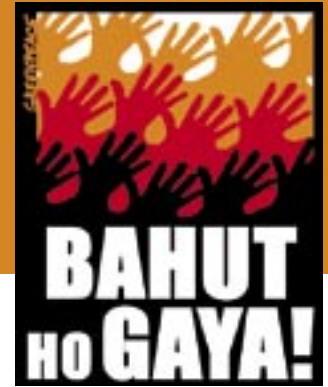


# Bahut Ho Gaya – Take Action Now!



**GREENPEACE**

The toxic poisoning of our country's natural resources – land, water, air – has reached a state of emergency, demanding immediate action. Greenpeace, independent scientists and civil society groups have presented enough instances of toxic chemical pollution and its impacts on human health and our environment. But despite years of conducting scientific investigations, exposing corporate crimes against the environment and campaigning for communities' Right to Know, we have seen little real change. Highly dangerous chemicals are still being recklessly dumped into the environment. Authorities continue to turn a blind eye to visibly dead lakes, rivers and other water bodies. Corporations continue to laugh all the way to the bank while communities who depend on the environmental resources they have polluted, have to live compromised lives, dealing with the destruction of their natural sources of livelihood, debilitating diseases, and premature deaths.

Impacted communities, with odds stacked against them, have struggled nonetheless, campaigning for the restoration of their most basic rights. The Supreme Court has issued directives that demand compliance of environmental legislation, and (in some cases) reactive action from Pollution Control Boards has called for the closure of chemical-spewing factories. But more often than not, the perpetrators have gone scot free, and business continues as usual.

As a direct result, we're now faced with irreversibly poisoned resources – rivers, lakes, groundwater, land and air. Chemicals are found in abundance everywhere, even in human blood and breast milk. Entire eco-systems are under threat. Weary of the corruption and lack of political will in the highest offices of the central and state governments, representatives of the impacted communities are now rallying together with Greenpeace, to issue a clarion call for justice,

**“Bahut ho gaya!” “Jarigindi chalu!” “Rhomba aachu!”  
“Khup zhaala!” “Bahu thai gayu!” “Mathiye mathi”  
“Enough is enough!” TAKE ACTION NOW!**

We are demanding that the Government should take immediate action and:

- **Shut down Polluting Factories that are violating the Supreme Court's directives on hazardous waste management;**
- **Rehabilitate and Remediate pollution-impacted workers, communities and environment;**
- **Invest in Clean Production practices;**
- **Make Corporations Accountable;**
- **Revamp the Pollution Control Boards at both, the centre and the state level.**



**GREENPEACE**

# **BAHUT HO GAYA!**

# BAHUT HO GAYA: A BRIEFING PAPER

## Bhopal - Madhya Pradesh

GREENPEACE



### Background

Twenty years after the 1984 gas leak in Bhopal, India, known as the "Hiroshima of the chemical industry," it remains the worst industrial disaster in human history. On the night of December 2nd - 3rd, a leak at Union Carbide's pesticide plant in Bhopal released more than 27 tons of methyl isocyanate and other deadly gases. None of the plant's six safety systems were functioning that night, due to Carbide's corporate cost-cutting and admitted use of "unproven" technologies in the design of the plant. Among the 500,000 people exposed to the gas, 20,000 have died till date and more than 20,000 continue to suffer the debilitating effects of the toxic poisons in their water.

### Present Status

SUPREME COURT MONITORING COMMITTEE ON HAZARDOUS WASTES

Report of visit to Bhopal (M.P.) on 7th April, 2004

**"...5) The (water) position in the various areas surrounding the defunct plant of Union Carbide (now taken over by Dow Chemicals) is as follows:**

**a) The Committee has been able to ascertain that a total of 13 communities are affected by the problem of their water supplies being contaminated by hazardous wastes from Union Carbide plant (scene of the 1984 industrial disaster).**

**These include the following: 1) Atal-Ayub Nagar; 2) New Arif Nagar; 3) Annu Nagar; 4) Nawab Colony; 5) Shri Ram Nagar; 6) Sundar Nagar; 7) Prem Nagar; 8) Blue Moon Colony; 9) Timber Market; 10) Chandbadi; 11) Garib Nagar; 12) Shiv Nagar and 13) Preet Nagar.**

**b) These communities (many of whom comprise gas victims) live in areas surrounding the Union Carbide/Dow Chemical plant.**

**c) The Madhya Pradesh Pollution Control Board (MPPCB) at Bhopal collected water samples around UCIL premises (within 2.0 km radius of factory premises) from the following locations in April 2003: Atal Ayub Nagar, New Arif Nagar, Arif Nagar, Annu Nagar, Kanchi Cholla, Near Dussera Maidan, Gareeb Nagar, Kanchi Chola Gali No.3, Near Ujjain Cabin, Blue Moon Colony, Preet Nagar, Solar Evaporation Pond and Rajeew Nagar.**

**d) The analysis of these samples reveals that the parameters viz. colour, turbidity and chlorides of some samples exceed the desirable limits of BIS-10500 whereas parameters viz. total hardness, total alkalinity, D.S. and fluorides exceed the said limits in most of the samples. Pesticides like lindane, Endosulfan-I, II, aldrin and B-BHC were detected in some of the samples.**

**e) In July 2003 the ground water samples were collected from the same locations. The analysis of these samples reveals that the parameters viz. colour, turbidity and chlorides of some samples exceeds the desirable limits of BIS-10500 whereas parameters viz. total hardness, total alkalinity and D.S. exceed the said limits in most of the samples. Pesticides like lindane, methoxychlor, Endosulfan-II, heptachlor, aldrin and dieldrin were detected in some of the samples.**

**f) In Oct. 2003, the ground water samples around UCIL premises were collected from almost the same locations. The analysis of these samples reveals that the parameters viz. colour and**



*Despite red markings on handpumps to indicate that the water is too contaminated to be used, the community in Bhopal has no option but to use this water. Picture by Vinuta Gopal.*

**chlorides of some samples exceed the desirable limits of BIS-10500 whereas parameters viz. total hardness, total alkalinity and D.S. exceed the said limits in most of the samples. Pesticides like lindane, Endosulfan I-II, heptachlor, aldrin, dieldrin, BHC, endrin and 4.4 DDT were detected in some of the samples. Halogenated hydrocarbon viz. 1,2,3, TCB is detected in some of the groundwater samples.**

**g) In Jan. 2004, the ground water samples were collected around UCIL premises and from almost the same locations. The analysis of these samples reveals that the parameters viz chlorides and fluoride of some samples exceeds the desirable limits of BIS-10500 whereas parameters viz. turbidity, total hardness, total alkalinity and D.S. exceed the said limits in most of the samples."**

Exposure to the gas leak, the contaminants on site and the contaminated groundwater have led to serious health problems amongst the Bhopal community. Survivors suffer from lung fibrosis, impaired vision, bronchial asthma, tuberculosis, breathlessness, loss of appetite, severe body pains, painful and irregular menstrual cycles, recurrent fever, persistent cough, neurological disorders, fatigue, weakness, anxiety and depression. Tens of thousands of children born after the disaster suffer from growth problems and far too many teenage women suffer from menstrual disorders. In the years following the disaster, the stillbirth rate was thrice as high, perinatal mortality was twice as high and neonatal mortality was one and a half times more than comparative national figures. Chromosomal aberrations in the exposed population indicate a strong likelihood of congenital malformations in the generations to come.

# BAHUT HO GAYA: A BRIEFING PAPER

GREENPEACE

## Patancheru, Andhra Pradesh



### Background

Patancheru houses some of the biggest manufacturers of bulk drugs and pharmaceutical formulations, assorted chemicals, pesticides, paper, pulp, paint and dye products. The unregulated release of waste effluents and sludge into the lakes and streams has resulted in severe contamination of the surrounding environment. The Central Pollution Control Board (CPCB) has identified Patancheru as one of 24 'critically polluted areas' and considers it in need of 'urgent attention for control of pollution'. The heavy metal concentrations in the water have increased between five to 20 times over the permissible limits, rendering many wells and tanks unusable. Investigations by National Geological Research Institute (NGRI) reported abnormally high quantities of arsenic, close to 700 times above permissible levels!

### Present Status

SUPREME COURT MONITORING COMMITTEE ON HAZARDOUS WASTES

Report of visit to Hyderabad (A.P.) 19-20 October 2004

**"...It appears that nothing has been learnt from the experience of Patancheru, Bolarum, Katedahn and Kazipalle areas and the contamination of several lakes and water bodies including the Nakkavagu and the Musi River. The destruction of underground aquifers on which ordinary villagers are dependent for their life and livelihood has not at all pinched the conscience of the State. For instance, when Patancheru and Bolarum industrial estates were started with many of the units not having even basic pollution control facilities, this led to the destruction of the ground water and agricultural lands of some 14 villages in the surroundings and pollution of the Nakka vagu, and several irrigation tanks and lakes. Despite this sorry development, two more industrial estates of Kazipally and Pasamailaram were started, leading to the contamination of ground water and lands of several additional villages."**

The deadly bio-accumulative chemicals in the environment are damaging the health of all living things in the locality. The decolourisation and peeling of the skin of buffaloes is a common sight. Elevated levels of arsenic have been found in the blood, urine, hair and nail of Patancheru residents. An epidemiological study conducted by Greenpeace in 2004 reveals abnormally high rates of pollution related illnesses like cancer, heart diseases, asthma and bronchitis. A status health report on health problems at Patancheru in 1998 submitted to the additional advocate general, AP high court by Osmania Medical College states that morbidity rates in the area have increased from 10.18% to 25.49% over a period of 10 years. The report also stated that inadequate and irregular supply of drinking water to the 14 villages predisposed them to the hazards of water pollution.



A stream of industrial effluents flows into the Kazipally lake in Patancheru.  
Picture by Shailendra Yashwant

# BAHUT HO GAYA: A BRIEFING PAPER

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## Eloor, Kerala

### Background

Barely 17km north of Kochi, Eloor, an island of 11.21 square kilometers, has the dubious distinction of housing the largest industrial belt in Kerala. There are more than 247 factories, including the only DDT-producing facility in India (Hindustan Insecticide Limited) and many others manufacturing a range of things; chemical-petrochemical products, pesticides, rare earth elements, rubber processing chemicals, fertilizers, zinc/chrome compounds and leather products. Most of these units have been here for the last fifty years and use extremely obsolete and polluting technologies. The Periyar is their water source and dump yard, with over 35 illegal pipes spewing their effluents into the river on a daily basis, which has rendered her a water-body of tea brown waste.

### Present Status

SUPREME COURT MONITORING COMMITTEE ON HAZARDOUS WASTES

Report to Kerala (14.8.2004)

**“The Committee was particularly alarmed and distressed at the state of the Periyar river, which is the lifeline of Kerala. The Committee found that the river itself had been converted into a vast, illegal TSDF\* for receiving a large quantity of hazardous wastes. Several industries - many owned by government - that should have long been closed because they are still relying on obsolete technology and obsolete products, were in operation, not only impacting negatively on the environment but losing public money as well in crores. It appeared to the Committee that the state of Kerala was more than a decade behind the process improvements in other states: it looked as if the state had pushed itself into a time-warp from which it was unable to extricate itself.”**

Various scientific studies (including those conducted by Greenpeace) have confirmed the presence of alarmingly high levels of deadly poisons like DDT, endosulfan, hexa and trivalent chromium, lead, cyanide and BHC.

An epidemiological health study of Eloor residents, conducted by Greenpeace in 2003, examining the health impacts of this environmental pollution on a population of around 10,000 people, found that people in Eloor suffer from all kinds of diseases that can be directly linked to the contamination of their land, air and water by these toxic chemicals. Every organ in the body seems to have been affected. Featuring high among other complaints was the incidence of congenital malformations, deformations and abnormalities.

The fire that broke out in the Endosulfan plant of Hindustan Insecticide Limited (HIL) on July 6, 2004 served as ample demonstration of how ill-prepared the local authorities are to deal with emergencies - evacuation attempts relied largely on local fishermen's boats, with no intervention from the factory management. A fact-finding team by environmental organizations concluded that safety measures inside the plant had been neglected totally, once again proving how close the community is to a Bhopal-like disaster and how ill prepared it is to deal with an industrial 'accident'.



The soot-blackened building of Hindustan Insecticide Limited's endosulfan plant in Eloor. Picture by Nityanand Jayaraman.

\* Treatment Storage and Disposal Facility

# BAHUT HO GAYA: A BRIEFING PAPER

GREENPEACE

Kodaikanal, Tamil Nadu



## Background

In 1984, a thermometer manufacturing facility was imported from the United States and set up in Kodaikanal. Raw materials for the thermometers were imported from the United States and finished thermometers were sent back to the US, from where they were distributed to markets abroad. Hindustan Lever Limited (HLL) acquired this facility in 1997 as part of a global take-over of Ponds (the original owner) by Unilever, parent company to HLL. For almost two decades, this thermometer factory functioned without alerting either the employees or the Kodaikanal community about the dangers it posed to the surroundings and to the workers. By the late 1990s, mercury contamination in the area was hundreds of times over the permissible limits of .01mg/kg in the soil. Over a period of years, mercury that escaped the plant as vapour and/or was dumped as waste would amount to several tonnes.

## Present Status

SUPREME COURT MONITORING COMMITTEE ON HAZARDOUS WASTES

Report from SCMC visit to Tamilnadu dated September 20-22, 2004

**“From the records placed before the SCMC, the facts are as follows: In March 2001, local citizens led by Greenpeace (NGO) discovered a scrap yard bearing mercury wastes which they sourced to the HLL plant. During recovery of the mercury scrap it was weighed and found to be approximately 7.4 tonnes. The discovery of this illegal discharge of hazardous wastes led to further inquiries which opened up a Pandora’s box of mercury contamination in the working area of the factory and its surrounding natural environment including river, lake and forest. It was also admitted that mercury scrap of similar nature had been disposed of to scrap dealers as a routine practice. The SCMC was informed that much of the mercury waste recovered from the scrap yard has since been shipped back to the US. However, workers affected by mercury poisoning and an environment and plant contaminated with mercury remain as living heritages that need to go for rehabilitation. The ill-effects of mercury poisoning and the negative impacts of mercury on the natural environment are well-known. Minamata disease (in Japan) has been documented in detail. The situation at HLL is extremely serious in nature. There can be no two opinions that remediation and rehabilitation of the natural environment and of workers and others affected are both urgently required, especially in view of the fact that the area is also a tourist spot of major importance.”**

Scientific studies (including those conducted by Greenpeace) have confirmed extremely high levels of mercury contamination. Levels of mercury in the soil outside the factory indicate an elevation of 25 times over the lowest reading, and 250 times over permissible limits. A Department of Atomic Energy study found mercury levels at 1.32 microgram per cubic meter against the normal level of 0.5-10 nanogram per cubic metre; effectively an aberration of between 132 to 2,640 times. This was observed on analysing lichen samples from inside the Pambar Shola forests. This contamination is the result of mercury vapor forcefully blown out by fans, and there is every reason to believe that these high levels of contamination would also be reflected in the surrounding environment.



A view of the sensitive Pambar Shola forest area contaminated by mercury from the Hindustan Lever Limited thermometer factory in Kodaikanal. Picture by George Mathen.

# BAHUT HO GAYA: A BRIEFING PAPER

GREENPEACE



## Paradip, Orissa.

### Background

In 2000, Oswal Fertilisers was set up at Paradip, on the banks of the Atharbanki creek, which joins the river Mahanadi. The company produces di-ammonium-phosphatic fertilizer, sulphuric acid and phosphoric acid. Its location mandates its regulation under the CRZ norms. Further the MoEF authorization provided to the company was based on the premise that there would be no discharge into the sea. The company accepted this and agreed to a zero discharge concept. However, right from the start, the company has been indiscriminately releasing its toxic effluents into the sea seriously affecting the environment, health and livelihood of coastal communities of fishermen and coastal agricultural farmers.

### Present Status

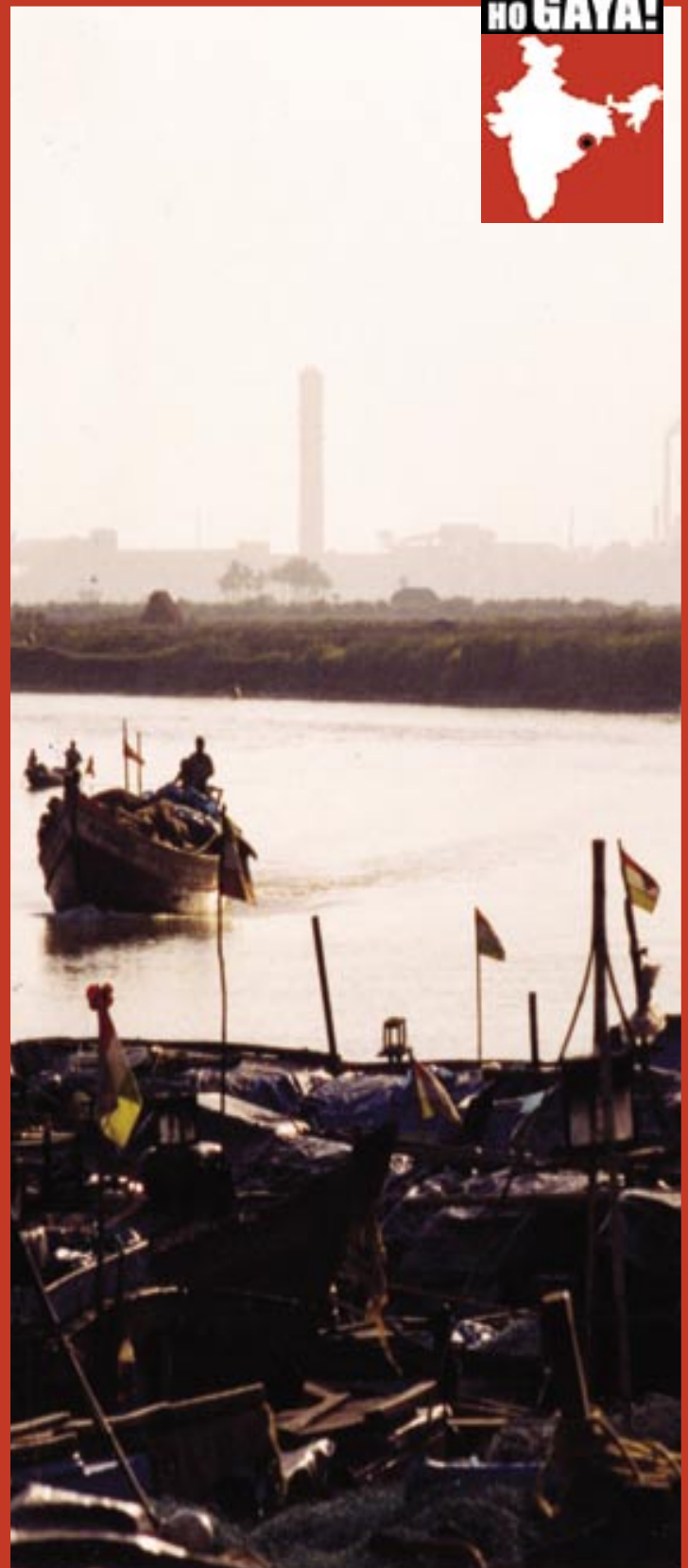
This factory commenced production in January 2000 and has been a continuous source of pollution in the area. It has affected the health of Paradip residents and people in nearby villages of Batighar, Jamboo and Kharnasi.

Most of the directives stipulated by the Pollution Control Board have been violated. Scientific studies conducted by local groups have found high levels of toxins in the waterways. The factory has been discharging effluents like phosphor-gypsum, which contains radioactive radium 226, radon and fluorine at abnormally high levels into the Mahanadi. The waste also contains sulphuric acid and sulphur dust, a poisonous chemical that gets widely dispersed around Paradip town because of an open conveyor belt system.

Gas leakages, reminiscent of Bhopal, are part of a reality the community has had to live with for the past 4-5 years. Breathlessness and respiratory disorders are common amongst children in this area. Residents from the villages of Rajnagar, Satbhaya and Tantiapal of Bhitarkanika have complained that whenever the unit discharges its effluents into the Mahanadi, the water becomes discoloured and people feel a burning sensation. Incidents of dead fish found in the river have been on the rise, even as far away as Barunai and Satbhaya villages, both of which are inside the limits of the Gahirmata Sanctuary.

A thick crust of phosphor-gypsum has settled on the riverbed near the mouth, preventing the seasonal migration of Hilsa fish in the river for the past two years. Fishermen from the fishing villages located near the Mahanadi river mouth have been complaining about a drastic fall in fish catch, since the last three years, due to pollution from this unit. Close to 1,500 hectares of agricultural land has been rendered fallow in the adjoining areas.

The discharges flow into the Mahanadi river whose mouth is near the Paradip port. Currents moving northwards in the winter carry the contaminants to the Gahirmata Marine Sanctuary, which is located just 10 kms from the river mouth. This area is the world's largest breeding and nesting ground for the endangered Olive Ridley sea turtles. The continued discharge of effluents by this plant would severely impact the turtle habitat as well.



The Oswal Fertilisers factory looms large in the background of this fishing jetty in Kharnasi village, Orissa. Picture by Prabal Kr. Das.

# BAHUT HO GAYA: A BRIEFING PAPER

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## Vapi-Ankleshwar, Gujarat

### Background

The 'Golden Corridor' of the Indian State of Gujarat is an industrial belt that runs along the main north-south highway, linking the southern town of Vapi, with the northern State capital of Ahmedabad. This area includes the large industrial estates in Ankleshwar, Nandesari and Vapi. These industrial estates contain thousands of individual industrial units, including dye factories, textile, rubber, pesticide and paint manufacturers, pulp and paper producers, pharmaceutical, engineering and chemical companies. Visual surveys of the sites reveal industrial development that is haphazardly organised and poorly controlled, with facilities for waste management generally inadequate, and in many cases, non-existent. Widespread contamination of the industrial sites and surrounding areas is clearly observed. Poor health, safety and waste management practices may pose serious health hazards, not only to the workers, but also to the communities within and around the sites, and to the villages downstream from the effluent discharges.

### Present Status

SUPREME COURT MONITORING COMMITTEE ON HAZARDOUS WASTES

Report from visit to Gujarat, dated 07th April 2004

**"...11) The position in the various areas surrounding the Industrial Estates of Vapi, Ankleshwar and Nandesari (Vadodara) in Gujarat is as follows:**

**"In the case of Vapi, Ankleshwar, Nandesari (Vadodara) and villages around the Effluent Channel Project [ECP] (District: Vadodara and Bharuch) the Committee itself has physically verified that the ground water in all these areas is unfit for drinking, displays colours of bright red, orange and chocolate, and cannot be used for drinking water purposes or even for washing clothes as they get stained. Villagers are forced to use the coloured water for agricultural (purposes) and this has led to the contamination of agricultural products. The detailed study carried out by the Central Pollution Control Board (Nov. 03) on the "Groundwater collected quality around common effluent treatment plants and common secured landfill sites in Gujarat" states that the groundwater collected not only in these three areas but also at Vatwa and Odhav (Ahmedabad) Industrial estates is not fit for drinking or even for irrigation because it is coloured and contaminated. The report has been published by the CPCB in its Hazardous Wastes Management series "HAZWAMS" 2003. ...It is indeed pitiable to see communities subject, due to no fault of their own, to this difficult state of affairs. In the case of Vapi, around 11 villages have been declared as "no-source" villages. Some intermittent water supply is now being given to four of these villages. Supply to the remaining has been held up due to objections of 'who-will-bear-the charges' for the water thus distributed. In case of number of villages across the ECP of Vadodara and Bharuch District the coloured water is the only reality."**



Visibly toxic effluents from the CETP at Vapi being released into the Damanganga river. Picture by Shailendra Yashwant.



## Supreme Court Monitoring Committee on Hazardous Wastes

**The Supreme Court Monitoring Committee (SCMC) was set up in November 2003 pursuant to directions issued by the Apex Court in its Order and Judgment dated 14th October 2003 in Writ Petition No.657 of 1995.**

**The SCMC was set up to monitor the implementation of several directions contained in the order. Many of these directions were time-bound. The SCMC was directed to file quarterly reports on its monitoring exercises. As of now, the Committee has already filed three quarterly reports. The fourth is under preparation.**

**The SCMC is headed by Dr Gopalkrishnan Thyagarajan, former Director, CSIR. Other members include Dr S. Devotta (Director, NEERI), Dr S. Sivaram (Director, National Chemical Laboratory), Dr M.O. Garg, Director, Indian Institute of Petroleum, Dr V Rajagopalan, Chairman, GPCB, Dr S.P. Mehrotra (Director, National Metallurgical Laboratory), Dr J.S. Yadav, Director, Indian Institute of Chemical Technology, Dr D.B. Boralkar (Member Secretary, Maharashtra Pollution Control Board), Dr Claude Alvares (Director, Goa Foundation) and Mr K.V. Bhanujan (Chairman, Gujarat Pollution Control Board). Dr Narendra Hosabettu, Director, MoEF, is the Member-Secretary of the SCMC.**

**For more info on the SCMC  
<http://www.geocities.com/hazwasteindia>**

### **Greenpeace Toxic Reports/Documents**

*Toxic Hotspots: A Greenpeace Investigation of Hindustan Insecticides Ltd Udyogmandal, Kerala (1999)*

*Toxic Hotspots: A Greenpeace Investigation of Gujarat Industrial Estates (1999)*

*Bhopal Legacy (Greenpeace Report 1999)*

*Chemical Stockpiles at Union Carbide in Bhopal (Greenpeace Report 2002)*

*Technical guidelines for cleanup at the Union Carbide India Ltd (UCIL) site in Bhopal, Madhya Pradesh, India (Greenpeace Report 2002)*

*Corporate Crimes: The need for an International instrument on Corporate Accountability and Liability (Greenpeace Report 2002)*

*Status of Human Health at Eloor Industrial Belt, Kerala (Greenpeace Report 2003)*

*Atmospheric dispersal of mercury from the Hindustan Lever Limited Thermometer factory, Kodaikanal, Tamil Nadu, India, using lichen as a biomonitor (Greenpeace Report 2003)*

*The State of Community Health at Medak (Greenpeace Report 2004) Citizens Right to Know Kit*

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