Source: Environmental Pollution Center

The Effects of Soil Pollution

Soil pollution affects plants, animals and humans alike. While anyone is susceptible to soil pollution, soil pollution effects may vary based on age, general health status and other factors, such as the type of pollutant or contaminant inhaled or ingested. However, children are usually more susceptible to exposure to contaminants, because they come in close contact with the soil by playing in the ground; combined with lower thresholds for disease, this triggers higher risks than for adults. Therefore, it is always important to test the soil before allowing your kids to play there, especially if you live in a highly industrialized area.

Diseases Caused by Soil Pollution

Humans can be affected by soil pollution through the inhalation of gases emitted from soils moving upward, or through the inhalation of matter that is disturbed and transported by the wind because of the various human activities on the ground. Soil pollution may cause a variety of health problems, starting with headaches, nausea, fatigue, skin rash, eye irritation and potentially resulting in more serious conditions like neuromuscular blockage, kidney and liver damage and various forms of cancer.

Land or **soil pollution diseases** are those diseases caused by pollutants from the land/dirt/soil.

While exposure to soil pollutants is generally less problematic than exposure to air and water pollution, it might still have serious effects on children who usually play on the soil. Being in closer proximity to potential pollution, children could accidentally swallow soil particles while playing on the ground.

Source: Environmental Pollution Center

Soil pollutants, including chemicals and pathogens, have interchangeable liquid, solid or gaseous forms that mix until an equilibrium is reached between the three. This means that we can be exposed to gaseous, liquid and solid forms of soil pollution separately or together at the same time. Soil pollution may enter our bodies **directly** - through the inhalation of soil dust or soil particles, or through skin contact, or **indirectly** - through the consumption of food, especially vegetables grown in contaminated soil, or by inhaling the toxic vapors of volatile chemicals polluting the soil. The exposure to environmental pollution caused by soil contaminants may result in an increased risk for developing a series of conditions.

Short Term Diseases and Symptoms

The exposure to environmental pollution caused by soil contaminants may result in an increased risk for developing a series of conditions. One of the most frequently encountered effects of toxic contamination is a series of symptoms that appear immediately after the exposure. The most common symptoms that appear after direct exposure to soil contaminants are headache, nausea and vomiting, chest pain, coughing and lung problems, fatigue, skin rash eye irritations

Long Term Diseases

The inhalation of soil particulate matter and the ingestion of contaminated food can potentially result in serious conditions, of which the most common include:

- **Cancer, including leukemia** – caused by the contact with soils contaminated with chemicals (e.g. gasoline, benzene)
- **Nervous system damage** – caused especially by the presence of lead (Pb) in soil, and affecting especially children
- **Neuromuscular blockage and depression of the central nervous system**

Source: Environmental Pollution Center

- **Kidney and liver damage** – caused by chemicals such as mercury (Hg)

Soil Pollution Facts

Soil acts as a natural sink for contaminants, by accumulating and sometimes concentrating contaminants which end up in soil from various sources. Tiny amounts of contaminants accumulate in the soil and - depending on the environmental conditions (including soil types) and the degradability of the released contaminant - can reach high levels and pollute the soil. If the soil is contaminated, home-grown vegetables and fruits may become polluted too. This happens because most of the soil pollutants present in the soil are extracted by the plants along with water every time they feed. Thus, it is always prudent to test the soil before starting to grow anything edible. This is especially important if your garden is located near an industrial or mining area, or within 1 mile of a main airport, harbor, landfill, or foundry.