

# 777

The newsletter of the Bhopal Medical Appeal, October 2003



## The killer plant that keeps on killing

In Union Carbide's abandoned pesticide factory in Bhopal, deadly chemicals lie exposed in the open air. Eighteen monsoons have washed the poisons deep into the soil - and into local drinking wells. [Read the full story on page 4.](#)

# SAAT SAAT



Nightmare  
without end  
page 4



Carbide's factory  
still killing  
page 6



What we are  
doing  
page 8



Successes  
(and failures)  
page 10

## together together together

This newsletter's name arose from an attempt to capture the spirit of the Bhopal Medical Appeal. Someone suggested, 'saat, saat, saat', which in Hindi means 'together, together, together', but with a slight twist of the tongue could also mean 'seven, seven, seven.'

The Appeal was launched in 1994, when a man from Bhopal came to Britain to tell whoever would listen about the calamitous condition of the still suffering victims of the Union Carbide gas disaster. Those who met him learned that after ten years, the survivors had received no meaningful medical help. (Unless one is prepared to accept that aspirin is a cure-all for the dreadful illnesses visited on them.)

The survivors realised that they must help themselves, because nobody else would. They wanted to open their own free clinic for gas victims. They were joined in the UK by a few individuals who put the mechanics of the Appeal together. They were in turn joined in this effort by you, and other like minded people.

'We' means all of us, all together.

Our first appeal, which appeared in *The Guardian* and *The Observer* on the 10th anniversary, produced a response so generous that we were able to buy a building, recruit doctors and staff and open the clinic.

To date our Sambhavna Clinic has treated more than 12,000 people. We employ thirty staff, roughly half of whom are themselves gas survivors. We carry out valuable studies (one of which has just been published in the *Journal of the American Medical Association*), inform, educate and train people in gas affected communities to monitor their health. Working to a principle of 'first do no harm' we have pioneered new treatments combining modern medicine with traditional ayurvedic herbal medicine and yoga. Our work has won a string of humanitarian awards.

We have bought the land to build a larger clinic, with a garden for the medicinal plants used in our treatments. Now we need to raise more money for the expanded work. We have never accepted funding from companies or corporate trusts. Companies and governments are directly responsible for the suffering of the Bhopal survivors. Always, they want something in return for their money. We will not deal with them. All the funds we have ever collected have come from our own pockets.

In the Bhopal Medical Appeal 'we' don't ask 'you' to help 'us' help 'them'. The Appeal and the Sambhavna Clinic are shared efforts between those of us who are survivors, those of us who run the Clinic and the Appeal and those of us who support the effort with our money and by volunteering our skills or just our enthusiasm. This is our vision, that all of us are equal in an unbroken chain between supporters at one end and gas survivors at the other. Thank you for being part of it. The people in Bhopal have a lot to give back to the rest of us. Please read on, and let's carry on the good work we've begun together.

# SAAT

**FOR MERITORIOUS SERVICE.** The Sambhavna Trust was awarded the 1999 Tajiri Muneaki prize for 'meritorious services rendered to the victims of Bhopal gas disaster'. The award is given in memory of the late Tajiri Muneaki, a Japanese campaigner against industrial pollution and occupational hazards. Amongst the other co-prize winners that year were the late Teruo Kawamoto, who fought for the rights of victims of the Chisso Corporation in Minamata.

**FOR HUMANITARIAN WORK.** On September 7, 2001, Sambhavna was presented the Inner Flame Award 2001 by the Governor of Madhya Pradesh, Dr. Bhai Mahavir, for 'outstanding humanitarian work and excellence in deed'.

**FOR COMPASSIONATE ACTION.** The Spring 2002 Mead Award - the final such Award to be given in conjunction with the Mead Centennial celebration - was awarded to the Sambhavna Clinic. The

## Sambhavna's awards

Awards honour organisations that reflect Mead's sense of the relevance of anthropology to social action: groups that have demonstrated effective, imaginative, compassionate actions on race, gender, culture, environmental justice, child rearing and self-empowerment within communities. The Sambhavna Trust was given this award for exemplifying Margaret Mead's famous words: 'Never doubt that a small group of thoughtful committed citizens can change the world.'

On October 8th the hugely influential Journal of the American Medical Association published a Sambhavna study which for the first time proved conclusively that even children conceived and born after the disaster

## JAMA article

have been affected. It shows that there are potentially thousands of such children who will need special medical attention and care (possibly all their lives) raising the question of compensation. It also adds to scientific knowledge of methyl isocyanate, corroborating a 1987 animal study done by Dr. Daya Varma at McGill University, Montreal. In 1985 the Indian Council of Medical Research had begun a study similar to ours and found differences in anthropomorphic measurements. That study was wound up incomplete in

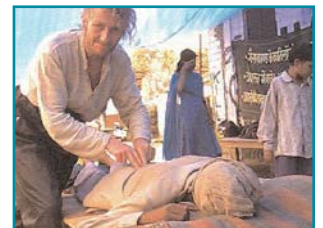
1992 despite praise from the Chairman of the Scientific Commission on Bhopal in 1988 and the pleas of the principal investigator that it be allowed to continue until the children reached puberty. Our study fills this crucial gap and demonstrates the value of what you and all of us together, saat saat saat, are accomplishing.



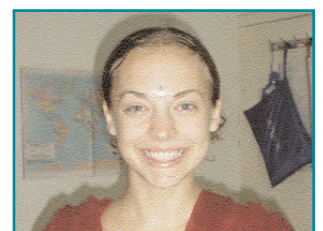
Planting a herb garden in Bhopal  
page 12



The new clinic  
page 12



Ways to help the Clinic  
page 14



Voluntary adventures  
page 16

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THE FAMOUS PICTURE ON THE RIGHT was taken on the morning after the disaster by Magnum photographer Raghu Rai. He remembers that the child's father, unable to bear the thought of never seeing her face again, had brushed away the earth for one last lingering look.

What he saw that day - heaps of twisted bodies lying in the streets, agony of blinded and choking survivors, the lamentation of a destroyed city - traumatised Raghu, who has rarely been back to Bhopal. However last year he returned to take a new set of pictures. Like most people not directly involved in the Bhopal campaigns for health and justice, he expected that things must have improved in the nearly two decades since the disaster. He was appalled. The pictures he took on this second visit can be seen on

[http://www.greenpeace.org/features/details?features\\_id=22086](http://www.greenpeace.org/features/details?features_id=22086)



PHOTOGRAPHS: RAGHU RAI

# And men shall the

Today, nineteen years after the disaster, more than 130,000 people in Bhopal are still seriously ill. People are dying at the rate of one a day from injuries sustained on THAT NIGHT. Thousands have lost their livelihoods. Many are now homeless beggars. Their breathless bodies no longer able to push handcarts and lift heavy loads, they have fallen into utter destitution. Many have been reduced to begging and their families have learned the lessons of the abyss, binding rags tightly round their middles to create the illusion of full stomachs,

giving children crying and sleepless from hunger water to swell their empty bellies.



Since the disaster, the city has experienced epidemics of cancers, menstrual disorders and 'monstrous births' but treatment protocols have hardly advanced beyond the state of ignorance that prevailed immediately after the disaster, when doctors did not know which poisons had leaked. Subsequent attempts to devise effective treatments have been hampered by the company's continuing refusal to share information it holds from 60

years of studies on the toxic and mutagenic effects of MIC - the main gas that leaked. Union Carbide and its new owner Dow Chemical claim the data is a 'trade secret', but the damage done by MIC is by now catastrophically clear. For more on this, see

<http://www.bhopal.org/achildisborn.html>.

For twelve years Carbide's executives have been ignoring the summons of a Bhopal court to answer criminal charges of 'culpable homicide' for a death-toll that continues to mount and which already exceeds 20,000.

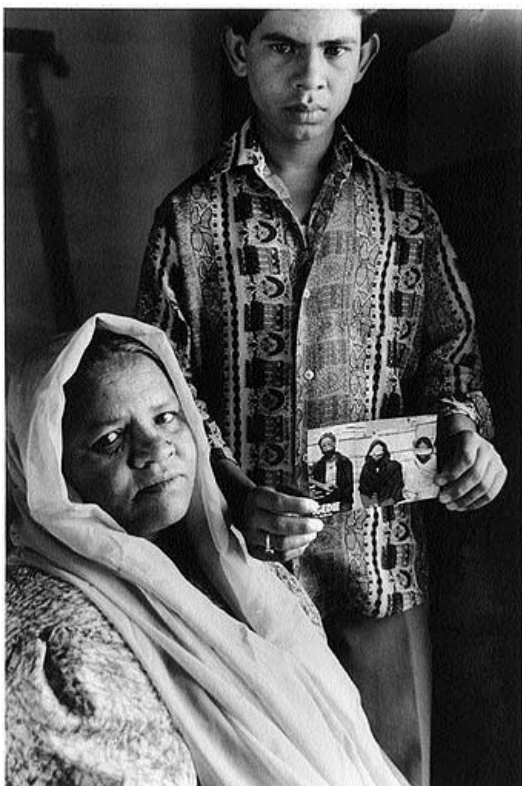
While the case drags on many survivors have not received a single cent in compensation for their injuries and years of suffering. Of those who have, more than 90% got less than \$500 – a typical sum being around \$280, never enough to buy medicines. Over nineteen years, it works out at around 7 cents a day, which just about buys one cup of tea, even in Bhopal. By contrast (as the Times of India complained) Alaskan sea otters harmed in the Exxon Valdez disaster were fed airlifted lobster at a cost of \$500 per day, per otter.

Meanwhile a new generation of Bhopalis is being poisoned by chemicals abandoned by the company at its now-derelict factory. In December 1999 Greenpeace reported that soil and groundwater in and around the plant were contaminated by cancer- and birth-defect causing heavy metals and organochlorines. A February 2002 study found mercury, lead and organochlorines in the breast milk of women living in nearby communities. The company says it will not pay for the clean-up of the factory site. (See our story on p6.) The pain goes on and on.



# drink blood of men

SUNDAR BAI WAS SIX MONTHS PREGNANT when the gas leaked. She already had two healthy sons. The night of the gas she suffered burning in the lungs and eyes, froth came from her mouth. the baby was born dead after eight and a half months. It had a very small head, was greenish blue in colour and its flesh had become gelatinous. A year later she had a miscarriage. A year after that she had another. Her youngest child, a baby girl was born six and a half years after THAT NIGHT and lived one and a half months. The day she died she threw up froth through her nose and her stool was dark red. In 1993 Sundar Bai gave birth to a daughter, Guriya, now eight years old. A very beautiful child when we met her in April 2002, she was healthy until nine months ago. Now she too is showing all too familiar symptoms: constant fevers, body aches, breathing problems, chest pains and so on. She is now a dull counterfeit of the bright faced gamine we met last year.



Sundar Bai says, 'Diseases have got stuck to us like insects drinking our blood.' Her neighbour remarks, 'There is a prophecy in the Quran that men will drink the blood of men. It is being proven true in Bhopal.'

LAST JULY JON SNOW AND HIS CHANNEL 4 FILMCREW visited Bhopal at our invitation. Jon saw the neighbourhoods where people died in 1984. He met women to whom badly damaged children have been born. He saw and smelled their poisoned drinking wells. Finally, we arranged for him to visit Union Carbide's derelict factory.

It is hard to describe the impact of the place. The huge 66 acre site is reverting to jungle, out of which ruined industrial structures rise like temples to some failed religion. The floor of the abandoned control room is strewn with Carbide papers from nineteen years ago. The dial which read the outlandish pressure in the MIC tank is still jammed on overload. Globes of mercury, spilled long before the disaster, still gleam on the ground.

Nature seems desperate to erase all traces of Union Carbide. Lantanas choke the pipework of the fatal MIC unit. Woody finger-thick vines have swarmed to the top, more than a hundred feet above ground, wrapping themselves round ladders and safety rails, as if to strangle and rip down the hated plant. No birds sing. On the highest platform, you can reach out and touch the stack of the vent-scrubber from which the poisons escaped, its paintwork still blistered black from the heat of the gases that roared through it on THAT NIGHT.

Up by the stack, there is a fine view over the city. You can see all the neighbourhoods where the gases worked their slaughter. Directly ahead, across the boundary wall is an unplanned chaos of shacks: Jayaprakash Nagar, in whose narrow unlit lanes thousands perished. It's where our friend Sunil used to live, who lost his mother and father and five of his eight brothers and sisters on THAT NIGHT. Bhoora Khan the rickshaw-driver who hangs around outside our clinic also lived there, in a tiny house he built himself, near a well whose water now stinks of chemicals.

Look beyond Jayaprakash Nagar and you can see Bapna Colony, with Kabadkhana and Ibrahimganj further to the south. Chhola Naka and Phuta Maqbara lie to the east, Qazi Camp to the west, killing grounds all. On the right, heading straight for Chowk in a haze of bus and truck exhausts is Berasia Road. On THAT NIGHT it was a river of people, some in their underclothes, struggling as if in the last stage of a marathon, falling, not getting up. Aziza Sultan, who works at our clinic, was two months pregnant. She lost her baby as she ran. Her womb simply opened and the fetus fell out. (You can read Aziza's story at <http://www.bhopal.org/aziza.html>) She lost her child at the Bhopal Talkies crossroad. It's over there, by the dome of the nearby Shi'a mosque where the followers of Imam Hussain firewalk on the eve of Muharram.



The MIC plant is now lost in jungle



E-610, the fatal MIC storage tank



The vent scrubber still black and blistered



The 'rocks' that could release MIC again

Local people say the factory is haunted. In some places not even grass will grow. In others wild sandalwood has seeded and turned into trees. The site is crawling with cobras. last year two rabid dogs were living there. (Pics on <http://www.bhopal.org/factory.html>)

Lost in undergrowth is a rusting tank, big as a steam locomotive. On THAT NIGHT this tank - E-610 - blew, smothering Bhopal in methyl-isocyanate, a gas 500 times more toxic than cyanide. The factory in West Virginia used tanks a fraction of the size. The company's safety rules required that the tank be kept no more than 40% full and at no more than 5 degrees above zero. But on THAT NIGHT tank E-610 was 70% full and local managers, told by their US bosses to cut costs, had some months earlier shut down the refrigeration unit to save on freon gas. Survivors always wondered how much was saved, to make it worth risking the lives of a city. Last November, private Carbide papers came into our hands and we had the answer. \$37.68 a day.

Still  
killing  
after  
all  
these  
years

Tank E-610's thick sides are buckled. The explosions that took place in its steel gut were so violent that they broke the tank out of its underground concrete bunker. The tank is empty now, but something was beginning to irritate the skins of the camera crew. Jon put his finger to his lips and said, 'I'm tasting chemicals, but this plant closed eighteen years ago.' In his report from Bhopal he at one point stands in front of a large heap of reddish rocks. They are actually chunks of carbaryl, a potent poison and potential carcinogen marketed by Union Carbide under the brand name Sevin. Jon told his audience, 'Twice in the last twelve months, I have stood at the seat of great devastation - Manhattan, and here in Bhopal. Yet Ground Zero was cleared within eight short months. Here, eighteen long years on, where three times as many people perished, the place is still uncleared.'

The shocking, unforgivable fact is that Union Carbide has never bothered to clean up its factory. Warehouses and open-air sheds hold hundreds of tons of toxic chemicals in rotting drums and sacks. The 'rocks' are weeping a thick, deadly tar. Each monsoon chemicals from the factory, among them heavy metals and organochlorines, wash down into the earth. They have polluted the aquifer which feeds local drinking wells. A 1999 Greenpeace study found cancer- and birth-defect causing toxins in well water. 20,000 people are drinking and washing in dilute poison. Even people who came to Bhopal since 1984 have been suffering illnesses similar to those of the victims of the 1984 disaster. Deaths and horror births continue. In January 2002 women in Jayaprakash Nagar learned that they have been feeding poison to their babies via their breast milk. (<http://www.bhopal.org/ganesh.html> for medical testimony on birth defects.)

Union Carbide and its 100% owner Dow Chemical say that the factory poses no threat to drinking water. But they know it does. In a box beside me as I write this are over 1,000 pages of private Carbide documents. Among them is a report, never meant to be seen by anyone outside the company, which reveals that in June/July 1989, five years after the disaster and a full decade before Greenpeace's study, Union Carbide already knew that soil and water in its factory site were lethal. Carbide said nothing, warned no one, and did nothing to clean up. Instead its bosses, knowing all along that local people ran the risk of being slowly poisoned, went on telling them their drinking water was safe.

What sort of men do this, knowing that the communities being poisoned are those whose lives the 1984 gas leak has already devastated?

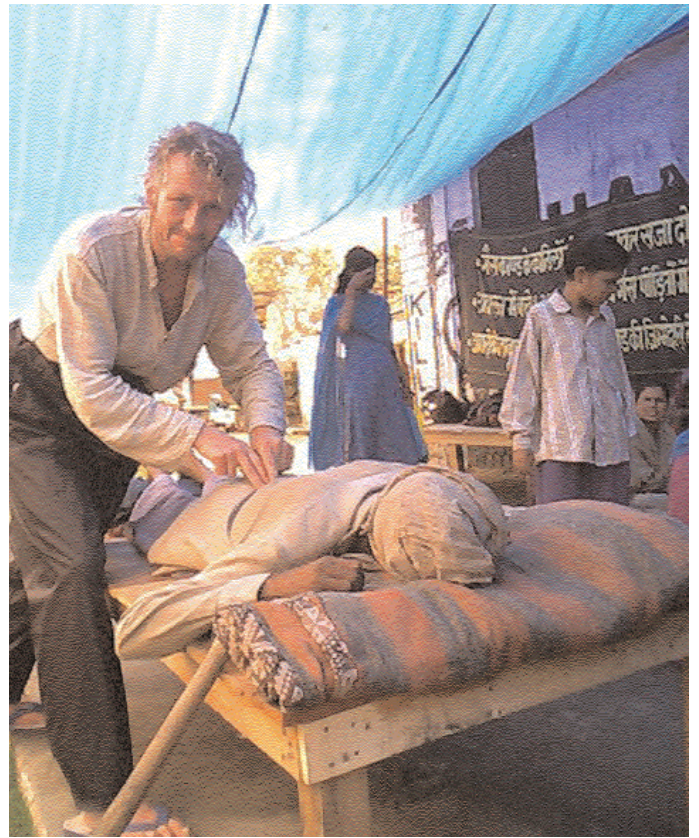
IN A SHADY COURTYARD under a spreading mango tree people wait to be seen by our doctors. Some glance through newspapers, others chat, or read through the medical materials we have prepared for them. People are relaxed. There is laughter. Upstairs on the flat roof, is a herb garden and an airy room where Nivritta is teaching yoga breathing, which has proved so effective in relieving the breathlessness that afflicts so many of Carbide's victims. Next door is the small room where Biju gives panchakarma therapy and massage to ease their aches. Biju has been trained in chiropractic too, by Steve Doctor, a volunteer who comes every year.

On this typical day at Sambhavna, everyone is easy, the atmosphere is tranquil. Hard to imagine that the nearby streets once rang with screams and the cries of choking, dying people. But just half a mile away, in a site heavily salted with dangerous chemicals and fast returning to jungle, stand the gaunt remains of Union Carbide's pesticide plant, the cause of two separate medical disasters.

Some of those who come to us carry in their bodies the legacy of that night of poison nineteen years ago. Others weren't in Bhopal, or weren't even born, at the time, but have become ill by drinking water poisoned by chemicals leaking from the abandoned plant. Sambhavna accepts and treats free of charge, people who have been injured by drinking contaminated water. Government hospitals and the hospital built from the sale of Union Carbide's confiscated shares refuse to treat the 'water-victims'.

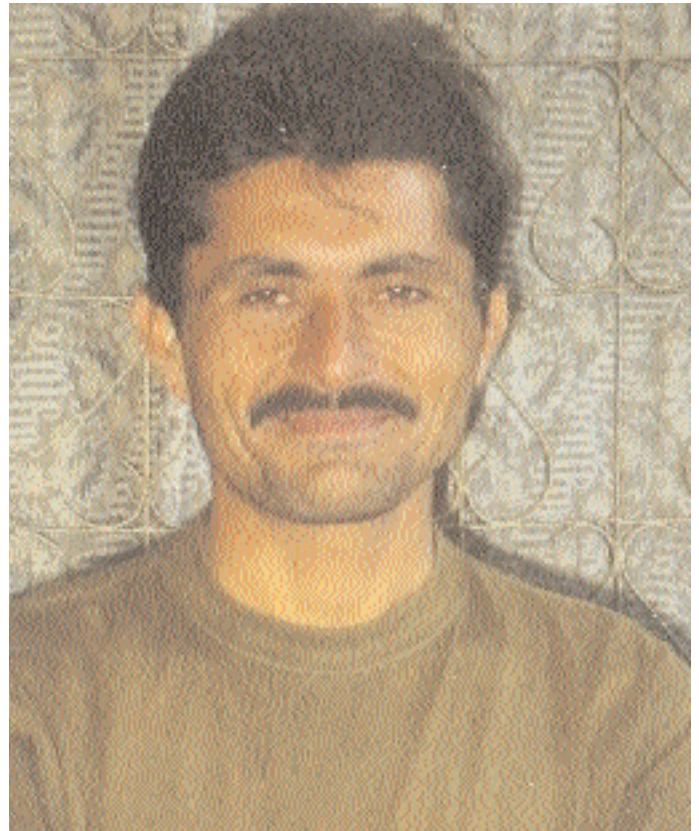
Our community health workers recently did a survey among the 1528 residents of Annu Nagar, a shantytown just across the railway track from the factory. 91% were drawing water from contaminated hand pumps. Half suffered a plethora of symptoms - the commonest being abdominal pain followed by giddiness, chest pain, headaches and fevers - that we have seen over and over again among gas-victims. Nearly half of teenage girls aged 13 to 15 had not yet begun their periods. This was an important finding because there is menstrual chaos in Bhopal. Girls who were toddlers, or in the womb, on THAT NIGHT come to see Aziza, our gynaecological health worker, complaining of no periods for four months, or three in a month. Now the water-victims are experiencing the same thing. Aziza, herself a gas-victim, regularly hears their stories at the health camps she organises in local communities, where women come and talk to her about their problems.

On this typical day here comes Ramesh-bhai on his bicycle, back from Annu Nagar, where he has been checking up on TB patients. He



Volunteer chiropractor Steve Doctor at work

# A day at



Ramesh, whose favourite word is 'lekin' (but)



Mahindra is this month's clinic co-ordinator

# Sambhavna

and others have also been busy rallying another local community, in Atal-Ayub Nagar to demand clean drinking water from the council. They stuck up posters everywhere to alert people about the danger of drinking poisoned water and organised three anaemia screening camps (hardly anyone had normal haemoglobin levels). Six 1000 litre fresh water tanks have now been installed and are kept filled by water tankers.

Meanwhile downstairs in the pathology lab, Mahindra is taking a blood sample. Sathyu is on the phone trying to arrange free surgery for a woman whose biopsy has revealed a malignant lump on one breast. In his dispensary nearby Kamal is making up prescriptions of modern (allopathic) drugs and herbal (ayurvedic) medicines. Our doctors Qaiser and Deshpande (allopathic and ayurvedic respectively) cope every day with incredible caseloads. They cross-refer cases and consult together in what must be a unique collaboration between convention and alternative medicine.

Outside, in the mango shade, Sunil is humming as he clips news stories relevant to our work. Sambhavna's Documentation Centre holds what is probably the world's most complete collection of original source material about the Union Carbide gas disaster. At his desk in the centre, surrounded by dusty files, our administrator Mr Chowdhry is keeping track of monies spent - so much this month on allopathic drugs, so much on herbal treatments.

One can't mention all our staff in this short space which is a pity because they are heroes every one. All decisions are taken communally at a weekly meeting where people speak their mind. We eat together at lunchtime, al fresco on the roof under the mango branches. The food is simple vegetarian and a chai-wallah brings Bhopali tea (spiced with cardamom and ginger, sugar and a pinch of salt). Bhoora Khan the auto-rickshaw driver is usually about nearby if you (speaking now to potential volunteers) need to get around Bhopal.

This summer the clinic lost a great friend and Bhopal one of its great characters. Ustad Abdul Latif Khan (the word ustad signifies 'maestro') was probably India's most famous sarangi player. A sweet man of unfailing courtesy and great honesty, he was patriarch of a fifty-strong clan of sons, daughters, grandchildren and great grandchildren. On the night of gas, Ustad and his family were in their house in the Old City. Outside, the deadly panic was beginning. He refused to run, saying, 'If we have to die then let us die together, with dignity.' He told them to seal doors and windows, thus saving their lives, as those who ran out into the gas perished.



Ustad Abdul Latif Khan, who died this summer



Sathyu Sarangi, Managing Trustee of Sambhavna explains why we place such a high emphasis on finding natural ways to treat illness, using herbal therapies in conjunction with modern medicine.

"WHAT SOME OF US FEEL is that modern medicine propagates and perpetuates a very violent world view which is absent from traditional systems of therapy. Modern medicine says, there's an infection, we'll go in hard, we'll blitz it and kill it. Chemical agriculture has the same mindset. In Carbide's factory they used to make systemic pesticides which would joyride in the blood and damage every organ and thus kill insects. Only 1% of such a pesticide does what it's supposed to do. The other 99% kills everything else: insects, fishes, birds and animals all down the line, through a process of bio-magnification and accumulation in the bodies of the animals.

If you look at the other systems, Aryurveda, yoga, acupuncture, the Chinese traditional systems, they don't look at a health problem in isolation, but realise that it is the result of many factors. It's a different way of looking at health, disease and life." At Sambhavna we do not underestimate the power and capabilities of modern medicine for doing good, neither do we want to be over-reliant on it. We realised early in our work that many drugs used to treat gas victims were actually doing harm. So we introduced yoga as a drug-free therapy and ayurveda as a therapy based on medicinal herbs. When someone comes to Sambhavna, they can choose for themselves whether they wish to be treated with modern allopathic medicine, ayurveda (traditional Indian herbal medicine) and or yoga. We are constantly looking for safe, effective and inexpensive ways to solve the health problems of the gas victims, and in so doing have pioneered treatments that combine the best of modern and herbal medicine, yoga breathing and exercises. The results are very encouraging.

# Our successes

Take an antibiotic for a stomach infection and it will wipe out the healthy bacteria, so there are none left to maintain the body's internal ecology. This kind of tunnel vision utterly loses sight of the interconnectedness within the body and of the body's connections with nature and the universe. It doesn't see all the other possibilities. It's modern technology providing non-working solutions to problems created by modern technology itself.

Regular health camps encourage people to form their own community health committees

## First do no harm

We hold to the principle of 'first do no harm' and do our utmost to avoid unnecessary and harmful drugs. We monitor the effects of our therapies and develop treatment protocols for specific complexes of symptoms.

## Records, monitoring

We have developed a good working system for recording and processing survivors' medical data. It confirms their history of exposure, helps us monitor their health and the efficacy

of the treatment they are receiving. Because we see a lot of chronically ill people, this method has significance in the search for long-term answers to their health problems.

## Demonstrating the value of ayurveda and yoga

We have shown the efficacy of ayurveda and yoga in treating gas-induced health problems and have succeeded in providing long-term and sustained relief with these therapies. We have done research studies and presented objective data to show the benefits of yoga therapy for exposure related problems. A 1997 research study documented improvements in lung function among survivors with chronic



respiratory problems who had opted to use yoga therapy. The study showed significant benefits and a reduction in the use of drugs. This paper was presented at the 16th World Asthma Congress, Buenos Aires, in October 1999.

#### Collecting medical data

We have generated a wealth of medical data that could help in developing a long-term strategy to address the health problems of gas-exposed persons.

#### Airing unmentionable issues

In the traditional society of Bhopal some health issues are neglected or shunted into the background, our community workers began interviewing gas-affected teenage girls about their menstrual problems and prepared a report based on the data and drew widespread attention to the problem.

#### Showing effects on the second generation

We gathered data on the physical development of children born in Bhopal between 1982 and 1986. The study shows that male offspring of exposed parents are shorter, lighter, thinner and have smaller heads than sons born to unexposed parents in the same period. Sons of exposed parents showed abnormal growth, their



The gynae education camp held in a severely gas-affected community attracted hundreds

medical care, the cause of death can be hard to determine. Dr Daniel Chandramohan of the School of Hygiene and Tropical Medicine, London, helped us develop the technique of verbal autopsy to track exposure-related deaths and to establish its legitimacy as a scientific tool for helping families seek redress and compensation for the loss of loved ones killed by Carbide's chemicals.

## (and failures)

upper bodies being disproportionately smaller than their lower bodies. The results of this important study were published on 8th October 2003, by JAMA, the influential Journal of the American Medical Association.

#### Community control of tuberculosis

We have created a working model for community control of tuberculosis, a disease which is a double problem because it stigmatises the victim. Our health workers identify people with TB, persuade them to undergo treatment, supervise and monitor their progress. Much of the work is shared by 'health leaders' who are recovered TB patients.

#### Encouraging and empowering local people

Our education campaigns and meetings have encouraged gas-affected communities to form local health committees. In four areas local volunteers now identify people in need of medical help, counsel them about treatments, organise meetings and hold health camps.

#### Pioneering the use of verbal autopsy

When someone dies at home without access to

#### Limitations and failure

The number of people offered care is only a fraction of the survivors in need. The distance of the clinic from badly-affected communities is a real problem for many people.

A substantial number of people treated have not received sustained relief and the problem of relapse of symptoms remains.

The patient-load on individual doctors is increasingly difficult to manage.

As yet we have not managed more than two epidemiological and clinical research studies on the long-term health consequences.

We have yet to start regular treatment of cervical cancer.

While the new larger clinic will help us to remedy many of these failings, it will mean a bigger budget. We need to raise significantly more funds than at present. Anything you can do or help directly or to help us fundraise will be gratefully welcomed.

AT THE SITE OF THE NEW CLINIC, we are planting an organic Ayurvedic herbal medicine garden. It will produce fresh herbs for making the Ayurvedic medicines used in the clinic, teach people organic gardening methods, about using medicinal herbs and demonstrate a home grown alternative to expensive, drug store variety health care.

#### Garden Journal: March 2003

Challenges. The garden's site used to be a brickworks and the red clay subsoil will need a lot of enriching. We have planted a 'green manure' cover crop to begin the process.

Bordering the land is an open 'nala', choked with plastic bags and garbage. During the monsoons, this overflows onto the land, depositing all of the garbage. We spent two weeks cleaning up before we could plant our cover crop. We will have to pick plastic bags out of the soil for years to come. It will take a strong stone wall to prevent this flooding.

The largest tree on the property is a lovely old tamarind, still standing tall although the soil around its roots has been severely eroded. We will build a protective wall around the base, and fill it with soil and good compost to help protect this tree, which is our favorite place to sit in the shade and cool off while working here.

#### Garden Journal: August 2003

The dampness has set in now, as we reach the middle of the rainy season here in Bhopal. The early rains came as dramatic afternoon thunderstorms blowing fast across the landscape. I stand on the roof of my apartment building and watch the lightning displays until they are too close and I run inside. The afternoon and evening rains cool things down and make nights pleasant for sleeping. Some days the sun glares down through the thick air enough to dry the laundry on the line. And in the open space across the way, boys splash and play in the seasonal pools, and muddy themselves in rowdy soccer games. Compared to the parching dryness and dust of the winter and summer seasons, the moisture in the air is welcomed by my skin and nostrils. The thirsty earth bursts forth in a lush green, luminous against the dark skies.

# Terry,

And in my garden the soil is transformed from hard dry bricks into thick sticky clay that clings to my sandals, adding inches to my height. Worms have come, and the cover crop I planted in March/April that I thought had been completely destroyed by heat and grazing has reemerged and is jumping toward the sky, along with a healthy crop of weeds. The wall is completed, keeping the overflowing nalla at bay and the ever hungry goats and cows away from the plantings. Jean Baptiste and Aude,

two organic farmers from France, came to volunteer. We built the first compost pile, weeded, and planted trees donated by a local shrub nursery.



The biggest project was digging the pond before it became too rainy to work. The pond will store rain water for

irrigating during the dry season. The work was done by hand by about 15 local men and women who completed the whole thing in a week. Now it is filling up, and I am anxious to see if the water will stay without having to put in a liner.

My attempts at seed sowing in my nascent plant nursery have all met with disastrous results, with everything succumbing to 'damping-off', a soil fungus that attacks and kills young seedlings, and obviously thrives under these monsoon conditions. With nothing resembling a 'sterile soil mix' available hereabouts, I think I'll try sowing into pure sand next. My other idea is to water the seeds with neem leaf tea. I'll let you know if it works.

#### Garden Journal: October 2003

As quickly as they came, the rains have ended. And the overabundance of water has just as quickly dried up. But I am impressed by our mulching. The soil is still moist and damp, even on the surface, in the areas where we have mulched.

# s garden diary

Our pond has filled up with water and now supports cypress grass and lotus. The lotus flowers look beautiful in early mornings, thrusting their deep rose flowers, crisp, clean and new, toward the sky. Lots of frogs leap into the water as you walk around the edge, and red-orange dragonflies dance their dance above the surface. Mohan says there is also a turtle, but I haven't seen it. I did see a big black water snake swimming swiftly around one day, but it slid into the grass when it saw me watching.

All around the boundary we have planted dozens of trees and hundreds of cuttings.

A short list:

Nirgundi a lovely shrub used for relief of headache, rheumatism, and fever, with anti-cancer activity; Giloy, a climber good for fevers; bougainvillea whose thorny branches will

become a crucial part of the live fence, and whose hot pink flowers will provide cheerful color even during the droughts. And this is just the beginning! We plan to add Shikakai, a thorny vine good for the hair, fragrant Indian roses, Karonda, a thorny fruiting shrub whose berries are good for pickles and jams, and Henna shrubs. (Email me if you want Latin names.)

Our plant nursery is now doing well. We started more than 120 varieties of medicinal plants and trees, and those that germinated and survived 'damping off' are now ready to go into the ground. We should be able to start planting in the next few days. We will directly sow many more varieties.

We used our first cover crop of Sorgham to make a nice pile of compost. And down on the low lying portion of the field near the nala we have planted a new set of nitrogen fixing, soil improving cover crops like alfalfa, red clover, and indigo. It is essential that we grow our own biomass for compost and mulching material, as there is no other local source.

The cover crops are planted between the trees in rows separated by newspaper and straw mulch to suppress weeds and conserve moisture. It is time consuming to plant this way, but I am sure it will pay off.

Trees we have planted so far include leguminous nitrogen fixers, good for biomass, plus lots of delicious vegetables, medicinal fruits, and trees with medicinal leaves and barks, such as Arjuna, Palash, Ashok, Neem, Cassia

spp., Gulmohar, Babul, Amla, Amaltas, Bel, Ber, Peepul, Banyan, tamarind, lemon, banana and papaya.



PHOTOGRAPHS: TERRY ALLAN

We hired two gardeners in mid-August, Mr. Amar Singh and Ms. Ratna Soni, and recently Sunil Lodi, a gas survivor with severe psychological problems, has joined

us for some horticultural therapy. In addition, several local volunteers have helped out regularly. They have learned a lot about compost making, seed sowing, cuttings, and transplanting. We all share our knowledge of different herbs, and bring in plants and seeds that we find in the villages.

Nivritta, the clinic's yoga instructor, has taught us several yoga exercises to help us strengthen and protect our backs. So things are off to a good start, and we are all excited to see what the place will look like in a few months. If you'd like to come and help, let me know.

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# New Clinic



SITE WORK HAS AT LAST BEGUN on Sambhavna's dream of a new clinic to improve and expand our services in the heart of the most severely gas-affected communities. Based on the vision and requirements articulated by Sambhavna staff and trustees, the new clinic is being designed as a model setting for integrated, holistic health care with community involvement, it will be a place where survivors receive their choice of allopathic or Ayurvedic health care in a tranquil, beautiful setting surrounded by herb gardens and natural vegetation. Located on a two-acre plot in Bapna Colony, less than half a kilometer to the south of the Union Carbide factory, the new clinic will be easily accessible to residents in the most severely affected communities of Jaiprakash Nagar in the North, Chhola and Phuta Maqbara in the east, Kabadkhana and Ibrahimgang in the south, and Qazi Camp in the west. The preliminary site work and organisational planning is complete. This includes obtaining official permits and permissions, drilling for water, installing an electricity supply, and fencing the perimeter. Nearing completion is a functional site building that includes a construction office, a garden office and workshop, a storeroom for cement and building materials and housing for the site's watchman. The expansion of Sambhavna's work with the creation of the new facility is expected to lead to a threefold increase in the trust's expenditure. We expect these additional funds to come from the same sources that we have relied upon over the past six years - small donations from over 5,000 people from all walks of life in India, the UK, US, and Japan. Authors Dominique Lapierre and Javier Moro have pledged a substantial portion of the royalties from their book Five Past Midnight in Bhopal, towards supporting the continuation and expansion of our work.



In addition to monetary contributions, we are hoping people will donate their expertise to the project. Specifically, we need help with the design of a solar electric system, a biological wastewater treatment system, and a rainwater harvesting/aquifer recharging system. Please contact us if you can help out in these areas.

WE TAKE CREDIT CARD DONATIONS VIA FREEFONE 0800 316 5577  
OR ELSE PLEASE USE THE ENCLOSED DONATION FORM

## 1. Help fund the work of the clinic.

Sambhavna costs about £2,600 per month to run including medicines, salaries, medical investigations, publications and all other costs. You could contribute to this core cost, or if you prefer, specify that your donation be used to fund specific activities. These include:

- Establishing a demonstration and production unit for herbal medicines. Cost £260 a month.
- Buying equipment. Currently we badly need an Ultra-sonograph machine for our general and gynaecology clinic. We've raised all but £2000 of the cost. Also three computers, one each for data entry, community research and pathology laboratory. A computer costs £460.
- Special projects. Panchakarma (traditional herbal detoxification treatment) provides sustained relief of many chronic conditions suffered by the gas-affected, like joint pain, breathlessness, backache, insomnia and anxiety. We want to employ a full time panchakarma doctor (cost £130 a month) and buy additional equipment (cost £800).

## 2. Volunteer at Sambhavna

Many of our volunteers from abroad have medical backgrounds, but non-medical volunteers also make valuable contributions and are welcome. The main thing is enthusiasm but the scope of work expands tremendously if you can speak Hindi. Volunteers come for a minimum of two weeks, often fitting in a stay at Sambhavna during a longer tour of India. Some of the things you may find yourself doing:

- the work of a physician, gynaecologist, cytologist, herbalist, or massage therapist
- video/audio documentation, cataloguing, drawings for health education material
- operate computer, update web site, organise documentation, write pamphlets, press releases, devise public education posters
- work with Terry in the organic garden, teach gardening and use of herbs to local people, accompany our community workers on their rounds (Volunteer comments on page 16)

## 3. Be an online medical advisor

People with medical skills can help with research studies and medical contacts

# Ways to help

- Research projects. Recent studies show that methyl-isocyanate is a potential carcinogen for humans. We would like to do a survey of cancer incidence in gas- and water-exposed communities. We would further like to find better ways to screen, diagnose, prevent and treat cancers in Bhopal. Such a study would cost £10,500.

- Staff training, seminars and workshops.

A two week training course costs £150 per person. Taking part in a seminar or workshop costs about £66 a person.

- Public education. Help publish a manual for survivors on preventing, treating and managing common exposure related diseases. Cost £1500 for 5000 copies. Community health education material costs us £500 a year.

- Public seminars, workshops and camps to educate local communities. Seminar/workshops cost £400 and a training camp £40.

- Help our volunteers. Our volunteers come from among the survivors and from all over India and the world. While they pay for their travel to Bhopal, Sambhavna offers free accommodation and meals to the volunteers. You could help by contributing towards these expenses which come to about £200 per month.

CREDIT CARD HOTLINE FREEPHONE 0800 316 5577

## 4. Help us fundraise in the UK

You can help by organising fundraising events, forming support groups, giving talks, holding exhibitions. We are trying to arrange for the Raghu Rai exhibition (see p4) pictures to be available and there are always people willing to give you more information and facts about the Bhopal disaster and its aftermath. Above all, the Bhopal Medical Appeal is about being a community of people striving to do something unique and valuable in the world, you could put us in touch with individuals and groups who are likely to enjoy being part of it.

## 5. Volunteer in London at PAN-UK's offices

There are about 5,000 of us in the UK (hooray) and newsletters like this one take a great deal of envelope stuffing and stamp-licking. This stuff-fest often takes place in London or Brighton. Be part of it! You could also come in to deal with the response, which is generally overwhelming.

## 6. Help prepare for the 20th anniversary

in December 2004. In particular we want to organise a benefit rock concert. Can you play a guitar? Know someone who can? Give Radiohead a ring? We need to move on this now!

THE DONATION FORM ALSO HAS ESSENTIAL CONTACT INFORMATION  
FOR VOLUNTEERING IN THE UK AND BHOPAL



Steve Doctor, Chiropractor  
Out of the mysterious web of human friendships and the medium of coincidence, I found myself volunteering my chiropractic skill to the gas survivors of Bhopal at the Sambhavna Clinic.

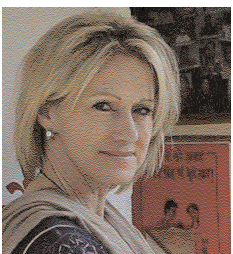
That was four years ago and to this day I remain deeply touched by, not only survivors' plight but also their spirit. Having trained a chiropractor at the clinic, I now help in the Bhopal justice campaign. I continue to visit Sambhavna and the dear friends I've made there. Sambhavna continues to inspire me. It's a sort of light in the darkness left behind by the Union Carbide chemical company. Sambhavna is an affirmation of human goodness: I feel honoured to have met so many good people through Sambhavna.

# Friends Volunteers

Rachna Patel: Surrey, UK. Researcher.  
July-August 2003. No words do justice to this place, the people and the work being done? What I have seen, heard, and participated in has opened my eyes to what this world is really like and how making a difference to just one person can be so uplifting. If only there were more like Sambhavna, the world would be, without a doubt, a better place!

Sean Zager: Michigan, USA. Medical Student.  
July 2003 Such incredible minds coming together to build a beacon of light in the world of medicine, politics, and human rights. I have never been part of a group like this, and it has taught me the power and possibility of change. How refreshing to see so many giving themselves to something bigger. May justice be served!

Patti Kodish: Florida USA. Research Assistant  
Feb 2003. All of the dedicated staff at Sambhavna have made a vision come true for me. Everyone is so warm and friendly, there's a collective spirit and genuine concern for the survivors of Bhopal. Keep fighting for what you believe in, for today's children and for those still to come.



Aude Penet: Toulouse, France. Organic Farmer.  
June-July 2003. It was a great pleasure to help Sambhavna. Such a good team, such a great organization, such a beautiful project with the new clinic and garden. I can't wait to see the pond full, the trees grown, and all of the plants, flowers and birds. I'm sure its going to be a wonderful, peaceful place. It's nice to see such big energy even after 20 years. We are with you in this fight. NO MORE BHOPALS! PLUS JAMAIS ÇA, NI ICI NI AILLEURS!



Jean-Baptiste:  
Lot, France.  
Organic Farmer.  
June-July 2003.  
We will be happy when the last boss is hung with the intestines of the last politician.

Maude Dorr: Rhode Island, USA. Photographer.  
November-December 2002. Volunteers come and go, but I admire those who have stuck to the cause for so many years - that is the great challenge. The people at Sambhavna continue in good humor and great spirit. I admire the freedom everyone has to have their say. Thanks for letting me be part of it.

Catherine Welch: Connecticut, USA. College Student.  
July-August 2003. A farmer named Terry came to my class one day to tell us of a tragedy which had begun when I was a year old. I said to myself, I have been ignorant too long - I must go, I must see, I must shout from the rooftops 'thousands of people have died here, don't turn your back on them.' Now I have come, and I have seen, and I have a new speech for these ancient rooftops: it was not death that ignited a passion in me here but life. More than anything I'll remember the sense of possibility, and hope, and love like I've never before known.



## Do you want to volunteer?

Everyone is welcome to come and live and work with us. Great if you have medical skills but more important is yourself and your enthusiasm. You could work in the Clinic, in the herb garden with Terry or out in the community. You'll stay in our guest flat, which is basic but clean. As a first step, please contact Sathyu Sarangi, Sambhavna Clinic,  
44 Sant Kanwar Ram Nagar, Berasia Road,  
Bhopal, Madhya Pradesh 462018, India.  
Telephone: +91 (755) 273 0914