

PREVENTING COMMON HUMAN INDUCED DISASTERS

Nuclear Accidents:

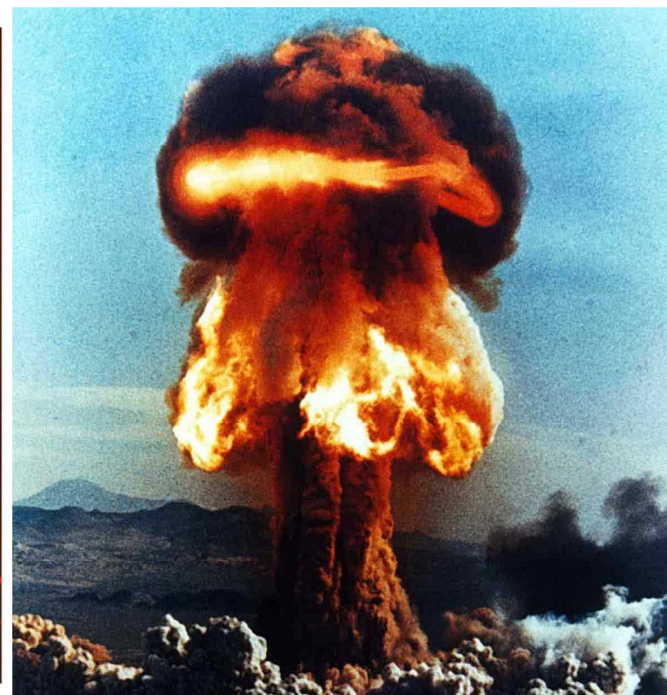
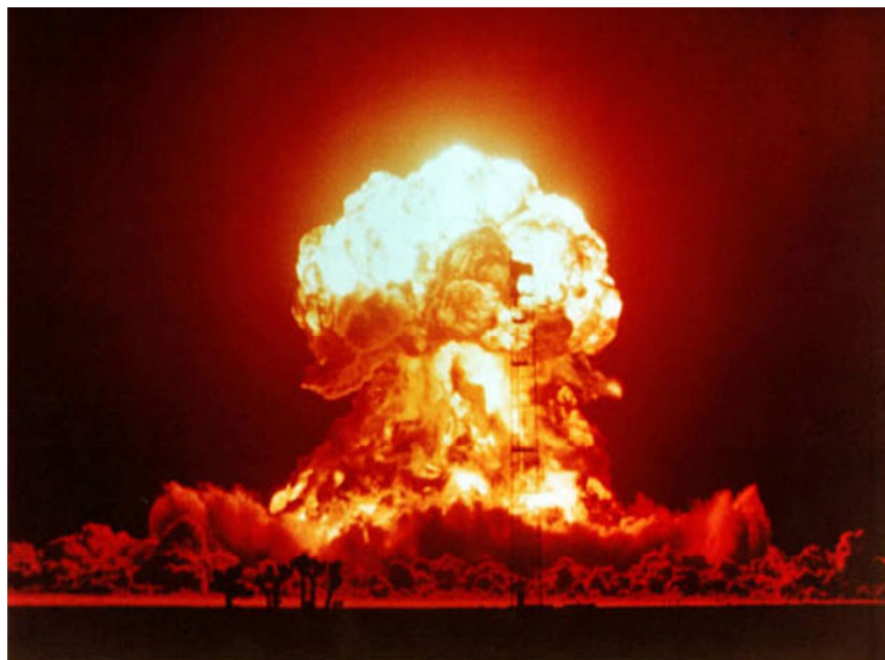
A **Nuclear weapon** is a type of explosive weapon that derives its destructive force from Nuclear reactions of fission or a combination of fission and fusion. As a result, even a nuclear weapon with a small yield is significantly more powerful than the largest conventional explosives, and a single weapon is capable of destroying an entire city.

There are two basic types of Nuclear weapons. The first are weapons which produce their explosive energy through *nuclear fission* reactions alone. These are known colloquially as *atomic bombs*.

A bomb, or fission bomb. The second basic type of Nuclear weapon produces a large amount of its energy through nuclear fusion reactions, and can be over a thousand times more powerful than fission bombs as fusion reaction. These are as **hydrogen bombs, H-bombs, Thermo-nuclear-bombs, or fusion bombs**.

With the advancement of scientific research in the world, several countries have acquired the technology to produce Nuclear Arms. There is also a risk of accidental exposure to harmful radiation from the several nuclear reactors that are used to generate power. Theft of nuclear materials can enable the creation of crude bombs commonly known as 'dirty bombs' which can be used by elements of terrorist groups.

antisocial elements of terrorist groups.



Chemical and Industrial Accidents:

In the Modern day world with the development of science and technology, the usage of chemicals has increased to a large extent for increasing our crop production: Purifying our drinking water, painting our beautiful houses etc.. But we have hardly realized that these chemicals which are helpful to mankind in some way or the other also hazardous to human and environment. Nearly every household uses products containing hazardous material or chemicals. Some of the hazardous chemicals that fall under this category and are found in every house hold and are hair spray and doeodorant, nail polish and nail polish remover, toilet bowl cleaners, wall paint and furniture polish.

Manufacturing of chemicals are a major source of contamination through hazardous materials, but there are many others, including Service stations, hospitals, and hazardous materials waste sites. Hazardous materials come in the form of explosives, nameable and combustible substances, Poisons and radioactive material. These substances are most often released as a result of transportation accidents. Lack of proper storage, use or disposal or because of chemical accidents in plants.

Chemical weapons of mass destruction (WMD) are normally easy to manufacture using simple chemicals. Further they are difficult to detect as most of the chemical WMD are colourless and odourless.



Impact and elements at risk

Since there is little or no warning in case of an industrial/Chemical accident, the loss incurred is very high. There is a huge loss to life, property, livelihood and environment. Hazardous material in various forms can cause death serious injury, long-lasting, health effects, and damage to buildings, homes and other property. The areas close to an industrial setup are under immediate threat. People working in that industry or people residing in the neighbouring areas are normally affected. There has been large number of incidents where the farmers have faced the burnt of crop loss because of the toxic gases released by the industries into the air or polluting the water.



Biological Disasters-

Biological weapons are referred to as a “Poor man’s nuclear bomb” because they are easy to manufacture, can be deployed without sophisticated delivery systems, and have the ability to kill or injure hundreds of thousands of people. Simple devices such as crop dusting airplanes or small perfume atomizers are effective delivery systems for biological agents. In contrast to chemical, conventional, and nuclear weapons that generate immediate effects, biological agents are generally associated with a delay in the onset of illness (hours to days). Moreover, illnesses from biological weapons are not likely to be recognized in their initial stages, with highly transmissible agents (Eg, plague and smallpox), the time delay in recognition can result in widespread secondary exposure to others, including doctors and health staff.

