Bhopal Disaster The Gas Tragedy

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Group 15

AGENDA

About the Disaster
From the Humanitarian Logistics Aspect
Specific Actions Taken
What Was Right?
What Was Wrong?
Lessons Learned

<u>About the Disaster</u>

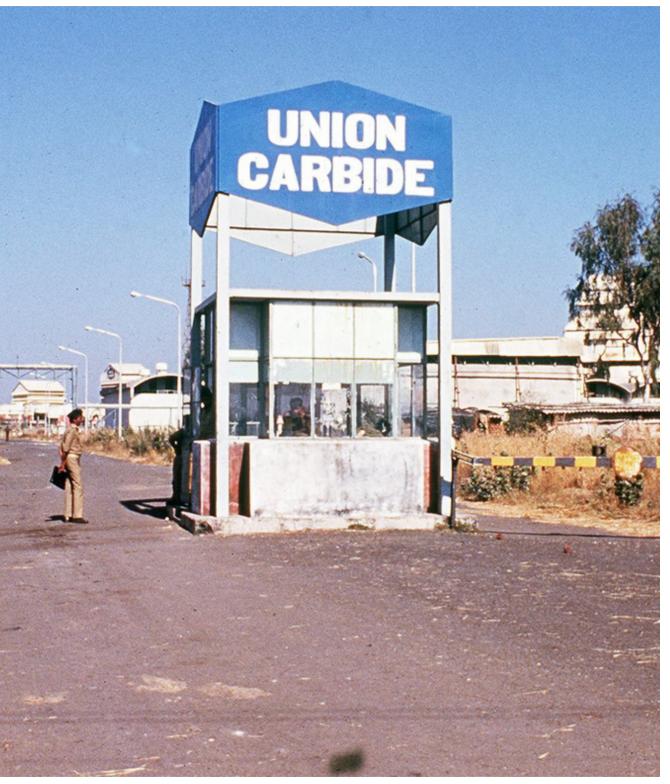
The disaster occurred on December 3, 1984, in Bhopal, India.

Over 40 tons of toxic methyl isocyanate (MIC) gas was leaked from the Union Carbide's (UCC) pesticide plant.

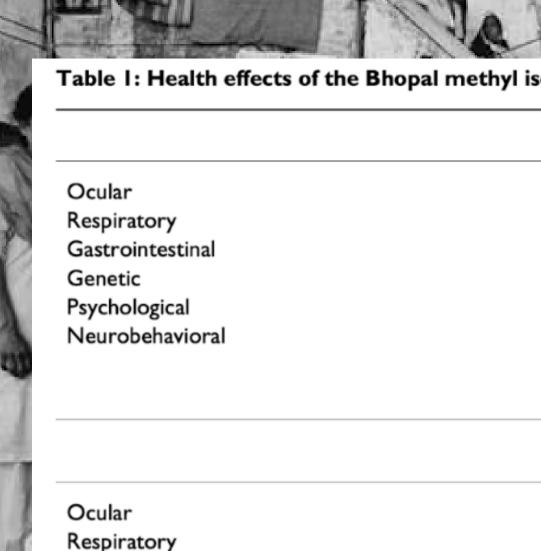
Gas was spread into a radius of 7 km, affecting 36 wards.

The immediate death toll of 3800 people was recorded.









Reproductive

Neurobehavioral

Genetic

Table I: Health effects of the Bhopal methyl isocyanate gas leak exposure [8, 30-32].

Increased chromosomal abnormalities. Neuroses, anxiety states, adjustment reactions psychomotor coordination.

Late effects (6 months onwards)

Early effects (0-6 months)

Persistent watering, corneal opacities, chronic conjunctivitis Obstructive and restrictive airway disease, decreased lung function. Increased pregnancy loss, increased infant mortality, decreased placental/fetal weight Increased chromosomal abnormalities Impaired associate learning, motor speed, precision

<u>Short term and long term effects of the MIC gas</u>

- Chemosis, redness, watering, ulcers, photophobia
- Distress, pulmonary edema, pneumonitis, pneumothorax.
- Persistent diarrhea, anorexia, persistent abdominal pain.
- Impaired audio and visual memory, impaired vigilance attention and response time, Impaired reasoning and spatial ability, impaired



Statistics About the Disaster

500,000

people were exposed to MIC Death toll rose to the **10,000** in the first few days.

It is estimated that 15,000

people died due to the gas leak

"15,000 to 20,000 premature deaths occurring in the subsequent 2 decades."



 The safety valve for the toxic chemical gas was not working
6 crucial safety systems were not functioning.
The staff of 12 was cut to 6 to save costs.

Precautions (Lack of Them)

Disaster Management

Self response was quite weak, due to the lack of information, resources, the unexpectedness of the situation.

Doctors didn't know how to treat the patients.

Therefore, autopsy studies were held to understand the effects of the gas. The quality of health services was quite poor. 4 hospitals in the area were inadequate in terms of resources to cover the scope.

Within two days, only a quarter of the population of the affected area was evacuated, people were transferred to camps



Generally, NGOs were involved after the disaster, mainly being locals.

13 local NGOs were involved in various purposes, from awareness to legal settlements etc.

International NGOs were involved in spreading the awareness globally.

NGOs Involved:



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The Other Media Delhi Science Forum The Bhopal Group for Information and Action (BGIA) The Sambhavna Trust

Many of these NGOs have contacts with WHO and other organizations within the United Nations.

Specific Actions

passed (1986)

- 1. To mobilize the medical services 2. Relief efforts initiated by the government 3. The Environment Protection Act was
- 4. The cleanup of the site was neglected

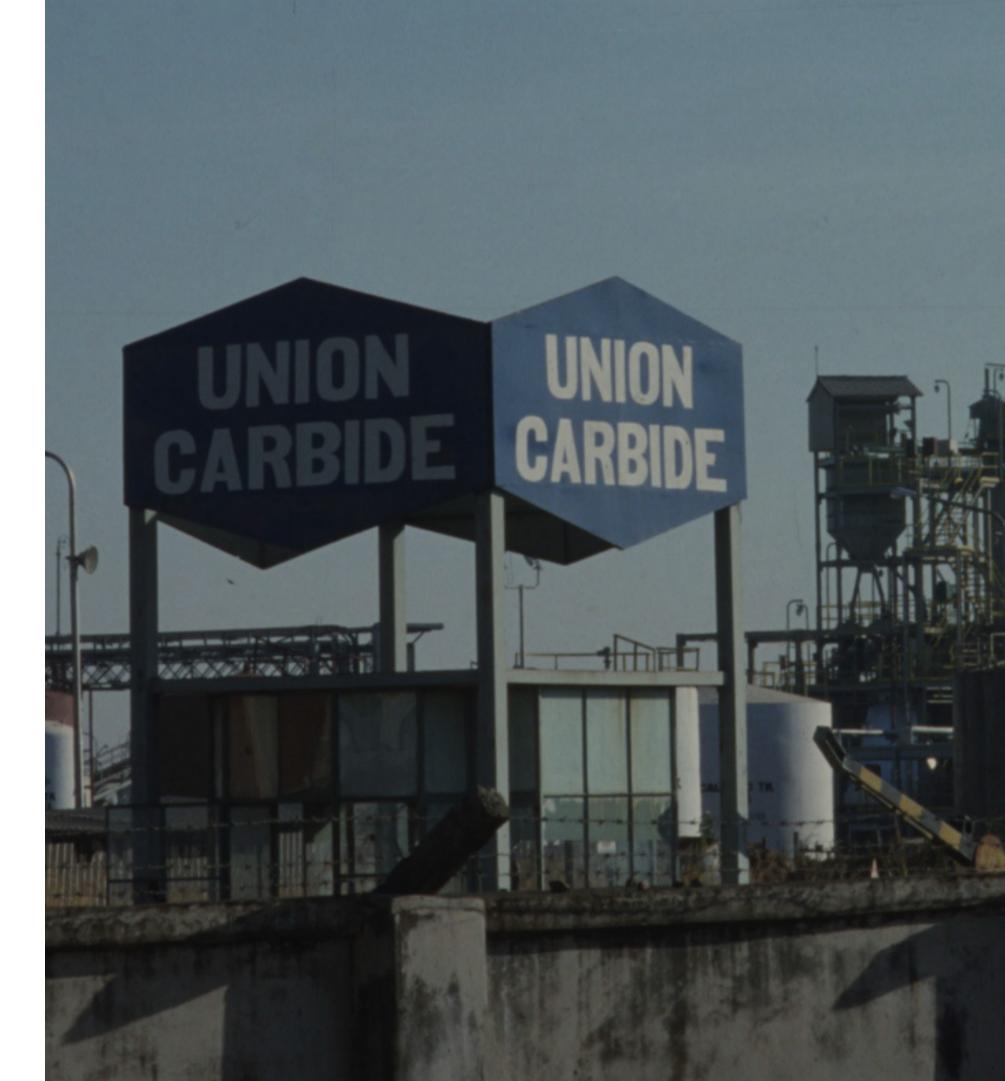
<u>What was Wrong?</u>

- Lack of information coming from the UCC
- Lack of resources and inadequate response
- False reassurances
- Failure of safety controls
- Regulatory failures
- Corporate negligence
- Wrong placement of pesticide manufacturing plant
- Lack of long term support
- Not providing sufficient shelter area



<u>What was Right?</u>

- Local Shareholder Requirement
- Legal Settlement and Compensation
- Ongoing activist movements to create awareness.
- Environment Act and policies were passed after the accident.



<u>essons Learneo.</u>

Industrial safety standards and safety planning to prevent similar accidents should be reinforced. 2. Placing industrial facilities close to densely populated areas should be avoided Environmental regulations must be taken into consideration. Public health infrastructures should improved.

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