

ENVIRONMENTAL STUDIES

LECTURE-32

Legislations for prevention of Biohazards in India

The following legislations have been enacted in India for the prevention of biohazards and implementation of protective, eradicated and containing measures when there is an outbreak:

1. The Water (Prevention and Control of Pollution) Act, 1974
 2. The Air (Prevention and Control of Pollution) Act, 1981
 3. The Environmental (Protection) Act, 1986 and the Rules (1986)
 4. Disaster Management Act 2005, provides for the institutional and operational framework for disaster prevention, mitigation, response, preparedness, and recovery at all levels.
- Air Prevention and Control of Pollution Act 1981
 - Disaster Management Act of 2005

Prevention of Biological Hazards

The basic measure to prevent and control biohazards is the elimination of the source of contamination. Some of the prevention methods are as follows:

Preventive Measures for workers in the field (Medical)

1. Engineering controls – to help prevent the spread of such disasters including proper ventilation, installing negative pressure, and usage of UV lamps.
2. Personal hygiene – washing hands with liquid soap, proper care for clothes that have been exposed to a probably contaminated environment.
3. Personal protection equipment – masks, protective clothing, gloves, face shield, eye shield, shoe covers.
4. Sterilization – Using ultra heat or high pressure to eliminate bacteria or using biocide to kill microbes.
5. Respiratory protection – surgical masks, respirators, powered air-purifying respirators (PAPR), air-supplying respirators.

Prevention of Biological Hazards (Environmental Management)

Safe water supply, proper maintenance of sewage pipelines – to prevent waterborne diseases such as cholera, typhoid, hepatitis, dysentery, etc.

Awareness of personal hygiene and provision for washing, cleaning, bathing, avoiding overcrowding, etc.

Vector control:

Environmental engineering work and generic integrated vector control measures.

Water management, not permitting water to stagnate and collect and other methods to eliminate breeding places for vectors.

Regular spraying of insecticides, outdoor fogging, etc. for controlling vectors.

Controlling the population of rodents.

Post-disaster Epidemics Prevention

The risk of epidemics is increased after any biological disaster.

Integrated Disease Surveillance Systems (IDSS) monitors the sources, modes of diseases spreading, and investigates the epidemics.

Detection and Containment of Outbreaks

This consists of four steps as given under:

1. Recognizing and diagnosing by primary healthcare practitioners.
2. Communicating surveillance information to public health authorities.
3. Epidemiological analysis of surveillance data
4. Public health measures and delivering proper medical treatment.