

# Environmental hazards: cultural, biological, physical and chemical



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An entirely different perspective is brought into focus as we consider some of the environmental hazards that accompany industrial growth and intensive agriculture. Some of the most dangerous hazards in this world are the outcome of purely voluntary behavior – in particular, smoking tobacco and engaging in risky sexual activity. We will look at four classes of environmental hazards: Cultural, Biological, Physical and Chemical (Wright & Boorse, 2011).

## **Cultural Hazards**

Many of the factors that contribute to morality and disability are a matter of choice or can at least be influenced by choice. People engage in risky behavior and subject themselves to hazards. Thus, they may smoke cigarettes, eat too much, drive too fast, use addictive and harmful drugs, consume alcoholic beverages, sunbathe, or choose hazardous occupations. People generally subject themselves to these hazards because they derive some pleasure or other benefit from them. Factors such as living in inner cities, engaging in criminal activities, and so on are cultural sources of morality too. 0% of all deaths in the United States can be traced to cultural hazards, and in most cases, deaths from cultural hazards are preventable (if people refrain from their risky behaviors). (Wright & Boorse, 2011). Biological Hazards. Human history can be told from the battle with pathogenic bacteria and viruses. It is a story of epidemics such as the black plague and typhus, which ravaged Europe in the Middle Ages, killing millions in every city, and of smallpox, which swept through the New World. The battle is not over, however, and never will be.

Pathogenic bacteria, fungi, viruses, protozans, and worms continue to plague every society and indeed every person. They are inevitable components of our environment. Many are there regardless of our human presence, and others are uniquely human pathogens whose access to new susceptible hosts is mediated by the environment. Approximately one-fourth of global deaths are due to infections and parasitic diseases. The leading cause of death in this category are the acute respiratory infections (for example, pneumonia, diphtheria, influenza, and streptococcal infections), both bacterial and viral. Diarrheal diseases were responsible for 1. million deaths in children under the age of five (Wright & Boorse, 2011). Physical Hazards. Natural disasters — including hurricanes, tornadoes, floods, forest fires, earthquakes, landslides, and volcanic eruptions — take a toll of human life and property every year. They are the outcome of hydrological, meteorological, or geological forces. However, the 12 months following November 2004 were unimaginably dreadful.

During that time, three major natural disasters took nearly 300, 000 lives and left millions homeless and without means of self-support: the 2004 Indian Ocean tsunami, Hurricane Katrina on the U. S. Gulf Coast on August 29, 2005, and an earthquake in Pakistan on October 8, 2005. The earthquake — spawned a tsunami of December 26, 2004, claimed some 225, 000 lives, more than any other tsunami on record. Hazards like tsunamis, earthquakes, and tornadoes that are impossible to anticipate and hazards that are largely a consequence of choices people make about where to live (Wright & Boorse, 2011). Chemical Hazards. Industrialization has brought with it a host of

technologies that employ chemicals such as cleaning agents, pesticides, fuels, paints, medicines, and those used directly in industrial processes.

The manufacture, use, and disposal of these chemicals often bring humans into contact with them. Exposure is either through the ingestion of contaminated food and drink, the breathing of contaminated air, absorption through skin, or direct use or by accident. Toxicity (the condition of being harmful, deadly, or poisonous) depends not only on exposure, but also on the dose of the toxic substance — the amount actually absorbed by a sensitive organ. Further, for most substances, there is threshold below which no toxicity can be detected. Different people have different thresholds of toxicity for given substances.

Children are often at greater risk than adults because children are growing rapidly and are incorporating more of their food into new tissue (Wright & Boorse, Chemical Hazards, 2011). The environmental hazards are responsible for untold human misery and death, but if many are preventable, how is it that hazards turn morality statistics? In other words, what are the pathways that lead from risks of infection, exposure to chemicals and vulnerability to physical hazards to human death? If prevention is the goal – and it should be – this knowledge is crucial (Wright & Boorse, 2011)?