission of sulfur compounds.

Consequences:

- Acidification of water (lakes) and soil -> changes in composition of water and soil which affect plant and animal life and cause release of heavy metals for example Pb and Hg.

Xenobiotic pollution

Contamination of the environment with chemicals and physical factors is due to emission from industries, traffic, households etc. These may have acute toxic, mutagenic, carcinogenic, teratogenic or allergenic potential.

Deforestation

The major reason for wood harvest is to create of agricultural lands, use of wood as a source of energy and for industrial products such as building material.

Consequences:

- Depletion of ground water

- Acidification of the ground

- Increased susceptibility to erosion and drought, increased magnitude of dust storms

- Loss of biodiversity

- Desertification

Desertification

The expansion of the worlds deserts is a result of deforestation, over-cultivation of the ground and poor irrigation.

Consequences:

- Reduction of soil productivity

- Loss of biodiversity

- Health problem due to wind blown dust

Links

Related articles

- Health effects of air pollution on man.

- Carcinogenicity of chemical substances and of physical factors in the environment. IARC classification.

- UV radiation types, ozone layer depletion, prognosis of its evolution

Bibliography

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