On December 26, 2004 an earthquake with a magnitude of 9.1 occurred in the Indian ocean. The magnitude of the earthquake was equivalent to power of 23,000 atomic bombs. It happened only 30 kilometers deep so it sparked a large tsunami. The tsunami reached waves of 50 meters and stretched across a distance of 1300 kilometers reaching both Indonesia and the coast of South Africa. Other countries that it affected included Sri Lanka, India, Thailand, Somalia, Myanmar, Maldives, Malaysia, Tanzania, Seychelles, Bangladesh, Kenya, and Madagascar.

The effect of this tsunami was catastrophic. Known as the deadliest and most destructive tsunami to ever occur, it claimed over 230,000 lives. Other than death it also injured 125,000, displaced 1,690,000, indirectly caused diseases in over 150,000 people, and caused 46,000 people to go missing. Most of the casualties resulted from a lack of preparedness. The earthquake struck around midnight and the tsunami first hit land two hours later. Due to the time and lack of communication people were unaware and were unable to escape coastal areas where homes were destroyed.

In total, the damage caused by the earthquake and tsunami totaled fifteen billion dollars. Most of the recovery and response came from the United States Agency for International Development, or the USAID. The USAID donated food, shelter, water and hygiene kits to survivors while the governments of the affected countries worked to rebuild houses, roads, schools and airports. In order to prevent and mitigate future events similar to this one, they also increased their count of tsunami warning buoys from six to thirty nine.
Indian Ocean Tsunami Concept Map

Power
- 23,000 atomic bombs
- 1300 km long
- 50 m high waves

Indocean
- Indonesia
- Sri Lanka
- India
- Thailand
- Somalia
- Myanmar
- Maldives
- Malaysia
- Tanzania
- Seychelles
- Bangladesh
- South Africa
- Kenya
- Madagascar

Countries

Affect on Humans
- 150,000 Diseased
- 45,752 Missing
- 125,000 Injured
- 1,690,000 Displaced
- 230,000 Dead

Recovery
- $15 Billion Raised
- 134,000 Homes rebuilt
- Rebuilt airports, roads, schools
- USAID
  - Food
  - Shelter
  - Water
  - Hygiene kits
- 39 Tsunami buoys rather than 6
Human Caused Disaster

During the night between December 2nd and December 3rd, 1984 thirty tons of pesticide methyl isocyanate was released in Bhopal, Madhya Pradesh, India. The gas leak reached over 500,000 people in surrounding areas. There are two different conspiracies of how the disaster could have happened. One conspiracy is a result of corporate negligence in which the factory was not properly equipped, the fixtures that needed repairs were ignored and the corporation did not follow safety regulations. Another conspiracy is that it was sabotage by an employee. This is generally accepted by witnesses who observed tense and suspicious environments, and missing and destroyed evidence. Either way, the gas leak was caused by water running through the gas holding tank which caused pressure to increase and gas to be released.

The Bhopal gas leak is known to be the world’s worst industrial disaster. The exposure to gas caused initial effects of breathlessness, vomiting and stomach pain. These eventually evolved into choking, pulmonary edema, circulatory collapse which caused the first deaths of the disaster. The immediate death toll is estimated to be 2,259 people while over 16,000 people have died since then. The 16,000 people that have died since then most likely were suffering from long term health effects such as cancer and tuberculosis. Other than the huge death toll, a total of 3,900 were diagnosed with permanent disabilities while 550,000 others were injured.

The steps to recovery started with a lawsuit against the Bhopal factory in the March of 1985. The total amount of money that the victims received summed to $350 million. The lawsuit also included plans to build and finance a new hospital that would treat the victims. The process of cleaning the environment lasted much longer than the lawsuit. In 2012 the Centre for incineration of toxic Bhopal waste agreed to dispose of the toxic waste in Germany. This response occurred twenty-eight years after the disaster, which could mean that people in the vicinity could
have possibly still been exposed causing more deaths and diseases. In 1999 the ATCA was created to clean drinking water and monitor the health of the residents in surrounding areas of Bhopal; the ATCA mitigated the situation due to the fact that it took so long to clean up the waste.

Bhopal Disaster Flowchart