

# **Survivors of the Bhopal Gas Disaster**

## ***Twenty five years after***

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It is over twenty-five years since the Bhopal Gas Disaster happened; on the night of December 3, 1984. The impact, when it happened, was catastrophic and genocidal. Men, women and children, unaware of what was making them choke and fight for life-saving breath fled their warm beds in panic, running distraught, hopefully away from the murderous poisons that had clouded the skies. In an hour or so, over 3000 of them could not outrun the deathly poisons, and they collapsed all over the city, in a grotesque dance of death that had no dignity. And hundreds of thousands from a city of million plus vanished from the city, retching, coughing and mortally scared. They escaped death, but the poisons have made life hell for them, and they continue to suffer, and die from the effects even now. Over 15,000 have died till now. (Raina, 2001)

The legal situation continues to remain as murky as it was just after the disaster happened. After the Government of India promulgated an ordinance that gave it powers to file a class action suit against the Union Carbide on behalf of all the victims, first the US courts threw out the case claiming that the jurisdiction existed only with the Indian courts. The Indian Supreme Court, instead of deciding the case, controversially brokered an out of court settlement between the Indian government and the Union Carbide for a one time and final compensation of 470 million US dollars, in the process absolving Union Carbide of any criminal or civil liabilities

The 1989 Bhopal Settlement was based on the assumption that only 3000 people died and about 102,000 person's sustained injuries due to the poisonous gases that leaked from the Union Carbide owned pesticide plant in 1984. However in its order of 26 October 2004, almost twenty years later, the Supreme Court, hearing review petitions filed by victim groups, ordered the disbursement of the remaining over 15000 million rupees from the settlement amount on a pro rata basis to all the 572,173 gas victims who had already been awarded compensation. The Court also gave its seal of approval to the figure of 15,248 deaths, reported by the Bhopal Gas Tragedy Relief and Rehabilitation department. (Raina and Kumar, 2004)

This was a victory of sorts for the thousands of ailing and diseased victims who have refused to let up pressure on the concerned parties, the Union Carbide, Dow Chemicals, the Madhya Pradesh Government and the Central Government all these years, while keeping the Supreme Court of India, the Bhopal Courts and the Courts in the US engaged with a barrage of petitions. If the Union Carbide thought that it had found an escape from its culpability by selling its assets to Dow chemicals, the victims have refused to let it off the hook. And the Dow Chemicals plea that it had no responsibility since the incident occurred when the assets did not belong to it has been challenged on the streets and in the courts. The respective Governments who had hoped that the incident would die away after the shabby settlement, with the victims getting tired and fatigued, underestimated the resilience of the poor and ill victims – they have refused to be cast into the dustbin of history. For those who have witnessed the struggles, been friends and supporters of the victims and their organizations, the experience is as empowering as inspiring. The victory is however somewhat muted since even after accepting that the magnitude of the disaster was so overwhelming, the nature of compensation disbursement hasn't been altered. It remains unscientific and unconnected to the degree of disability.

## Medical Disabilities

There was no public knowledge of the medical effects of the main gas that escaped from the plant, namely, methyl isocyanate (MIC). Union Carbide Corporation (UCC) initially pleaded ignorance about its medical effects, though later it was revealed it had results of research that it had commissioned on precisely this aspect, though on rats, before the disaster happened. However it continued to maintain that MIC could not cause permanent impairment. Unfortunately, sections of Government of India controlled scientists were of the same opinion. The victims' organizations, activists and NGOs, however, have fought to have their opinion acknowledged, namely, that thousands of people have been permanently disabled by the gases (Eckerman, 2005).

The Government of India had assigned the task of long term medical studies to the Indian Council for Medical Research (ICMR). Unfortunately, the ICMR studies were terminated ten years after the disaster, in 1994. But in their annual reports from 1990 to 1992, ICMR reported many long term health effects on the survivors. The International Medical Commission on Bhopal (IMCB), set up because of a great deal of personal initiative of Rosalie Bertell also investigated long term effects, 10-15 years after the exposure. According to these reports, the survivors complain of breathlessness, coughing, chest pains, fatigue, body aches, abdominal pain, numbness and tingling in the limbs, weak sight and runny eyes, anxiety attacks, bad memory, concentration difficulties, irritability, headache and mental illness. An unusually large number of women have menstrual irregularities and excessive vaginal secretions. Mothers complain of retarded physical and mental growth in children exposed at infancy or born after the disaster. Symptoms of fever, burning sensations in the body, loss of appetite, numbness and tingling in the limbs, backache, giddiness and panic attacks seem to have manifested 3-4 years after the disaster and are getting worse. A reasonable estimate is that between 100,000 and 200,000 people are permanently impaired (Eckerman, 2005).

After the closure of the ICMR research studies in Bhopal in December 1994, the Centre for Rehabilitation Studies (CRS) of the Madhya Pradesh government has taken over responsibility for long term research. The cohort studies show an overall over-morbidity among the gas affected compared to the control group (GoMP, 2004). The eyes show chronic conjunctivitis, scars on the cornea, deficiency in the watering of eyes, permanent corneal opacities and the early onset of cataracts (Dhara, 1992). Eye diseases during the period 1996-2002 were twice as high in an exposed group to a non-exposed one (GoMP, 2004).

One of the major health impacts has been on the respiratory tract. This includes abnormal lung function with obstructive and/or restrictive disease, aggravation of old diseases like tuberculosis and chronic bronchitis, and pulmonary fibrosis (Dhara, 1992). Permanent effects on the respiratory tract, 10 years after the leakage, were shown by the IMCB (Cullinan, Acquilla and Dhara, 1997). Doctors working in the areas affected by the gases agree that there has been a marked increase in the number of tuberculosis cases in Bhopal (Bhopal Memorial Hospital, 2000/2001).

The neurological impacts have been studied and neurobehavioral tests show impairment of memory, attention response speed and vigilance (Dhara, 1992), as well as finer motor skills (Eckerman, 1996). There are also neuromuscular symptoms such as tingling, numbness and muscular aches (Dhara, 1992). The investigation by IMCB (Cullinan, Acquilla and Dhara, 1996) showed clinical signs of central, peripheral, and vestibular neurological disturbance.

Regarding genetic impacts, chromosomal aberrations were found to occur in exposed persons (Ghosh, 1990; Goswami 1990). An ongoing study on chromosomal changes and birth defects indicates an increased rate of birth defects in gas affected families without previous history. A population-based cancer registry has been established in Bhopal, but the onset of gas leak related cancers is not expected to occur before the 30 to 40 year lag period (Dhara, 1992). It has however been stated by local groups that there is a definite rise in the incidence of different kinds of cancers in the gas affected population over the last few years. Cancers of the lungs have increased up to 20 percent compared to other cities of the country, they claim.

Probably the worst sufferers in Bhopal are the women survivors, since with all the other health impacts, their reproductive health seems to have been badly affected. Three months after the exposure, a small study showed a high proportion of leucorrhoea, pelvic inflammatory disease, cervical erosion, excessive menstrual bleedings and suppression of lactation (Morehouse and Subramaniam, 1986). Later menstrual cycle disruption, leucorrhoea and dysmenorrhoea, especially among young women were reported. Even though no long term studies on women's reproductive health have been done, it is common knowledge in Bhopal that a very large number of gas affected women, and their daughters, suffer from menstrual irregularities, profuse menstruations and premature menopause. One of the very harsh social impact of this has been the reluctance of households to wed their sons to a gas affected woman or her daughter. In 1989, the still birth rate, the crude birth rate, the perinatal death rate, the neonatal death rate and the infant mortality rate were all high in severely affected areas, compared to the rates in control areas (ICMR Bhopal, 1990). The affected children have the same symptoms as the adults, and in addition, there are reports of intellectual impairment and epilepsy (BGIA, 1994). Failure to grow, delay in gross motor and language sector development were found in children born a considerable time after their mothers' exposure to the gases (BGIA, 1992).

The lack of accurate data on medical disabilities and the extent of affected population is directly connected to the enumeration of the people who ought to receive compensation, and the quantum of compensation is related to the severity of disability. It is also at the heart of the continuing struggle of the affected survivors and the official and corporate agencies, the latter always making attempts to minimize both the numbers and the severity, in order to reduce their liabilities. The lack of motivation of the official agencies to put into place a long term medical research mechanism and an effective curative health system, or the corporates to fulfill such a responsibility is obviously a consequence of their attempts to limit their liabilities.

### **The Toxic Wastes**

One of the worst lingering issues of the Bhopal Gas Disaster is the dispute over the disposal of the 350 metric tonnes of toxic wastes that are still present in the abandoned Union Carbide factory premises, taken over by the Dow Chemicals in 1999. Evidence suggests that these wastes have continuously polluted air, water and land in these 25 years after the disaster. Heavy monsoon rains have made the toxic chemicals leach into underground water aquifers, a source of drinking water for a large population that continues to live close to the abandoned factory. Greenpeace found evidence of mercury in the breast milk amongst women living close to the factory.

The dispute revolves around who ought to be responsible and bear costs, where the wastes should be disposed or incinerated and the suitability of the methods of disposal. Dow chemicals have continued to maintain that their acquisition of the factory does not imply their taking over of liabilities pertaining to the period when they were not the owners. This was in response to the plea of the central Ministry for Chemicals and Fertilizer to the Madhya Pradesh High Court to direct Dow chemicals to deposit rupees 1000 million for the clean-up (Frontline, 2007). The

Madhya Pradesh High Court finally gave directions for the packing and disposal of the wastes, to be partly buried at a facility about 180 kilometers away in Peethampur in Madhya Pradesh state and the large chunk, about 310 metric tones, to be incinerated at a facility in another state, in Ankaleshwar in Gujarat, 680 kilometres away. The Gujarat government petitioned the Supreme Court against the High Court order sending the wastes to Gujarat, claiming a back log at the facility in Ankaleshwar and the dangers of transporting the wastes long distance. Survivor groups, who in the first instance were forced to petition the courts for the disposal, have voiced their concern against the modes of disposal – burying and incineration – calling them hazardous. The stalemate continues while the wastes continue to pollute the water and air of Bhopal, further threatening the already debilitated health of the survivors.

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