

## Globalization and the Bhopal Disaster: A Criminogenic Inquiry

*M. Raymond Izarali*<sup>1</sup>

### ABSTRACT

*Globalization has had progress and despairs, and has also opened the door to heated debates. The trend has been to globalize property rights. With this comes the sense that duties to civil society in the way of harm prevention, justice, and protection of the natural environment are easily side-stepped. The Bhopal Disaster of 1984 remains the world's worst industrial disaster and worth revisiting so as to understand the culture of corporate behavior in disclaiming and side-stepping certain vital social responsibilities. This paper revisits the Bhopal Disaster and highlights elements that ought to keep us vigilant about the path globalization takes.*

**Keywords:** Bhopal disaster, capitalism, social harm, union carbide corporation, globalization, corporate crime.

### INTRODUCTION

Globalization has come to mean different things to different people, different countries, and even different disciplines of study. How the countries of the Third World, for example, conceive of globalization may be asymmetric to that of developed countries. How the poor reflect on what they are told to be a process of globalization is unlikely to concur with the

---

<sup>1</sup> Wilfrid Laurier University, Canada.

way the affluent does. The way elements of globalization are taught in a sociology or political science course is likely to be different from what one would expect of them in an economics or international finance course. There is, in other words, a lot to be said about Anthony Giddens' observation when he says that globalization has been very uneven (Giddens, 1999). Despite the myriad scholarship on the subject-matter (Held, 2004; Singer, 2004; Truillot, 2002; Shiva, 1999; Howard-Hassmann, 2010; Bhalla, 2002; Stiglitz 2008; Payne 2008; Hill & Rapp 2009; Ezeonu 2008), there is still no consensus on the value of globalization. There are controversies over how the benefits and harms of globalization are measured and whether it is premature to make a conclusive statement on the matter (Singer, 2004; Howard-Hassmann 2010; Stiglitz 2008).

In the contemporary setting, although the Internet and the technologization of industries with the aid of computers have revolutionized much of the world, globalization in social and political debates tends to mean the economic processes that characterize it and indeed the impact it has on social life. Specifically, the economic aspects tend to take the form of a pattern towards a global integration of the economies of the world through a fundamental liberalization of trade and markets, but its social (and political) impacts center on whether people are employed or jobless, whether they are included/excluded or facilitated, harmed or respected and protected, whether they are made better off or worse off, whether they are dealt with inequitably or appropriately, whether they are dispossessed of ethical sovereignty or maintain autonomy, and so on. Hence the idea of, and movements for, social justice in respect of globalization. So conceived, this paper revisits the Bhopal Disaster that took place in Bhopal, India in 1984 to help re-acquaint us with some of the vital variables that must be given attention in discussions about globalization and the behaviour of corporate entities and international financial institutions.

### **Corporate Impunity, IFIs and Power Politics**

One of the problem zones for globalization in its current phase has been the equities available for corporate leverage while social groups and other constituents in developing as well as developed countries complain about being undermined both politically and economically. Since developing countries are by definition not in good economic standing, they are in a compromised position in addressing issues of foreign investment. On the one hand, such governments have to demonstrate to their societies that they are making efforts to keep their people employed and thus be seen by their people as serving some positive value. On the other hand, they cannot risk

being viewed as uncooperative in dealing with international financial institutions (IFIs) such as the World Trade Organization, the International Monetary Fund, and the World Bank. Otherwise they could be black-listed in the trade market and among the IFIs (Singer, 2004; Stiglitz 2008). The rich and powerful countries on the world stage tend to approach international issues not on the basis of what is fair but rather on the basis of how it best advances their own interests (Stiglitz 2008).

Remarking on his role as Chairman of the Council of Economic Advisers during the Clinton administration, Joseph Stiglitz (2008, 177) claims that when it came to international issues: "The question was: What is best for the United States? What is best for American companies? The contradiction this generates comes through in the kinds of policies adopted." In other words, international policies are geared towards the benefit of those who have sway in the real world of power politics and so if developing countries are seen as uncooperative, they risk consequences both at the level of the IFIs and in the global corporate arena (Stiglitz 2002, 2008; Singer 2004). There has already been much evidence of this in respect of trade related intellectual property rights (TRIPS) where powerful multinational corporations insisted that their governments discipline poor countries through harsh trade restrictions (Hill & Rapp, 2009; Singer 2004; Howard Hassmann 2010).

The history of judgements at, and grievances filed with, the WTO suggests that the WTO has been controlled by the powerful countries on the world stage (Singer 2004). Therefore, measures taken by the WTO tend to be slanted in favour of rich, developed countries (Singer, 2004; Stiglitz, 2002; Izarali, 2011). In such a context, transnational corporations are seen as having a disproportionate level of power whereas developing countries are relegated to a despondent state of facilitating lax business conditions (McMurtry, 1998). Certainly, as Rhoda Howard-Hassmann (2010) has pointed out, one must not lose sight also of the extent to which corruption in developing countries played a role in perpetuating destitute or unfavourable conditions for such societies. That said, developed countries are not exempt from receiving the short end of the stick by corporate entities, only that developing countries are more vulnerable and suffer a history of exploitation (McMurtry, 1998). Of course, some such powers are also enjoyed by non-transnational and family run corporations as well.

### **Globalization & Criminology**

One of the gaps in discussions on globalization is the limited focus on the issue by criminologists. Although one might plausibly argue that globalization has been with us since time immemorial – ranging from the

movement of people to the transmission of knowledge, from the spread of cuisines to the exchange of goods across oceans – there has been a noticeable gap in the literature from the mainstream criminology quarters when it comes to globalization and issues of crime and justice. This is the case despite the myriad cases of social injustices raised by and for globalization in the times in which we live. There are, for example, issues of the maltreatment of labour in places like Asia and Latin America, harmful product quality, inequitable trade arrangements brokered by rich countries with poor countries, political oppression in trade arrangements and so on. Yet, surprisingly the bulk of criminologists historically have had a fixed focus on the more conventional types of crime and few focus on the newer dimensions of criminality raised by globalization and globalism (Friedrichs 2007).

Professor David Friedrichs, a pioneer in developing the research literature on crimes of/and globalization, may be quite on the pulse in observing that: “Criminology as a field may well be too wedded to the theories, methods, and substantive concerns that emerged principally in the mid-20<sup>th</sup> century period, a time very different from the present” (Friedrichs 2007, 5). In 2007, he stated that: “A number of readings on transnational crime have now been published, but to date there are no textbooks in the conventional sense on transnational, international, and global criminology” (Friedrichs 2007, 5).

Ifeanyi Ezeonu (2008), in his analysis of crimes of globalization in sub-Saharan Africa in relation to health, has also observed the reserve of mainstream criminologists to traverse the newer trajectories raised by globalization. He gives an account of crimes perpetrated by the rich and powerful on countries/societies of the weak through the Bretton Woods institutions. He too has acknowledged the historical paucity of literature when it comes to social harm. He claims this is partly because the prevailing schools of thought did not see beyond the “hegemony” of the criminal/state law in conceptualizing the idea and instances of crime. He argues that “most laws (including criminal laws) are political instruments embodying the values of the dominant class, race, gender, and other social groups in society,” but that this characteristic has not generally caught the attention of traditional criminologists (Ezeonu, 2008). Nevertheless, there has been an increased focus on globalization by criminologists as something that has criminogenic (social harm) elements (Ezeonu 2008, 119).

One of the problems, of course, is that raising such issues risks being branded Left or socialistic or some other label by which it is implied an unwillingness to value individualism and the free enterprise system (Ezeonu

2008; Friedrichs 2007). Such labelling, however, does not contribute to taking the discussion further. Such labelling more reflects the tunnel vision of the ardent proponents of capitalism who are blind to the harms that accompany it, an especially sad state of affairs considering that by addressing them a better, more responsible outcome may emerge (Izarali, 2011). It is no different from the committed critics of globalization who fail to see or are unwilling to acknowledge any positive element of it (Izarali, 2011). In such contexts, ideological commitments drive the intellectual pen, and critical constructive debate that can augment the global good goes by the wayside, while at the same time we are said to be involved in scholarly assessments.

Against such blind spots, it must be said that globalization raises a plethora of issues for law and justice as it does for technology, political economy, and security, and consequently for criminology to move with the times, it has to address the relevant issues raised by and for globalization. Issues involving transnational crime, political and economic oppression, trade treaties injustices, institutional and institutionalized oppression, etc. cannot simply be ignored by mainstream criminologists or deferred to political science or some other when they embody critical criminogenic elements. If they raise serious issues for the state of public morality to the extent that discussions focus on drafting binding rules of engagement or criminal law for deterrence or punishment, then that is at least one basis to engage criminology. In the current times, there is an international criminal court so there is foundation for development.

Capitalism has long raised issues of injustices/harm because of its fixation on monetary value. Given that in many fundamental respects globalization is a proliferation of capitalism on the world scene, such issues cannot be cast into oblivion by criminology scholars. The object here is not to slam the sledge hammer on capitalism but to acknowledge, as the philosopher Leo Groarke (2000) has delineated, the strengths and weaknesses so that its weaknesses as they materialize in economic globalization may have some remedial approach, however difficult or daunting a task that may appear to be. As we look to deal with issues raised by globalization through transnational corporate entities, there are events in history that may do well to set the framework for an equitable and hospitable climate of globalization. One such case is the Bhopal disaster to which I now turn.

### **Reflecting on the Bhopal Disaster**

The Bhopal Disaster which took place in India in 1984 remains both a grievous and telling case and worthy of criminogenic inquiry. This event is

grievous because it is the world's worst industrial disaster in which thousands of people died and over a hundred thousand people continue to suffer serious injuries including those born to children-survivors of the tragedy (Eckerman, 2005; ICMR Report, 2010). It is telling because it spans an era when economic globalization was casting its mold and in which the corporation, Union Carbide Corporation (UCC), and its successor, Dow Chemical, continued to deny legal liability for the harms to human and planetary life. Some 30 tons of methyl isocyanate (MIC), a lethal gas, was leaked into the atmosphere due to a range of faulty safety oversights, poor servicing of equipment, and faulty instrumentations. It stemmed from cost cutting measures and faulty ethical compliance by the Union Carbide Corporation, and affected some 40 square kilometers (Eckerman, 2005; Banerjee, 1986; Robertson and Fadil, 1998). The gas may have also included other toxic agents such as hydrogen cyanide, nitrogen oxide, and carbon monoxide (Banerjee, 1986; Dhara and Dhara, 2002; ICMR Report, 2010). The groundwater still remains contaminated and survivors continue to be physically and emotionally traumatized (Dhara and Dhara, 2002, 402; Srishti, 2002; Eckerman, 2005; Fletcher, Ono, and Roy, 2005, 7; ICMR Report, 2010; Mishra et al., 2009: 196; Sarangi, 2009).

The Union Carbide Corporation entered a settlement with the Indian Government in 1989 for \$470 million as taking moral responsibility (Eckerman, 2005). At face value, it appears large but realistically it was/is insufficient to address the magnitude of the harm, the loss of life, and the rehabilitation needed for human lives and of the environment. It pales when one considers that settlement in the Exxon Valdez oil spill when the vessel ran aground in Bligh Reef in Prince William Sound, Alaska was in excess of this and involved no loss of human life (Broughton, 2005; Mathur and Morehouse, 2002, 70).

### **Union Carbide Corporation's History in India**

The Union Carbide Corporation had its genesis in 1898 to manufacture calcium carbide to produce acetylene (Bennett et al., 2005; Agarwal et al., 1985). By 1917 it was formally established as Union Carbide and Carbon Corporation through a collaborative venture, but this essentially amounted to a holding company of autonomous units (Bennett et al., 2005; see also [www.uniocarbide.com/history](http://www.uniocarbide.com/history)). In 1919 it filed a patent to process ethylene for commercial use. It later went on to produce such things as anti-freeze (Prestone), batteries (Eveready) and ferroalloys (Banerjee 1986; Agarwal et al., 1985; Bennett et al., 2005). It even engaged in manufacturing uranium and uranium concentrates at the start of WWII (Bennett et al., 2005; Agarwal

et al., 1985, 14). Agarwal et al. (1985, 14) state that: “Successive world wars influenced the company’s growth. The First World War moved it from a primarily metals and carbon products company into gases and chemicals. The Second World War led the company into the atomic energy program.”

By 1984 Union Carbide was reporting \$9 billion in annual sales. The company employed approximately 100,000 employees in 40 countries, and was the 37<sup>th</sup> largest company in the world (Bennett et al., 2005; Browning, 1993; Broughton, 2005). In other words, the company had built a stature internationally prior to the Bhopal disaster. The company also identified itself as one of the leaders in industry safety (Browning, 1993). Union Carbide existed in India since the mid-1920s producing batteries in Calcutta, which by 1934 formally gave rise to the Ever Ready Company Ltd. The year 1984 had marked the company’s 50<sup>th</sup> anniversary for Union Carbide India Limited (UCIL) (Browning, 1993). Jackson B. Browning (1993), retired Vice President of Health, Safety and Environmental Programs at UCC, stated that “UCIL had sales of about \$200 million annually. It operated 14 plants across India, and was organized into five operating divisions with 9,000 employees.”

Operations at the many divisions had been theoretically under the management of an Indian division called Union Carbide India Ltd (UCIL), which was overseen by Union Carbide Eastern Division in Hong Kong. Union Carbide Corporation (UCC) had 50.9% ownership in UCIL and the rest were owned by 23,000 Indian shareholders and 24 percent by government-run insurance companies (Browning, 1993; Trotter et al., 1989). Although a Hong Kong division was in the picture, the major decisions of UCIL were approved by UCC headquarters in the U.S. Some thinkers claim UCC was known for centralized decision making (Eckerman, 2005; Morehouse and Subramaniam, 1986; Banerjee, 1986).

### **UCC and Pesticides in India**

The impetus to produce pesticides in Bhopal has to be understood in the context of the so-called “Green Revolution” in India. India had aimed to become food self-sufficient, particularly given the backdrop of a famine in 1977 (Bowonder, Kasperson, and Kasperson, 1985; Broughton, 2005). Since agriculture was India’s bedrock, the damage caused by pests and the desire to optimize its crop yields had to be addressed. Thus the Indian government undertook policies in the 1970s to attract the investment of foreign companies in local industries and in this regard Union Carbide is said to have been asked to set up a plant in Bhopal for the production of a pesticide

called Sevin, which was commonly applied in Asia (Bowonder, Kasperson, and Kasperson, 1985; Broughton, 2005).

The Bhopal plant was opened in 1969 (Eckerman, 2005, 24; Banerjee, 1986). The initial approval of the plant was for the production of pesticides using MIC and other component chemicals that were imported in small quantities from the parent company (Banerjee, 1986; Morehouse and Subramaniam, 1986). MIC is an irritant to the skin, the eyes, and the respiratory mucous membrane (Banerjee, 1986; ICMR Report, 2010, 66). As the Indian Council for Medical Research (ICMR) noted in its 2010 report (ICMR Report, 2010, 66): "MIC is a strong poison, even on swallowing; the injury that is caused to the mucosa is because of the exothermic reaction when coming into contact with moisture of the tissues."

MIC also decomposes to hydrogen cyanide and carbon dioxide when pyrolyzed between 427 and 548 degrees Celcius (Dhara and Dhara, 2002, 391; Eckerman, 2005; Banerjee, 1986; ICMR Report, 2010). Banerjee (1986, 62) tells us that: "MIC is considered so dangerous that any British company using or storing it would have to file contingency plans to deal with the consequences of a leakage. Colourless, odourless and highly volatile, its most lethal aspect in the event of an escape into the atmosphere is that it would probably be impossible to contain within a plant or storage tank in the factory."

The company made a shift towards what is called "backward integration" in which component chemicals like MIC were being manufactured in Bhopal as opposed to being imported from the United States (Broughton, 2005; Banerjee, 1986; Eckerman, 2005). Eventually the Bhopal plant was operating below capacity because of natural conditions incurred by farmers through pervasive crop failures in Asia and a drought in 1977, loss of capital, and increased indebtedness (Bowonder et al., 1985, 7; Hager, 1985, 35; Banerjee, 1986). Thus, farmers found it unaffordable to buy expensive pesticides and so substituted cheaper alternatives to Sevin (Broughton, 2005; Bowonder et al., 1985). This situation negatively impacted the company. The plant, for example, produced less than 1,000 tons whereas it had expected to produce 5,000 tons and it had suffered a loss nearing \$4 million by 1984 (Bowonder et al., 1985; Hager, 1985, 35). UCC issued notice to UCIL in July 1984 to prepare the plant for sale (Browning, 1993).

Since no buyer was forthcoming, efforts were geared to migrating its major production infrastructures to some other developing country (Broughton, 2005). Given the intention to liquidate the plant, UCC undertook a rigid cost-cutting initiative at the Bhopal plant in the months leading up to the disaster, especially since the plant was producing below its capacity. This



initiative would in time tarnish UCC's image in the social landscape, as the Bhopal plant encountered irregular servicing, improperly trained and insufficient staff, and malfunctioning and decaying instruments and equipment (Eckerman 2005; Banerjee 1986; Bowonder, Kasperson, and Kasperson, 1985; Broughton, 2005).

### **The Bhopal Disaster: Cause and Circumstances**

Notwithstanding the above profile, inquiries must still be made into the cause of the disaster. The preceding discussion implies some of the circumstances were leading up to the disaster, i.e., a disaster in waiting. Union Carbide maintains on its website that the tragedy was the result of sabotage (see [www.uniocarbide.com/history](http://www.uniocarbide.com/history)). Jackson B. Browning (1993), who was involved in the disaster response for the company, claimed that "No balanced analysis of Union Carbide's reaction to the Bhopal tragedy is possible without recognizing the considerable emphasis the company and its affiliates had placed on safe operations." Certainly, it seems counterintuitive to think any company or its executives will proclaim their operation as replete with flaws, particularly as such a claim may open the floodgate to criminal and civil lawsuits. The history of serious gas leaks (discussed later) at the Bhopal plant prior to the tragedy and those at the Institute, Virginia plant after the Bhopal disaster makes a compelling case to refute the idea of UCC as a champion of safe operations.

According to numerous accounts by commentators (Morehouse and Subramaniam 1986; Banerjee, 1986; Chouhan, 1994; Eckerman, 2005), sometime on 2 December 1984 the production superintendent at the factory had ordered the MIC plant supervisor to flush out a few lines leading from the phosgene area to the vent gas scrubber (VGS), a unit that neutralizes toxic gas by spraying caustic soda on it (Report of the ICFTU-ICEF Mission, 1985, 6). Safety procedures required some preliminary preparation of the area before line flushing could begin. Specifically, a slip blind (a physical barrier) must be inserted into a pipe or fitting to prevent material from going beyond a certain point during the flushing (Banerjee, 1986; Eckerman, 2005; Fink 1986). However, the slip blind was never inserted. This failed task was the responsibility of the maintenance crew whereas line washing was the responsibility of an MIC operator (Banerjee, 1986; Eckerman, 2005).

As the position of maintenance supervisor on the second shift was eliminated a few days earlier, there was apparently no supervisor to instruct the workers to insert the slip blind (Eckerman, 2005). The task of flushing out the lines involved connecting a water supply line to a certain section of

the unit. The MIC operator pumped the water in at high pressure but noticed that the water was not exiting at the same pace. The matter was reported to his supervisor, someone who had been transferred from a different division recently and insufficiently trained for his new post, who ordered him to resume flushing (Fink, 1986, 173; Banerjee, 1986). Some time shortly after 11 p.m., the operator in the control room of the plant became concerned when he noticed that the pressure in one of the underground tank was rising rapidly (Eckerman 2005). It was in fact the liquid MIC changing into gas, as the temperature had already exceeded the level required for this transformation (Banerjee, 1986).

The design of the unit was such that it had certain built-in safety mechanisms. One of them was a safety valve that was 'blanketed' with nitrogen and located at the neck of the tube that carried fluid to the alpha naphthol plant (Banerjee, 1986; Morehouse and Subramaniam, 1986). This valve was meant to serve as a cushion to some of the pressure in the tanks. If the pressure in the tanks were to exceed a certain limit, the safety valve would be released to allow for an automatic scrubbing operation in what is called the Vent Gas Scrubber (VGS), essentially releasing caustic soda to neutralize the gas (Banerjee, 1986; Morehouse and Subramaniam, 1986). The residue would then pass through a tube and enter another unit called the flare tower, which stands some 30 feet above ground. The flare tower is a narrow vertical structure like a chimney with a continuous fire at the top that incinerates the residue. The flare tower was an end of the line safety mechanism that treats certain gas/residue with heat (Banerjee 1986).

These safety mechanisms were out of commission at the time, and led to a systems failure overall (Fink, 1986, 173). Some 30 tons of MIC gas escaped into the atmosphere (Eckerman, 2005). It caused havoc in the streets of Bhopal in the dark night, debilitating and incapacitating humans and animals and destroying the natural environment (Eckerman, 2005; Banerjee, 1986). In commenting on the scientific structure of the plant, Banerjee (1986) claims that even if these safety devices were operational they could not have prevented the disaster because they could not handle the capacity of the chemical that the Bhopal plant was processing, since they were designed to handle a much smaller volume. Additionally, there was a lack of redundant alarm systems and indicator instruments at the factory (Banerjee, 1986). Banerjee (1986) argues that a factory of this nature was supposed to be equipped with multiple back up systems.

## Previous Leaks

Evidence from previous warnings, workers complaints and safety inspections underscored the Bhopal plant as a disaster in waiting (see Report of the ICFTU-ICEF Mission, 1985; Morehouse and Subramaniam, 1986; Eckerman, 2005; Banerjee, 1986, 114-115; Chouhan, 1994). For example, there were minor leaks of MIC in 1980 when the plant was established. On December 26, 1981, one plant operator died from exposure to a phosgene leak. In January 1982, a damaged seal in the pipeline resulted in phosgene leak which affected 25 workers (Banerjee 1986, 112). On February 9, 1982, a phosgene leak seriously affected 24 people. At midnight on October 5, 1982, there was a leak of MIC at the plant, which resulted in respiratory problems and watering of the eyes to those who were affected (Banerjee 1986, 112).

Setting aside these recurring leaks, a safety audit of the Bhopal plant was carried out some two years prior to the disaster by experts from the UCC's American division that clearly identified some serious safety concerns, yet no corrective actions were ever taken (Eckerman 2005). The three-man team from the U.S. identified, according to the Report of the ICFTU-ICEF Mission (1985, 11), 10 major concerns. It was Congressman Henry Waxman in the U.S. who revealed a UCC internal report before a house of representatives subcommittee on health and the environment that had warned three months before the Bhopal Disaster of possible catastrophic failures and runaway reactions of lethal gas at the Bhopal plant (Eckerman, 2005; Fink, 1985, 176; Banerjee, 1985, 118). Jackson Browning acknowledged having knowledge about this but claimed he never forwarded it to the Bhopal plant (Fink, 1985, 176; Banerjee, 1985, 118). Yet despite this acknowledgement UCC continued to insist that UCIL was more or less independent of the parent company in terms of safety oversight and operations (Eckerman, 2005; Banerjee, 1985).

It was most striking that despite the company's self-proclamation as a safety champion in the face of the Bhopal Disaster, the company's Institute (West Virginia) plant experienced a toxic gas leak eight months and eight days after the Bhopal tragedy, which resulted in 135 residents from the area seeking treatment at the hospital (Fink, 1985, 181). This plant was shut down for some five months after the Bhopal Disaster to ensure that all operations and safety mechanisms were fit, a task for which \$5 million for safety improvements were to be allocated (Fink, 1985, 181). That plant and the one at Bhopal were said to be identical but a more lax approach was taken with the Bhopal plant (Banerjee 1986).

## The Cost Cutting Syndrome

The cost-cutting syndrome prevailed at the expense of safety operations and public safety. About a year prior to the disaster the company disconnected the 30-ton refrigeration system designed to keep stored MIC at a temperature of about zero degrees Celcius; its freon content was extracted for use elsewhere in the plant (see Morehouse and Subramaniam, 1986; Banerjee, 1986; Fink, 1985; Report of the ICFTU-ICEF Mission, 1985). The push to cut cost came from the company's head office in the U.S. As Ingrid Eckerman (2005, 32) noted:

In 1983, there was great pressure from the Danbury head office in the U.S.A. to cut expenses. Decisions were made to prolong the time between certain checks from six to 12 months, and to replace damaged stainless steel pipes with ordinary [carbon] steel pipes. Items that should have been replaced every six months were used for more than two years. Faulty instruments were not replaced.

The plant was experiencing a period of weak demand for its pesticides in the Indian market (Banerjee, 1986, 126). In fact it was producing at one third of its capacity, which was at variance with its projected 47% break-even point (Banerjee, 1986, 126). As a consequence, between 1983 and 1984, it laid off 300 temporary workers (Eckerman 2005). On November 26, 1984, the maintenance supervisor position on the second shift was eliminated and the responsibilities were passed on to the production supervisor who was transferred from a battery plant one month prior to the accident (Banerjee, 1986). The production supervisor was not qualified for the position to which he was assigned, nor was he aware of the dangers associated with the chemicals. The same applied to other employees (Chouhan, 1994).

## The Result: Medical and Morbidity - Then and Now

The preceding findings are contrary to Jackson Browning's claim about UCC's safety dedication. The tragedy resulted in thousands of preventable deaths and suffering. The exact number of people who died is not certain because many people were buried and cremated *en masse* due to concerns over corpse decomposition and the gravity of the tragedy, not to mention the wholesale confusion and pandemonium, and so official counts do not have a record for everyone (Eckerman 2005). Estimates vary, as offered by different organizations and authorities, but all put the death toll in the thousands. Eckerman estimates between 3000 and 10,000 people died in the first weeks (Eckerman, 2005). Banerjee claims there were some 15,000 corpses, 50,000 cripple or maimed persons and 250,000 persons badly

affected (Banerjee, 1986, 114). Amnesty International (2004) claims that 7000 people died in the first two to three days of the accident and that in the 20 years that followed over 15,000 died from related illnesses.

At the time of the disaster, Bhopal had a population of roughly 800,000 of which 38% were in the age group of 0-14 (Eckerman, 2005, 13). Those who continue to suffer serious long term injuries are estimated to be in excess of 100,000 and include those who were children at the time of the disaster and their offspring (Eckerman 2005). Later toxicological studies carried out by the Indian Council for Medical Research confirmed the presence of hydrogen cyanide in the tissue samples kept from autopsies carried out at the time of the disaster. Indeed the ICMR has clearly said that the disaster is not due to MIC alone but its pyrolyzed products as well (ICMR Report, 2010, 7).

The scope and degree of the disaster is not fully captured when we say that victims of the disaster suffered/suffer terribly. Ingrid Eckerman (2005, 97), a Swedish medical doctor who sat on the International Medical Commission of Bhopal, gives some insight when she writes:

The patients who invaded Hamidia hospital had spasms and convulsions. They gasped for breath, their nostrils were quivering, the lips were cyanoptic. They had foetid breath and blood-streaked froth. When the doctors listened with their stethoscopes, they heard gurgling rattles from the lungs and faint heart sounds. Other symptoms were spasms in the oesophagus and intestines, attacks of blindness and sweating. The patients were bewildered and had amnesia.

Her account above of course does not identify those who were not fortunate to make it to the hospital including children below two years of age and the elderly, both of whom she claims were the hardest hit (Eckerman, 2005, 99). The gas leak was likewise hard on women in more ways than one, affecting not just their immediate features but also their reproductive health, and caused an immediate rise in still birth at the time of 300 percent and 200 percent increase in perinatal and neonatal mortality. According to the Bhopal Group for Information and Action (2000, 3):

Young women who were exposed at infancy have chaotic and painful menstrual cycles on attaining puberty. Many have three to four cycles in a month and there are those as old as 17 or 18 who have yet to have their periods. Young people between 15 and 18 years look like they are 10 or 11 because of exposure-induced growth problems documented by ICMR.

Thus, the scars live on not just at a psychological level but also in their procreative capacity. Victims of the disaster suffered pulmonary odema, conjunctivitis, collapsed lungs, among numerous other ailments (Dhara and Dhara, 2002; Eckerman, 2005). Human corpse were littered all over in the vicinity of the accident. Long term studies carried out by the ICMR sourced damage to the respiratory, ocular, gastro-intestinal, and reproductive systems to toxins that were found in the blood stream of victims (Sambhavna Report, 2000; Mishra et al., 2009). At least 125,000 people are still chronically ill (Sambhavna Report, 2000). The long term report of the ICMR (2010, 3) entitled *Health Effects of the Toxic Gas Leak From Union Carbide Methyl Isocyanate Plant in Bhopal: Technical Report on Pathology and Toxicology (1984-1992)* emphasizes:

It must be recognized that while the eyes and respiratory system showed striking disturbances from the beginning, wide-spread multi-organ involvement in the exposed population was also observed. There were cases of coma, a striking feature in the acute phase; gastrointestinal disturbances were common; there were significant lesions in the central nervous system; above all psychological trauma and behavioural disturbances continued to be a dominant feature without abatement to this day for a long time.

The bottom line is that those who died as a result of the leaked gas in Bhopal died a terrible death, and those who have survived are badly affected by what in essence was an unprecedented disaster produced by a rich multinational corporation. Yet the survivors continue to be deprived of vital support to help them alleviate the strains that characterize their daily struggles.

### **Legal Issues**

After much legal denial of fault and claims by UCC that the Bhopal plant operated under UCIL and so was not the responsibility of UCC, the UCC and the Indian government entered a settlement in 1989 of \$US 470 million dollars, but the company denied legal responsibility. The Government of India had passed the Bhopal Gas Leak Disaster Act that made it the sole representative of the victims so as to expedite legal matters. The amount in the settlement was/is paltry because it is insufficient to address the harms and fatalities as well as rehabilitation issues of survivors, many of whom for the rest of their lives will be unable to work for a living because of their injuries.

In the beginning the Indian government endeavoured to have the case tried in New York since it was an American multinational corporation, on the basis that Indian laws were not adequate for a tort litigation of this magnitude (Pillay, 2006). But the matter was sent back for trial in India by Justice Keenan of New York on the basis of *forum non conveniens*, the ground upon which Union Carbide had contested the idea of trial in the U.S. (Pillay, 2006; Sharma, 2009; Rogge, 2001). Sukanya Pillay argues that the UCC employed a racist strategy in arguing that:

[t]he [sic] practical impossibility for American courts and juries, imbued with US cultural values, living standards and expectations, to determine living standards for people living in the slums or 'hutments' surrounding the UCIL, Bhopal, India, by itself confirms that the Indian forum is overwhelmingly the most appropriate. Such abject poverty and the vastly different values, standards and expectations which accompany it are commonplace in India and the Third World. They are incomprehensible to Americans living in the United States (cited in Pillay 2006, 486-487).

In delivering his judgement it is interesting that Justice Keenan noted that India had more interest in the outcome and therefore the American judiciary should not be pushed beyond capacity (Pillay, 2006, 487; Sharma, 2009).

The victims of Bhopal are still without adequate care and provisions (Eckerman, 2005; Pillay, 2006). They still suffer birth defects, vision problems, stomach problems and lung problems among a slate of others (Pillay, 2006; ICMR Report, 2010; Sarangi, 2009). Union Carbide was later sold to Dow Chemical in 2001, which made Dow the largest chemical corporation in the world, but Dow claimed that it did not acquire UCC's liabilities (Eckerman, 2005; Pillay, 2006). Energies are still devoted to raising the concerns of victims and the community in legal proceedings, some of which have results and some of which are yet to be determined (Pillay, 2006; see Zavetoski 2009 on social justice movements). In 2010, seven Indian citizens who served with UCIL were convicted in a Bhopal court of causing death by negligence (Amnesty International - News, 2010). They got the maximum penalty of two years prison sentence. At the moment there is a curative petition (No. 345-347 of 2011, Union of India vs. Union Carbide Corporation & Anr.) filed with the civil appellate jurisdiction of the Supreme Court of India for enhancement of compensation to victims. It must be said that in earlier years some critical matters were processed in court, requiring Union Carbide's then CEO and others to appear before the Court in Bhopal but no one did. Thus, they have been deemed by the Courts in India as fugitives of justice.

## Why Revisit the Bhopal Disaster?

One may understandably ask: why revisit the Bhopal disaster, since it is something that took place in 1984? The Bhopal Disaster underscores the culture and behavior of reckless transnational corporations. Both legally and morally there is a strong case that crimes were perpetrated on account of the preventable social harms caused, the neglect for occupational safety, the reckless approach to handling toxic chemicals, the failure of the company to act responsibly, putting workers to work with harmful substances for which they were neither trained to handle nor had knowledge about, etc. (Robertson and Fadil, 1998). At bottom, the company has culpability, particularly since just two years prior to the tragedy a safety audit by its U.S. experts indicated serious safety concerns at the Bhopal plant. Even if it were a case of sabotage, the circumstances leading up to the tragedy underscored gross disregard by the company that incubated a disaster. However, it must be said that the Indian authorities are not without blame (Pillay, 2006; Sharma, 2009; Sarangi, 2009). They were both a stakeholder and an oversight body and had wanted to see the Bhopal plant operated by locals. They were, and arguably still are, derelict in their duty to ensure the human rights of the people of Bhopal were reasonably protected.

Even though the government passed the Bhopal Gas Leak Disaster Act to empower itself as the sole representative of the victims in court so as to expedite the legal process, it was nevertheless slothful in processing victims' compensation. Today, the survivors see themselves as abandoned by the state and local government in their search for support to carry on their lives and treatment. The Indian government has responsibilities for having facilitated lax business conditions for the firm to operate (Sarangi, 2002; Sarangi, 2009; Morehouse and Subramaniam, 1986, 3; Bennett et al., 2005, 3). Moreover, the Indian government took control of the plant after the disaster, but the clean-up is still to be completed. The laboratory, for example, still contains chemicals, a further reason why residents of Bhopal feel abandoned by the state. For those who died, the disaster was the gravest assault on their right to life. For victim-survivors, the disaster violated in perpetuity their right to self determination in practically every way.

If globalization is to be augmented as indeed it is through a proliferation of free trade agreements on the world stage and the liberalization markets, then matters of life and death cannot be ignored. Lawrence Summers (Economist, 1992) while serving as chief economist at the World Bank once wrote in an internal memo:



Shouldn't the World Bank be encouraging more migration of the dirty industries to the less developed countries? The measurement of the costs of health-impairing pollution depends on the forgone earnings from increased morbidity and mortality. From this point of view, a given amount of health-impairing pollution should be done in the country with the lowest wages. I think the logic behind dumping a load of toxic waste in the lowest-wage country is impeccable and we should face up to that.

Summers' line of reasoning no doubt reflects an apartheid psychology. It would appear that Union Carbide Corporation had already been a practitioner of this logic. Certainly it was not the only one. Summers' leaked memo has cemented the fact that international financial institutions and transnational corporate entities do not necessarily act according to what is just but what is efficient within a narrow conspectus of progress. If globalization is to augment the cause of human happiness and flourishing on a global scale, then it has to be carried out within at least some minimum framework of social justice (Izarali, 2011). In this way, those who are not agents of the market or those who participate in the market through labour but lack the monetary wherewithal to protect against violations or seek recourse may be protected.

The problem with globalization thus far is that it has been narrow in proliferating property rights when in fact it should be accompanied by the globalization of a more substantive set of basic rights (see Izarali, 2011; Monshipouri, Welch and Kennedy, 2003). When people's basic rights are trampled on in the name of the market and economic efficiency, it ought to be considered some form of a crime (Friedrichs and Friedrichs, 2002; Ezeonu, 2009; Anderson, 2010). Thus, one ought to be able to talk about crimes and globalization.

There are already international treaties in place as points of reference such as the twin covenants of human rights. There are merits to Professor Peter Singer's (2004) claim that we need an extension of the criminal law at the global level. Moreover, as Friedrichs and Friedrichs (2002) and Ifeanyi Ezeonu (2009) have compellingly argued in making the case for crimes of globalization, we need to look beyond the rubric of seeing the idea of crime in criminology as a violation of some state law, so that we can talk about social harm. Globalization is still evolving and it is natural to think that the law has to likewise evolve on the global level. But criminologists likewise have to evolve to see globalization as something that is within the scope of criminology proper; in this way, crime and criminality relating to globalization will be more deeply addressed in the literature (Friedrichs, 2007).

## Conclusion

The Bhopal Disaster took place in the formative years of economic globalization in contemporary times. The attempt to try the case in New York represents the first time liability was raised by a Third World country against trans/multi-national corporation for violation of fundamental rights (Pillay, 2006, 485). The reception was/is sobering. The actions and consequences of the disaster were haunting then, but they reverberate up to the present time. It is fair to say that the culture of corporations is largely the same now as it was then, although in recent years there have been notable cases in the US where major companies have been investigated and CEO's have been prosecuted. Moreover, there are some corporate entities that try to operate within certain parameters to avoid causing social harm and to be reasonably equitable to labour, and so one ought not to turn a blind eye to them. As globalization expands we can learn from the Bhopal tragedy, especially since justice still has not yet been delivered to Bhopal – for those deceased, those surviving, and the environment upon which all depend.

When one looks at the case of gas flaring by transnational corporations in Nigeria and the health hazards they pose (Environmental Rights Action, 2005), the toxic cyanide spill by the Omai goldmine company in the Essequibo River of Guyana, and the degradation of the Pak Mun Dam in Thailand, all in which no substantive positive net return value to the host societies appear to be evident, one cannot help but to ponder on the examples of the past such as the Bhopal Disaster. Reece Walters captures the salience of the Bhopal tragedy when he writes, “Bhopal provides lessons about, and challenges for, environmental justice; globalized trade and corporate power; corporate criminality and victim justice; regulation of transnational corporations, and the dangers associated with the trade-oriented self-regulations within TNCs” (Walters, 2009, 325). There are good reasons for thinking that globalization can yield positive benefits to human society, but this cannot happen if a tunnel vision psychology steers international financial institutions, transnational corporate activities, ethics, and the administration of justice. Against all prevailing adversities, we must be hopeful for, and persevering toward, a mitigated globalization – one where justice and benefits are available to, and accessible by, the global society and not just a section of it.

## REFERENCES

- Agarwal, A, Merrifield, J. and Tandon, R. (1985). *No Place to Run: Local Realities and Global Issues of the Bhopal Disaster*. Tennessee: Highlander Center and Society of Participatory Research in Asia.
- Amnesty International Report. (2004). "Clouds of Injustice: Bhopal Disaster 20 Years On - Summary," *Amnesty International Report ASA 20/015/2004*. (Author not listed.)
- Amnesty International - News. (2010). "First Convictions for 1984 Union Carbide Disaster in Bhopal too little, too late." 7 June 2010. Available at: <http://www.amnesty.org/en/news-and-updates/first-convictions-1984-union-carbide-disaster-bhopal-too-little-too-late-2010-06-07>
- Anderson, R. J. (2010). "Reimagining Human Rights Law: Toward Global Regulation of Transnational Corporations." *Denver University Law Review*, Vol. 88, No. 1: 236.
- Banerjee, B. N. (1986). *Bhopal Gas Tragedy: Accident or Experiment*. New Delhi: Paribus, Publishers.
- Bennett, M. C., Burke, J.T., and Vermuelen, F. James T. Burke and Freek. (2005). "Union Carbide, Bhopal." London Business School, (Case Study). Accessed 18 June 2013 at <http://www.london.edu/facultyandresearch/researchactivities/birlaindiacentre/publications.html>
- Bhalla, S.S. (2002). *Imagine There's No Country: Poverty, Inequality, and Growth in the Era of Globalization*. Washington: Institute for International Economics.
- Bhopal Group for Information and Action. (2000). "Union Carbide Disaster in Bhopal, Fact Sheet." Bhopal: Bhopal Group for Information and Action, December 2000.
- Bowonder, B., Kasperson, J.X., and Kasperson, R.E. (1984). "Avoiding Future Bhopals." *Environment*, Vol. 27, No. 7 (September): 6-37.
- Broughton, E. (2005). "The Bhopal Disaster and its Aftermath: A Review." *Environmental Health: A Global Access Science Source*. Vol. 4,, No. 6. Available at <http://www.ehjournal.net/content/4/1/6>
- Browning, J.B. (1993). "Union Carbide: Disaster at Bhopal." In *Crisis Response: Inside Stories on Managing Under Siege*. Ed. Jack A. Gottschalk. Michigan: Visible Ink Press. Accessed 23 June 2013 at: <http://www.bhopal.com/~media/Files/Bhopal/browning.pdf>
- Chouhan, T.R. (1994). *Bhopal: The Inside Story. Caribde Workers Speak Out on the World's Worst Industrial Disaster*. New York: The Apex Press.
- Dhara, V. R. and Dhara, R. (2002). "Union Carbide Disaster in Bhopal: A Review of Health Effects." *Archives of Environmental Health*, Vo. 57, No. 5 (September/October): 391-404.

Eckerman, I. (2005). *The Bhopal Saga: Causes and Consequences of the World's Largest Industrial Disaster*. Hyderabad: Universities Press.

Economist. (1992). "Let Them Eat Pollution." *Economist* (London). 8 February.

Environmental Rights Action/Friends of the Earth. (2005). *Gas Flaring in Nigeria: A Human Rights, Environmental and Economic Monstrosity*. Environmental Rights Action/Friends of the Earth: The Netherlands.

Ezeonu, I. (2008). "Crimes of Globalization: Healthcare, Poverty, and the Crimes of Neoliberalism in Sub-Saharan Africa." *International Journal of Social Inquiry*, Vol. 1, No. 2: 113-134.

Fletcher, I. C., Ono, T., and Roy, A. (2005). "Justice for Bhopal." *Radical History Review*, Issue 91 (Winter): 7-12.

Friedrichs, D. O. (2007). "Transnational Crime and Global Criminology." *Social Justice*, 34(108): 4-18. See p.5.

Friedrichs, D. O. and Friedrichs, J. (2002). "The World Bank and Crimes of Globalization: A Case Study." In *Social Justice* Vol. 29, Nos. 1-2: 13-36.

Fink, Steven. (1986). *Crisis Management: Planning for the Inevitable*. New York: Amacom.

Giddens, A. (1999). *Runaway World*. London: Profile Books.

Groarke, L. (2000). "Can Capitalism Save Itself: Some Ruminations on the Fate of Capitalism." In John Douglas Bishop (ed.), *Ethics and Capitalism*. Toronto: University of Toronto Press: 196-217.

Hager, R. (1995). "Bhopal: Counting Disaster." *CovertAction*, Summer: 38-56.

Held, D. (2004). *Global Governance* Cambridge: Polity Press.

Helleiner, G.K. (2001). "Markets, Politics, and Globalization: Can the Global Economy Be Civilized." *Global Governance*, vol. 7: 243-263.

Hill, R.P. and Rapp, J.M. (2008). "Globalization and Poverty: Oxymoron or New Possibilities?" *Journal of Business Ethics*, Vol. 85: 39-47

Howard-Hassman, R. (2010). *Can Globalization Promote Human Rights?* Pennsylvania: Pennsylvania University Press.

(ICMR Report 2010) Indian Council of Medical Research. (2010). *Health Effects of the Toxic Gas Leak from Union Carbide Methyl Isocyanate Plant in Bhopal: Technical Report on Pathology and Toxicology (1984-1992)*. New Delhi: Indian Council of Medical Research.

Izarali, M. R. (2011). "Mitigating Globalization With Basic Human Rights to Protect Basic Human Needs." *Global Studies Journal*, Vol. 3, No. 4.

Mathur, C. and Morehouse, Ward. (2002). "Twice Poisoned Bhopal: Notes on the Continuing Aftermath of the World's Worst Industrial Disaster." *International Labor and Working Class History*, No. 62 (Fall): 69-75.

McMurtry, J. (1998). *Unequal Freedoms: The Global Market as an Ethical System*. Toronto: Garamond Press.

Mishra, P.K., Samarth, R.M., Pathak, N, Jain, S.K., Banerjee, S., and Maudar, K.K. (2009). "Bhopal Gas Tragedy: Review of Clinical and Experimental Findings After 25 Years." *International Journal of Occupational Medicine and Environmental Health*, vol. 22, No. 3: 193-202.

Monshipouri, M., Welch, C.E., Jr. and Kennedy, E.T. (2003). "Multinational Corporations and the Ethics of Global Responsibility: Problems and Possibilities." *Human Rights Quarterly*, Vol. 25: 965-989.

Morehouse, W., and Subramaniam, M.A. (1986). *The Bhopal Tragedy: What Really Happened and What it Means for American Workers and Communities at Risk*. New York: Council on International and Public Affairs.

Pogge, T. (2002). *World Poverty and Human Rights*. Cambridge: Polity.

Payne, C.L. (2009). "Brining Home the Bacon or Not? Globalization and Government Respect for Economic and Social Rights." *Human Rights Review*, Vol. 10: 413-429.

Pillay, S. (2006). "Absence of Justice: Lessons from the Bhopal Union Carbide Disaster for Latin America." *Michigan State Journal of International Law* Vol. 14: 478-519.

*Report of the ICFTU-ICEF Mission*. Author (s) not listed. Undated. Obtained from the Sambhavna Clinic, Bhopal.

Robertson, C. and Fadil, P.A. (1998). "Developing Corporate Codes of Ethics in Multinational Firms: Bhopal Revisited." *Journal of Managerial Issues* 10.4.

Rogge, M.J. (2001). "Towards Transnational Corporate Accountability in the Global Economy: Challenging the Doctrine of Forum Non Conveniens in Re: Union Carbide, Alfaro, and Sequihua and Aguinda." *Texas International Law Journal*, Vol. 36, No. 299: 298-317.

Sarang, S. (2002). "Crimes of Bhopal and the Global Campaign for Justice." *Social Justice*, Vol. 29, No.3: 47-52.

Sarang, S. (2009). "Global Industrial Disaster, National State Failure and Local Self-Provision of Health Care." *Global Social Policy*, Vol. 9, No. 3: 316-318.

Sharma, H. R. (2009). "Globalizing Disaster, Provincializing Law: Bhopal 25 Years Later." *Global Social Policy*, Vol. 9, No. 3: 321-324.

Shiva, V. (1999). "Ecological Balance in an Era of Globalization." In *Global Ethics & Environment*, ed., Nicholas Low, 47-69. London: Routledge.

Singer, P. (2004). *One World: The Ethics of Globalization*. New Haven: Yale University Press.

Shrishti. (2002). *Surviving Bhopal 2002, Toxic Present – Toxic Future: A Report on Human and Environmental Chemical Contamination around the Bhopal disaster site (For the Fact Finding Mission on Bhopal)*. New Delhi: Srishti, January.

- Stiglitz, J. (2002). *Globalization and its Discontents*. London: W.W. Norton & Company.
- Stiglitz, J. (2008). "Making Globalization Work." *The Economic and Social Review*, Vol. 39, No. 3 (Winter): 171-190.
- Summers, L. (1992). "Let Them Eat Pollution." *Economist* (London), 8 February, p.66.
- Trotter, R. C., Day, S.G., Love, A.E. (1989). "Bhopal, India and Union Carbide." *Journal of Business Ethics*, Vol. 8: 439-454.
- Trouillot, M. (2002). "The Perspective of the World: Globalization Then and Now." In *Beyond Dichotomies: Histories, Identities, Cultures, and the Challenge of Globalization*, ed., M. Elisabeth Mudimbe-boyi. Pp.3-20. New York: State University of New York.
- [www.unioncarbide.com](http://www.unioncarbide.com)
- Walters, R. (2009). "Bhopal, Corporate Crime and Harms of the Powerful." *Global Social Policy*, Vol. 9, No. 3: 324-327.
- Zavestoski, S. (2009). "The Struggle for Justice in Bhopal: A New/Old Breed of Old Transnational Social Movement." *Global Social Policy*, Vol. 9, No. 3: 383-407.