



ESSENTIAL PUBLIC HEALTH

Essentials of **Environmental Health**

**SECOND
EDITION**

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A stylized, light gray lighthouse graphic is positioned on the left side of the slide. It features a spiral design on its body and a lantern room at the top.

Chapter 4

Environmental Policy and Regulation

Learning Objectives

By the end of this chapter the reader will be able to:

- Describe key environmental health regulatory agencies at the international, national, state/provincial, and local levels
- State four principles that guide environmental policy development
- Discuss five major environmental laws that have been introduced within the past 10 years
- Describe environmental policies designed to protect vulnerable groups
- List the steps in the policy-making process

Environmental Policy

- “A statement by an organization [either public, such as government, or private] of its intentions and principles in relation to its overall environmental performance. Environmental policy provides a framework for action and for the setting of its environmental objectives and target.”

Principles of Environmental Policy Development

- The precautionary principle
- Environmental justice
- Environmental sustainability
- The polluter-pays principle

The Precautionary Principle

- States that “preventive, anticipatory measures . . . [should] be taken when an activity raises threats of harm to the environment, wildlife, or human health, even if some cause-and-effect relationships are not fully established.”

Environmental Justice

- The concept of *environmental justice* denotes the equal treatment of all people in society irrespective of their racial background, country of origin, and socioeconomic status.

Environmental Sustainability

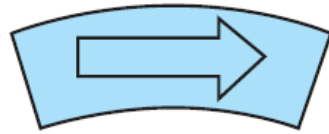
- As a goal of environmental policy, *environmental sustainability* adheres to the philosophical viewpoint “that a strong, just, and wealthy society can be consistent with a clean environment, healthy ecosystems, and a beautiful planet.”

Polluter-Pays Principle

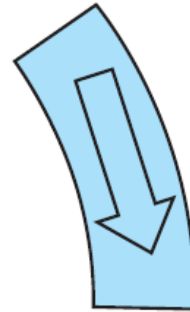
- The *Polluter-Pays Principle* “means that the polluter should bear the expenses of carrying out the pollution prevention and control measures . . . to ensure that the environment is in an acceptable state.”

Start

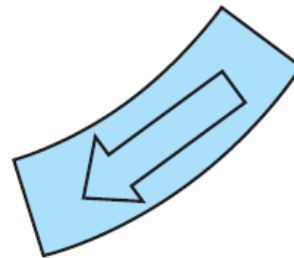
Policy definition/
Formulation/
Reformulation



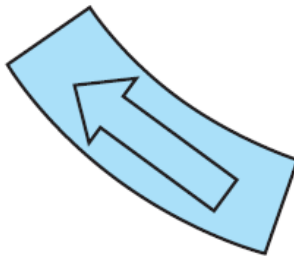
Agenda
Setting



Policy
Establishment



Policy
Implementation



Assessment Policy

The Policy Cycle

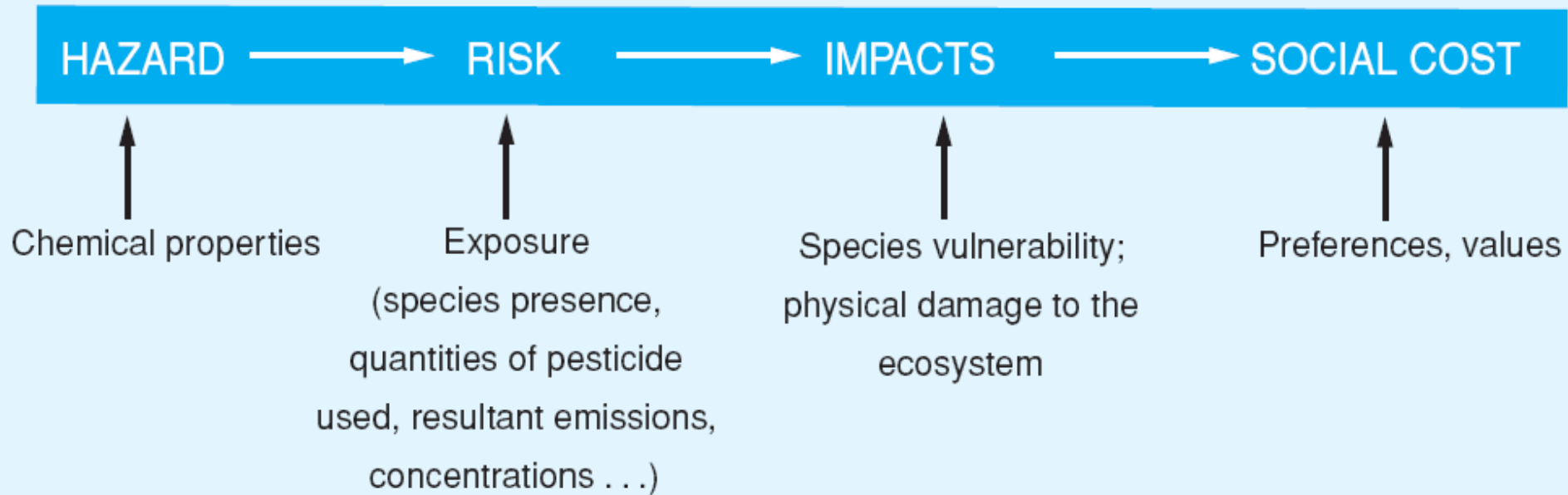
**Figure
4-1 The
policy
cycle.**

Source: Adapted from data presented in D@dalos, Policy Cycle: Teaching Politics. Available at: http://www.dadalos.org/politik_int/politik/policy-zyklus.htm. Accessed March 9, 2010.

Relationship of Risk Assessment to Policy Process

- Risk assessment is closely aligned with the policy process through the balancing of economic and other costs with health and societal benefits that may accrue through specific policy alternatives.

Figure 4-4 The links between hazard, risk, impacts, and social cost.



Source: Reprinted from *Journal of Environmental Management*, vol. 65, K Falconer, Pesticide environmental indicators and environmental policy, p. 288, Copyright 2002, with permission from Elsevier.

Risk Management

- The process of *risk management* involves the adoption of steps to eliminate identified risks or lower them to acceptable levels (often as determined by a government agency that has taken into account input from the public).

Examples of Risk Management

- Licensing laws
- Standard-setting laws
- Control-oriented measures
- Monitoring

Environmental Impact Assessment (EIA)

- Process that reviews the potential impact of anthropogenic activities with respect to their general environmental consequences.

Health Impact Assessment (HIA)

- Refers to “a method for describing and estimating the effects that a proposed project or policy may have on the health of a population.”
- Examples of projects that may impact health:
 - Large dams, mines, power plants, airports
 - Development corridors, urban redevelopment

Case Studies of Environmental Health Policies

- EPA strategic plan (2009-2014)
- Water policy reform in South Africa
- Environmental policies in economies in transition
- Control of pollution across international boundaries

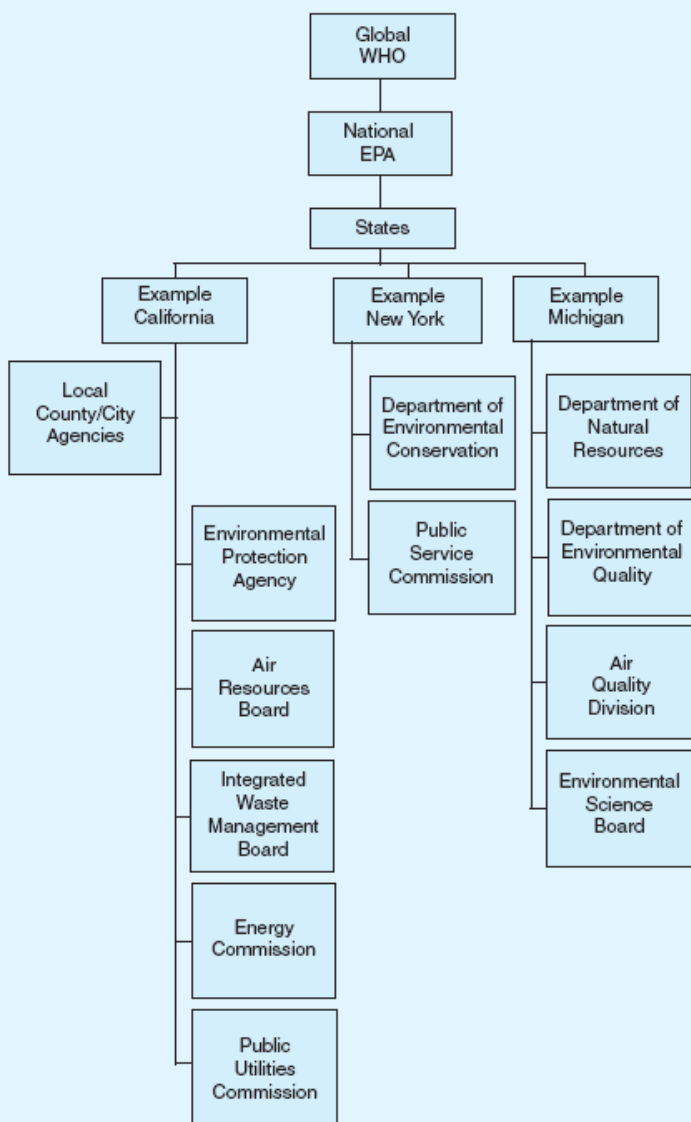


Figure 4-7 Overview of environmental health regulation agencies.

World Health Organization (WHO)

- Major international agency that is responsible for environmental health at the global level.
- Provides leadership in minimizing adverse environmental health outcomes associated with pollution, industrial development, and related issues.

U.S. Environmental Protection Agency (EPA)

- Mission of EPA is to protect human health and the environment.
- In July of 1970, the White House and Congress established the EPA in response to the growing public demand for cleaner water, air and land.

National Institute for Occupational Safety and Health (NIOSH)

- NIOSH is the federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness.
- Created in The Occupational Safety and Health Act of 1970 along with the Occupational Safety and Health Administration (OSHA).

Clean Air Act of 1970

- A comprehensive federal law that regulates air emissions from stationary and mobile sources.
- Authorizes EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants.



Figure 4-9

The 1990 Clean Air Act.

Clean Water Act

- The Federal Water Pollution Control Act of 1948 was the first major U.S. law to address water pollution.
- As amended in 1972 and 1977, the law became commonly known as the Clean Water Act (CWA).
- Established the basic structure for regulating pollutants discharges into the waters of the United States.

Safe Drinking Water Act of 1974

- Established to protect the quality of drinking water in the U.S.
- Authorizes EPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with these primary (health-related) standards.

National Environmental Policy Act of 1969

- One of the first laws ever written that establishes the broad national framework for protecting our environment.
- NEPA's basic policy is to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment.

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1996

- FIFRA provides for federal regulation of pesticide distribution, sale, and use.
 - All pesticides distributed or sold in the U.S. must be registered (licensed) by EPA.
 - Before EPA registers a pesticide under FIFRA, the applicant must show that using the pesticide according to specifications ‘will not generally cause unreasonable adverse effects on the environment.’

Toxic Substances Control Act (TSCA) of 1976

- Provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures.
- Various sections of TSCA provide authority to maintain the TSCA Inventory, under Section 8, which contains more than 83,000 chemicals.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 1980

- Provides a Federal “Superfund” to clean up uncontrolled or abandoned hazardous-waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment.
- EPA was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup.

Resource Conservation and Recovery Act (RCRA) of 1976

- EPA controls hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste.
- Enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.
- RCRA focuses on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases.

Endangered Species Act of 1973

- Provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found.
- The U.S. Fish and Wildlife Service (FWS) maintains a worldwide list of endangered species. Species include birds, insects, fish, reptiles, mammals, crustaceans, flowers, grasses, and trees.