

Is SIPCOT Safe?

A Scorecard on Environment and Safety in SIPCOT, Cuddalore

SIPCOT Area Community Environmental Monitoring

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A report of the Community Environmental Monitoring program -- DEPORT, Cuddalore District Consumer Organisation, FEDCOT, Global Community Monitor and The Other Media

www.sipcotcuddalore.com

March 2006

The SIPCOT Area Community Environmental Monitors acknowledge the contributions and encouragement of the following individuals and organisations:

Denny Larson, Global Community Monitor
M. Nizamudeen, FEDCOT
Global Green Grants
Mitch Kapor Foundation
Courtney's Fund
Conservation Food and Health Foundation
Richard and Rhoda Goldman Foundation
Association of India's Development (AID)
Individual Donors from India

"A set of new pollution control measures have been put in place and stringent conditions have been imposed on defaulting industries. We will ensure that the best pollution-control technologies are followed. As the Central Pollution Control Board has not prescribed any standards for volatile organic compounds, nothing much can be done about that. In all other cases, strict monitoring will be done and if the villagers point out any specific technical points needed in pollution-control, we will look into it." Surjit K. Chaudhury, State Environment Secretary and Tamil Nadu Pollution Control Board (TNPCB) Chairperson, quoted in *The Hindu*, 6 January, 2006.

Volatile Organic Compounds (VOCs), referred to by Mr. Chaudhury in his above statement, include many carcinogens that can exert long-term, even fatal, effects at very low concentrations. In the air breathed by residents of SIPCOT Cuddalore, VOCs are found at levels more than 20,000 times above safe limits, according to a scientific study published by SIPCOT Area Community Environmental Monitors (SACEM) in September 2004. Until then, the Government could have claimed that they did not know. But even after the facts were made public, the Tamilnadu Government has done little to remedy the situation. Villagers are forced to breathe poisoned air because, as admitted by the State's Environment Secretary, "Nothing much can be done about that."

Government departments and Committees in charge of monitoring or regulating pollution routinely talk about "state-of-the-art technologies" and "stringent conditions" imposed in response to pollution. As seen from Mr. Chaudhury's comment above, the Government's response has little relevance to people's health and all to do with the financial health of industries. Their attempts are not to eliminate pollution but to bring pollution to a level acceptable to the Government and the industries.

Even as Cuddalore reels under pollution from existing industries, new and even more deadly industries are being proposed for the area. The Government's claims that conditions in SIPCOT have improved are without basis. Currently, the only systematic data that exists on SIPCOT's pollution is maintained by SACEM, whose monitors document and report each incident of pollution and/or occupational injury to the Tamilnadu Pollution Control Board (TNPCB), Inspector of Factories, Supreme Court Monitoring Committee (SCMC) or the Local Area Environment Committee (LAEC). A review of this data for the 12-month period from October 2004 to September 2005, and 5-month period from October 2005 to February 2006 presents evidence that the Tamilnadu Pollution Control Board and other regulatory authorities such as the Inspector of Factories are feeble voices as far as regulation goes, and are irrelevant to the needs of local communities.

Have conditions in SIPCOT Cuddalore improved? Is the Government responsive to people's concerns? Are "stringent" conditions really being imposed on the industries?

The following scorecard rates the performance of SIPCOT industries, regulators and Committees appointed by the Courts in reducing pollution and improving environment, safety and health conditions within and outside the chemical factories.

The Scorecard assumes increased significance given that unregulated chemical industries are prime candidates for major disasters. In Bhopal too, regulatory authorities had routinely ignored complaints by workers and community residents of frequent pollution incidents, gas leaks and occupational injuries at the Union Carbide factory. Local newspapers had even warned of the likelihood of a major disaster. The casual attitude of regulators and the high frequency of dangerous incidents in a small industrial estate like SIPCOT Cuddalore raises serious concerns about the possibility of a major disaster in the area, particularly at facilities of repeat offenders like Tagros Chemicals and TANFAC.

Findings:

In the 12-month period from October 2004 to September 2005, SACEM reported a total of 36 major pollution and/or workplace incidents involving environmental damage, and/or injury or death of workers and residents. At least 8 persons have been injured and one killed during the data period.

The incidents include:

- 15 instances of illegal effluent discharge or spill onto land, river or sea. Illegal effluent discharges to the River Uppanar resulted in at least 3 instances of fish kills.
- 8 instances of gas leaks, including two accidents within industrial units. Air pollution related incidents in SIPCOT injured at least 5 persons. These incidents do not include the spikes in daily air pollution. SIPCOT air remains unbreathable throughout the day.
- 4 instances of illegal dumping of toxic wastes, including the flushing during the Tsunami and subsequent floods of hazardous wastes illegally stored near the River Uppanar.
- 7 instances of workplace accidents that injured 3 and killed 1.
- 1 instance of illegal operation – Tagros Chemicals
- 1 instance of another pollution related incident which was categorised in the “other incident” category.

Analysis of similar data for a 5-month period between September 2005 and February 2006 indicates no major change in the frequency or nature of hazardous incidents in SIPCOT. During this period, a total of 9 incidents were reported, involving at least 7 injuries and 1 death. These incidents include:

- 2 instances of illegal effluent discharge or spill onto land or river, involving one fish kill and one instance of human injury.
- 3 instances of illegal dumping of toxic wastes
- 3 instances of workplace accidents that injured 6 and killed 1.
- 1 instance of illegal operation – Southern Pigments.

Table 1: Break up of various incidents in SIPCOT in last 17 months

| <i>Type of incidents</i> | <i>Between October 2004 to September 2005 – 12 months</i> | <i>Between October 2005 to February 2006 – 5 months (Interim data)</i> |
|---|---|--|
| Illegal effluent discharge or spill onto land or river | 15 | 2 |
| •Fish kill | (3) | (1) |
| •Injury to human beings due to effluent discharge | (-) | (1) |
| Air Incidents including Gas leaks | 8 | - |
| •Number of people injured during gas leaks | (5) | - |
| Illegal dumping of hazardous waste | 4 | 3 |
| Work place accidents | 7 | 3 |
| •Number of people injured in workplace accident | (3) | (6) |
| •Number of people died in workplace accident | (1) | (1) |
| Illegal operations | 1 | 1 |
| Number of other incidents | 1 | - |
| Total | 36 | 9 |

Air Quality – No Change

In September 2004, SACEM released its report “Gas Trouble: Air Quality in SIPCOT Cuddalore.” This report found 22 toxic chemicals in the air breathed by SIPCOT residents. In the same month, based on the SACEM report, the Supreme Court Monitoring Committee on Hazardous Wastes ordered the TNPCB to bring air toxics levels to below US Environmental Protection Agency (USEPA)-prescribed levels by December 2004, and directed the Central Pollution Control Board to develop ambient air quality standards for Volatile Organic Compounds (VOCs). The deadline was subsequently extended to June 2005.

The presence of poisons in SIPCOT air is corroborated even by the Cuddalore SIPCOT Industrial Association, which conducted a secret study between 25 and 28 November, 2004. The study was never released to the public but its leaked results indicate that the study looked for 20 VOCs and sulphur gases and found 13 in SIPCOT’s air. Eight of the 13 chemicals found exceeded safe levels prescribed by the US EPA. At least six of the chemicals found are known to cause cancer in animals and are potential human carcinogens.

In May 2005, SACEM published a follow-up study -- “Gas Trouble II” -- which found 12 toxic chemicals in four samples of ambient air in SIPCOT. Seven of the chemicals including three carcinogens were above safe levels. The air breathed by SIPCOT residents continued to be laced with poisons.

In April 2005, TNPCB commissioned National Environmental Engineering Research Institute to monitor for Volatile Organic Compounds (VOCs) at SIPCOT at a cost of Rs. 20.15 lakhs. The study was to be completed in 15 months by July 2006. No results or interim reports have been released.

SACEM recorded a total of 8 air pollution related incidents in the 12 month period between October 2004 and September 2005.

SPIC Pharmaceuticals, Tantech Agrochemicals and TANFAC industries are the most notorious units in terms of air-related incidents. Out of 7 recorded incidents of gas leaks, 2 each are from SPIC Pharmaceuticals and TANFAC, one from Tantech, and one incident in which both Tantech and SPIC are named by villagers as responsible for the leak. Tagros Chemicals, which emerges as the overall big polluter, accounted for 1 instance of gas leak.

While numerous people reported immediate effects from these incidents, at least five of them experienced severe effects. One of the incidents involved a complaint from a primary school in Eachangadu, where toxic gases from nearby industries assailed school children. One 8-year old girl fainted. On another occasion, commuters on a bus on the National Highway opposite TANFAC suffocated due to a gas leak from the company. At least 4 of them vomited as a result of the exposure.

No major gas leaks have been reported in the 5-month period from October 2005 to February 2006, though the SACEM monitors report that the chemical odours from the industries continue and that there has been no change in the air pollution levels in SIPCOT. SIPCOT air continues to be as polluted as it was before.

In analyzing the response of the regulators – namely, Inspector of Factories and the TNPCB – SACEM has considered the following questions:

- a) Did the regulator visit the site?
- b) Did the regulator communicate the action taken to the complainant?
- c) Did the regulator investigate the root cause of the incident and recommend changes to avoid a recurrence of the incident?

Table 2: Record of various incidents of Gas leaks in SIPCOT and action taken by TNPCB

| S No. | Name of the unit where the accident took place or was responsible | Date | Number of people injured | Other observations | Action taken by the TNPCB and district administration |
|-------|--|----------|---|---|---|
| 1. | Tantech Agrochemicals | 29.10.04 | NA | Ammonia leak from Tantech was reported by the villagers of Eachangadu and SACEM monitors. | a) TNPCB visited site b) No communication to complainant c) No root-cause investigation |
| 2. | SPIC Pharmaceuticals | 1.11.04 | NA | Eachangadu villagers reported the gas leak by SPIC Unit (filed on the village letter head) | a) TNPCB visited site b) District Environmental Engineer Mr. Kumar dismissed the incident as "mass hysteria." c) No root-cause investigation |
| 3. | Tagros Chemicals | 13.02.05 | NA | Boiler explosion followed by heavy white smoke and chemical odour. | a) TNPCB and Inspector of Factories visited site b) No communication to complainant c) Investigation conducted. Results not known. |
| 4. | Tantech Agrochemicals and SPIC Pharmaceuticals (reported by villagers) | 16.2.05 | One 8-year old school girl from Eachangadu village fainted. | The chemical odour was reported to be extremely high and the school teacher had to shut all the doors and windows to protect the children from exposure. | a) TNPCB visited Tantech b) No communication to complainants. Action taken report submitted to LAEC detailing violations. c) Investigation conducted. No follow-up action known to have been taken. |
| 5. | SPIC Pharmaceuticals Ltd. | 5.4.05 | None | During the pollution patrol, the monitors recorded a very intense odour from the unit and subsequently wrote to the DEE asking him to investigate into matter. | a) No visit by TNPCB b) No action taken c) No root cause investigation |
| 6. | TANFAC | 13.4.05 | Commuters on the Cuddalore – Chidambaram road gassed | There was thick white smoke around the unit and a strong odour of sulphur in the air. Four people in a bus on the highway vomited as a reaction to the chemical odour. Other symptoms reported were throat irritation and giddiness | a) No visit by TNPCB b) DEE orally assured SACEM that a show-cause notice had been served. No confirmation. c) No further action or police investigation |
| 7. | TANFAC | 14.5.05 | Commuters on the Cuddalore – Chidambaram road gassed | The gas leak occurred in the aluminum fluoride tank of the unit. The commuters complained of severe eye irritation | a) No visit by TNPCB b) No action known to be taken |

River and Seawater Quality

SIPCOT industries and the Tamilnadu Pollution Control Board repeatedly point out that since the effluents from SIPCOT industries are discharged into sea by CUSECS, the Uppanar River is flowing

clean. However, data based on monitoring information indicates that this statement is incorrect.

Between October 2004 to September 2005 there were 8 major incidents of illegal effluent discharge in the river, which led to fish kills on 3 occasions. Companies implicated by SACEM or villagers in such discharge include Arkema Peroxides, Pioneer Miyagi Chemicals, Asian Paints and Victory Chemicals.

Inland fishermen complain of health effects due to contact with contaminated water. Skin rashes and itching are reported commonly. Besides, the major incidents reported above, SACEM says that illegal discharge of effluents into the River has resumed, and the River water quality has degraded over the last 6 months.

While repeated complaints have been made to the TNPCB, only a few instances warranted site visits by officials. However, the officials declared without any scientific basis that there was no problem. No samples were drawn to verify the presence or absence of contamination, and the complaints were not investigated thoroughly.

In March 2005, 6 SIPCOT companies furnished detailed information regarding their authorizations and emissions data. All six companies violated effluent quality norms prescribed by the Tamilnadu Pollution Control Board.ⁱ Four out of six companies were operating without valid licenses. This was brought to the notice of the TNPCB but no action has been taken.

Currently, effluents of several SIPCOT industries are discharged into the sea through a CUSECS pipeline. This pipeline releases the effluent near Rasapettai village on the Cuddalore coast. The fishermen in this village complain of intense foul odour when the wind blows in from the sea. They report various health problems such as nausea, breathing trouble and throat irritation as a result of exposure to the odour from the effluents. Fisherfolk blame the CUSECS discharge for declining fish stock in the sea and for fish kills, including the death of a dolphin recently.ⁱⁱ

Table 3: Incidents of Effluent discharge in the River

| S No. | Date | Type of accident | Name of the unit where the accident took place or was responsible | Other observations | Action taken by the TNPCB and district administration |
|-------|----------|----------------------------|---|---|--|
| 1. | 3.10.04 | Effluent discharge (River) | Victory Chemical | Effluent was discharged in the River Uppanar | A complaint was made to the TNPCB, which made a site visit on the 5 th October 2004 and reported no problem. No samples were taken. |
| 2. | 13.10.04 | Effluent Discharge (River) | Asian Paints | Biscuit colour effluent discharge from Asian Paints Penta division | A complaint was made upon which the TNPCB made a visit to the site on the same day and reported that the what was reported to be effluent was actually pure water leaking from a ruptured SIPCOT pipe. |
| 3. | 18.11.04 | Effluent discharge (River) | Pioneer Miyagi Chemicals | Biscuit colour effluent was discharged reportedly by Pioneer Miyagi into the River Uppanar | The PCB made a site visit and reported that there was no problem in the area without verifying the complaints through scientific analysis of samples. |
| 4. | 17.12.04 | Effluent discharge (River) | Unknown industry | At about 3:00 am there was brick red colour effluent discharge was noticed in the Uppanar from the northern side of SPIC. | No site visit. No investigation. No action. |

| S No. | Date | Type of accident | Name of the unit where the accident took place or was responsible | Other observations | Action taken by the TNPCB and district administration |
|-------|---------|---|--|--|---|
| 5. | 5.1.05 | Effluent discharge (sea) Enquiry about the effects of tsunami on the SIPCOT industrial estate and an enquiry of the status of the marine outfall of CUSECS | All industries of SIPCOT Industrial Complex | Following damages were noticed post tsunami: a) the toxic sludge from behind SPIC unit was washed out in the river b) Mountain of toxic waste from behind Victory Chemicals washed out in the river c) CUSECS submarine effluent outfall was reportedly damaged. | No site visit. No investigation. No action. |
| 6. | 21.8.05 | Effluent discharge/Fish kill (River) | Effluent discharge in Uppanar from behind Arkema Peroxides | The incident occurred at about 3 am in the morning, there was an oily layer on the water observed in the area where effluents were discharged into the river. No colour or odour was reported. The fisherfolk who came in contact of the contaminated water reported itching sensation on the skin. | No site visit. No investigation. No action taken. |
| 7. | 7.9.05 | Effluent discharge/Fish kill (River) | Effluent discharge in Uppanar from behind Arkema Peroxides | The incident occurred at about 3 pm in the evening. Similar to the previous incident, there was an oily layer on the water observed in the area where effluents were discharged into the river. No colour or odour was reported. The fisherfolk who came in contact of the contaminated water reported itching sensations on the skin. | No site visit. No investigation. No action taken. |
| 8. | 24.9.05 | Effluent discharge/Fish kill | Tanker lorry discharged effluents in the river near Poondiankuppam Thonithurai | The effluents had a strong pesticides odour. Fish kill was noticed only after sunrise, though the effluent was reportedly discharged at around 4 am. Before the fish kill, the fishermen had reported better catch than usual leading to speculations that the poisons may have something to do with larger fish catch. | No site visit. No investigation. No action taken. Complaint made to the DEE of TNPCB and the Department of Fisheries but no action taken or report provided. |

Provisional figures for September 2005 to February 2006

| | | | | | |
|----|-----------------|--------------------------|------------------|--|-------------------------------------|
| 1. | 1 February 2006 | Effluent discharge (sea) | CUSECS suspected | A dead dolphin was washed ashore. People suspect that it died due to SIPCOT pollution. | No action known to have been taken. |
|----|-----------------|--------------------------|------------------|--|-------------------------------------|

CUSECS – The Solution is the Pollution

The infrastructure for effluent collection and disposal in the SIPCOT industrial complex was started only in 2001, 19 years after the complex was established. When installed, it was projected as the solution to pollution. It operated illegally – without CRZ clearance – until 2006, whereupon it received CRZ clearance despite the fact that the law expressly prohibits the discharge of untreated effluents into the sea. Till date, the TNPCB is tolerating the discharge of untreated effluents into the sea. Cuddalore SIPCOT Industries Common Utilities Ltd. (CUSECS) is the *collection point* of all the “*effluent*” from the industries in SIPCOT. The effluent is sent to sea through a pipeline. According to CUSECS, it only forwards to sea effluents pre-treated by the individual industries. CUSECS also says it routinely monitors the influent, and provides feedback to the individual industries if quality parameters are not met. CUSECS acknowledged that all violations of quality parameters are not automatically reported to PCB. Rather violations are sought to be corrected by providing feedback to the errant industry. Air samples taken from CUSECS collection points indicate the presence of unhealthy levels of toxic chemicals such as methylene chloride, trichloroethylene, hydrogen sulphide and methyl mercaptan. Recent pollution patrols by SACEM indicate that CUSECS continues to convey untreated or undertreated effluents to sea. Common odours reported from CUSECS include that of: sewer, human excreta, rotten eggs.

Table 4 - Sample 1: CUSECS 5.

Date of Sampling: 04 March, 2004.

Location: SIPCOT Road No. 5, opp. Loyal Super Fabrics

| Chemical found | ug/m3 | ppbV | EPA Level ug/m3 | Carcinogen |
|--------------------|-------|------|-----------------|------------|
| Hydrogen Sulphide | 874* | 627 | 1.00 | No |
| Methyl Mercaptan | 13.3* | 6.74 | 2.1 | No |
| Dimethyl Sulphide | 9.04 | 3.56 | | No |
| Ethanol | 44 | 24 | | No |
| Methylene Chloride | 3700* | 1100 | 4.09 | Yes |
| Trichloroethene | 780* | 150 | 1.10 | Yes |
| Toluene | 42 | 11 | 400 | No |

* Exceeds EPA Effects Screening Levels

In the 12 month period between October 2004 to September 2005, there were 6 incidents of upsets, leakages, faulty pipes or disruption in the power supply of CUSECS, that led to effluent overflow in SIPCOT area. This included the damage to the CUSECS marine outfall during Tsunami, where it was reported that the entire pipeline was washed away as a result of the disaster.

These incidents have been reported to the authorities; so far, no response has been received. Though in some cases the officials of TNPCB have taken prompt action and ensured that the damage to the environment due to the leakages were contained, they have failed to take long term action to ensure that such incidents are not repeated.

Even the LAEC had brought the issue of constant leakages from CUSECS Pumps to the notice of the TNPCB as early as in April 2005 and had asked the board to take strict action to ensure that no such incidents occur in the future. However, this advice does not seem to have been complied with.

Table 5: Pollution incidents at CUSECS

| S No. | Date | Type of accident | Name of the unit where the accident took place or was responsible | Other observations | Action taken by the TNPCB and district administration |
|-------|-----------------|--|---|---|--|
| 1. | 25.11.04 | Effluent discharge or Spill (Land) | Upset in CUSECS pump no 2 | There was a reported upset in the pump of CUSECS 2 that led to effluent discharge, but no complaint was made to the PCB as the DEE was present on the spot. | The DEE was present on the spot to supervise the work. |
| 2. | 5.01.05 | Marine outfall of CUSECS reportedly damaged during Tsunami | All industries of SIPCOT Industrial Complex | CUSECS submarine effluent outfall was reportedly damaged. | No response received |
| 3. | 24.02.05 | Effluent discharge or Spill (Land) | CUSECS 2 | The overflow occurred due to the electricity failure at the pump house | No action taken. Investigation report not available. |
| 4. | 21.03.05 | Effluent discharge or Spill (Land) | CUSECS 2 | Upset in the pump caused the effluent leak | TNPCB authorities inspected the spot and took prompt action to ensure that there was no effluent outside the CUSECS. |
| 5. | 30/ 31.03.05 | Effluent discharge or spill (land) | CUSECS 3 | Power failure at the CUSECS was the cause of the effluent discharge | The matter was reported to the CUSECS authorities who then alerted the companies upstream of CUSECS 3 to ensure that no effluent is discharged during the time of the failure. |
| 6. | 11.05.05 | Effluent discharge or spill (land) | CUSECS 3 | The overflow occurred due to a fault in the pipeline. The workers in the unit had repeatedly complained about the poor conditions of the pipelines but no action was taken. SPIC and Pioneer Miyagi discharge their effluents to CUSECS 3 | Complaint has been filed with the TNPCB but no information communicated by the latter regarding the action taken on this matter. |

Provisional figures for September 2005 to February 2006

| | | | | | |
|----|-----------------|--------------------------|------------------|--|-------------------------------------|
| 1. | 1 February 2006 | Effluent discharge (sea) | CUSECS suspected | A dead dolphin was washed ashore. People suspect that it died due to SIPCOT pollution. | No action known to have been taken. |
|----|-----------------|--------------------------|------------------|--|-------------------------------------|

Workplace Injury

Between October 2004 and September 2005, 7 major accidents were reported at SIPCOT industries. These incidents injured three and killed one. Provisional data for the 5 month period from October 2005 to February 2006 already contains information about 3 major accidents involving one death and 6 injuries.

Type of accidents include boiler explosions, chemical spills, fires, electrical mishaps, falling from heights, and injury due to falling objects.

SACEM has received mixed responses from authorities to the various accident-related complaints. Except under extreme pressure from SACEM, the Inspector of Factories does not seem to have pursued any of

these incidents with root-cause investigations, police enquiries or prosecution. Also, violations that increase the probability of accidents, such as unauthorized expansion of production capacity and setting up of new factory buildings, are taken lightly both by the Inspector of Factories, the TNPCB and the Supreme Court Monitoring Committee. Tagros Chemicals, the most notorious company in this category, has illegally expanded production capacity and introduced new production lines within an already crowded site. Over the last 17 months, accidents at Tagros have killed two workers and injured 6 in four dangerous incidents.

The TNPCB has refused to evince any curiosity regarding occupational incidents, and has passed off all responsibility to the Inspector of Factories.

Katta Panchayat (Kangaroo courts) are the forum of choice to decide on compensation amounts for injured workers or families of dead workers. Not in one instance has the Labour Department come to the aid of the victims in securing compensation that is legally due to them. Victims say that trade union leaders, village leaders and contractors negotiate with the company and authorities for compensation, and hand over the amount after setting aside some for themselves. This is done in return of assurance that no legal or police action will be pursued.

Barring one incident, involving Victory Chemicals in October 2005, none of the other incidents has been reported to the police or the Inspector of Factories by the industries concerned. Any incident involving loss of life or injury, and any other hazardous incident within factory premises requires to be reported to the Inspector of Factories.

Table 6: List of Workplace accidents in SIPCOT units

| S No. | Date | Name of the unit where the accident took place or was responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB, Inspector of Factories and/or district administration |
|-------|----------|---|--------------------------|-----------------------|--|--|
| 1. | 29.11.04 | Pandian Chemicals | 1 | None | A rod ruptured a worker's stomach when he fell on it from a height. The accident occurred during the construction of Pandian factory. First aid was administered to the worker, later he was hospitalised on the same day and discharged on 1.1.2005 | A police complaint has been lodged. Status of investigation not known. |
| 2. | 13.2.05 | Tagros Chemicals | None | None | Boiler explosion followed by heavy white smoke and chemical odour. | No action taken by the TNPCB despite the spreading of pollution outside Tagros premises. Factories Inspectorate investigated in to the matter and reportedly gave a clean chit to the company. |
| 3. | 15.2.06 | Omni Cast Pvt. Ltd | None | None | Fire accident. | Not known |
| 4. | 17.2.05 | Tantech Agro Chemicals | 1 | None | Accident occurred inside the unit while handling the chemicals | Not known. |
| 5. | 1.3.05 | Arkema Peroxides | None | None | There were high flames and black sooty and oily deposits reported after the incident | No action known to have been taken by Inspector of Factories and TNPCB. |
| 6. | 19.5.05 | Tagros Chemicals | None | 1 | Mechanical injury. Worker killed on the spot. | The matter was reportedly investigated by Factories Inspectorate. No report is |

| S No. | Date | Name of the unit where the accident took place or was responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB, Inspector of Factories and/or district administration |
|----------------------------|-----------------|---|--------------------------|-----------------------|--|---|
| | | | | | | available. No prosecution known to have been initiated. |
| 7. | August 2005 | Pandian Chemicals | 1 | None | A female contract worker injured during construction work at Pandian Chemicals due to a falling brick. | No complaint filed with the authorities by the worker, or company. |
| INTERIM INFORMATION | | | | | | |
| 1. | 5.10.05 | Victory Chemicals | NA | 1 | Explosion at about 9 pm. Injured worker was rushed to hospital, where he died the following morning. | Factory reported the incident to Inspector of Factories. Two weeks after the incident, ad hoc compensation of Rs. 2 lakhs was paid to family of worker. No legally due compensation sought or given. No information available on action taken by Inspector of Factories. |
| 2. | 17 October 2005 | Tagros Chemicals | 2 | None | Electrical short-circuit | Complaint filed but no response received. No action known to have been taken by Inspector of Factories. No prosecution known to have been initiated. |
| 3. | 26 October 2005 | Tagros Chemicals | 4 | None | Acid spill inside the unit | Complaint filed but no response received. No action known to have been taken by Inspector of Factories. No prosecution known to have been initiated. |

Hazardous Waste Dumping

Dumping of toxic waste is quite common in SIPCOT complex. Lax regulations, insufficient infrastructure for storage of hazardous waste and failure to initiate procedural action against errant units has led to numerous incidents of illegal dumping of hazardous wastes in the SIPCOT villages. In the 12 month period between October 2004 to September 2005, there were 4 instances of toxic waste dumping in and around SIPCOT. This includes the washing of mountains of toxic waste from the banks of River Uppanar during Tsunami.

According to the interim data available with SACEM, in the 5 month period from October 2005 to February 2006, 3 instances of hazardous waste dumping has already been recorded.

It is seen that even though the incidents of hazardous waste dumping have been brought to the notice of the TNPCB, the board has failed to take concrete actions against the units. Except in the case of hazardous waste dumping by Victory Chemicals, where the Board shut down the unit, the Board has failed

to take statutory action against the polluter. Illegal dumping of toxic waste is also a criminal offense under the Indian Penal Code. Also, provisions under law require the Pollution Control Board to prosecute offender. However, this has never been done by the Board.

In March 2005, however, the Board ordered the closure of Tagros Chemicals for a variety of reasons, including a recent case of illegal dumping of toxic wastes. The company does not face any prosecution. Even this closure action was taken only after the President of the Semmankuppam Panchayat wrote to the Board invoking a clause in the Environmental Protection Act that allowed the complainant to step in the shoes of the Board and prosecute offenders if the Board failed to take action within 60 days of filing the complaint.

Table 7: Various instances of Hazardous waste dumping in SIPCOT.

| S No. | Date | Name of the unit known or reported to be responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB and district administration |
|----------------------------|----------|--|--------------------------|-----------------------|---|---|
| 1. | 3.12.04 | Victory Chemicals Pvt. Ltd. | None | None | The waste was dumped illegally outside the SIPCOT area on the Vandipalaym road at S. N. Chavadi village. The waste contained high levels of Barium. | The PCB Ordered closure of the unit after the investigation into the unit. It also directed the company to clean up the waste site. The scientific protocol of the clean up has not been disclosed. The Unit restarted its operations after a month of closure with no substantial change to its hazardous waste infrastructure. |
| 2. | 5.01.05 | SPIC and Victory Chemicals | None | None | Following damages were noticed post tsunami: a) the toxic sludge from behind SPIC unit was washed out in the river b) Mountain of toxic waste from behind Victory Chemicals washed out in the river | No response received |
| 3. | 28.07.05 | Pondicherry Alum | None | None | Illegal dumping of effluents in the village by the company. | A formal complaint was lodged with the DEE of TNPCB in the presence of the LAEC chairperson. No action taken. No prosecution |
| 4. | 7.08.05 | Unit unknown | None | None | Illegal dumping of effluents and sludge in Sonanchavadi village of SIPCOT Cuddalore. The waste was red in colour and had an acid like odour, it was dumped near a pond about 20 feet away from the houses and 100 mts away from the river Uppanar | Complaint filed by Semmankuppam panchayat president. No action known to have been taken. |
| INTERIM INFORMATION | | | | | | |
| 1. | 27.11.05 | Tagros Chemicals | NA | None | A tanker dumped sludge waste from the company on Vyrankuppam | Semmankuppam panchayat president filed complaint to |

| S No. | Date | Name of the unit known or reported to be responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB and district administration |
|-------|----------|--|--------------------------|-----------------------|---|---|
| | | | | | road near Sonnanchavadi village. The waste was yellow in colour. No odour was reported from the waste but it is also suspected that the odour was suppressed because of the rain. Since the area had been flooded, it was feared that the waste got mixed in the flood water and contaminated the neighbouring areas. | TNPCB invoking Environmental Protection Act, and threatening to prosecute Tagros if TNPCB failed to take action. Company ordered shut in March 2006. Company continues to operate plant and machinery, but will reportedly phase out production by end March. No prosecution initiated. |
| 2. | 22.12.05 | Loyal Superfabrics | NA | None | One lorry of effluent was dumped in Kudikadu village of SIPCOT area | A complaint was sent to the DEE of TNPCB who later cordoned off the area where waste was dumped and also issued warnings to the company. No police complaint No procedural action taken. |
| 3. | 23.12.05 | TANFAC | NA | None | White colour powder was dumped near the back gate of the company. | DEE ordered the neutralisation of the waste; Reportedly issued a show cause notice to the company. |

Illegal Operations

In the last 17 months SACEM has revealed two major instances of illegal operations of units in SIPCOT complex. The first violation was by **Tagros Chemicals**. The company set up an entirely new production facility inside its already crowded premises without seeking permission from TNPCB or the Factories Inspectorate. The matter was brought to the notice of the TNPCB in September 2004, but no action barring warnings given to the company was taken until March 2006. All investigations were suspended pending an assurance given by the company that the illegally expanded capacity will not be put to use. This violation assumes increased significance considering that Tagros has also emerged as the most unsafe and unlawful company in SIPCOT. Sources indicate that the TNPCB is reluctant to take action against Tagros because the company is politically well-connected. However, in March 2006, nearly two years after the illegalities were brought to the notice of the authorities, the TNPCB issued closure orders on the company. Though closure has been notified, the company continues to operate on generators and will reportedly phase out production by month-end. Although, the law demands it, the TNPCB has failed to initiate prosecution, reportedly because it is fearful of political repercussions.

In the 17-month period that Tagros has operated its illegally expanded capacity and with the knowledge of the TNPCB, at least 6 major incidents involving 6 injuries and one death have been reported. The failure of the regulators to take prompt action has directly caused injuries and deaths.

Table 8: A compilation of various violations by Tagros Chemicals (October 2004 to February 2006)

| S No. | Date | Type of accident | Number of people injured | Number of people dead | Action taken by the TNPCB and district administration |
|-------|----------|------------------------------------|--------------------------|-----------------------|--|
| 1. | 7.2.05 | Effluent Discharge or Spill (Land) | None | None | The TNPCB sprinkled sodium bicarbonate in the area to neutralise the effects of the acid. No action has been taken against the company as per law. |
| 2. | 13.2.05 | Workplace accident | None | None | No action taken by the TNPCB. Factories Inspectorate investigated in to the matter and gave and gave a clean chit to the company. |
| 3. | 19.5.05 | Workplace accident | None | One worker dead | Complaint filed with the factories inspectorate, the matter had been investigated but there was no report provided by the department. |
| 4. | 17.10.05 | Workplace accident | Two workers | None | Complaint filed but no response received |
| 5. | 26.10.05 | Workplace accident | Four workers | None | Complaint filed but no response received Tagros has expanded illegally and this violation has been brought to the notice of the TNPCB. A response on this complaint is yet to be received from the Board. |
| 6. | 27.11.05 | Hazardous waste dumping | NA | None | A complaint was filed by the panchayat president with the DEE of TNPCB and the local police station. No prosecution. The company reportedly paid a compensation to the farmer on whose lands the wastes were dumped. |

Another instance of illegal operation involves **Southern Pigments**. This company was first reported to be operating illegally on 23 October, 2005, by SACEM. The SACEM complaint said the company was running on generator and water from a private borewell to manufacture an intermediate chemical for TANFAC. The company's electricity and water connections had been severed when it was shut down earlier. Rules prohibit industries from sinking own borewells inside SIPCOT without prior permission. No action was taken by the TNPCB on the October complaint. On 18.2.06, a second complaint was filed. It is reported that the Assistant Environmental Engineer, TNPCB, was present within the plant when the second complaint was made. The company continued with production during and after the AEE's departure pointing to possible complicity of the TNPCB in the illegality. No action was taken until 27.2.06. Only after repeated phone calls did the TNPCB, on 28.2.06, issue closure orders to the company.

Role of Regulators and Oversight Committees

The TNPCB has changed from an agency that was unresponsive to complaints and disrespectful of villagers, to an agency that is willing to entertain complaints. Its attitude towards villagers, and particularly towards SACEM, has improved. However, the quality of its investigations or consistency of its actions leaves a lot to be desired. The Board has shown a remarkable reluctance to prosecute offenders, and is not using the legal tools given to it to make companies respond to its orders. The Chairman of the TNPCB has demonstrated a callous insensitivity to the plight of villagers exposed to poisons in the air breathed by them. He has claimed that "Nothing can be done," exposing more the unwillingness of the Government to curb pollution.

Although the TNPCB gets most of its information regarding violations from SIPCOT residents or SACEM, it has refused to take them into confidence or communicate to them about action taken. Local Board officials say that they are powerless to take action against offenders, and all decisions on which offender to punish are taken by the head office. Even in extreme cases, only show-cause notices are issued but not followed up on except in the two occasions where closure orders were issued. Several instances exist where routine and blatant violations have been condoned. Investigations are unscientific, and declarations regarding the absence of a problem are not based on science, data or detailed investigations.

However, monitoring and enforcement has improved marginally since a new DEE took over last year.

The Supreme Court Monitoring Committee which started off on an enthusiastic note seems to have lost much of its steam. Consistent with its pattern of functioning in other locations, the SCMC started off in Cuddalore with radical statements and directions threatening dire consequences if the TNPCB did not pull up its socks and clean up Cuddalore. There has been little follow-up on these threats by the SCMC. Specifically, the SCMC has failed to report to the Supreme Court that Tagros had expanded illegally and continues to operate the illegally expanded facility. It has failed to follow-up on its direction to the TNPCB to bring air pollution in SIPCOT to below US EPA-prescribed safe levels. It has failed to follow-up with the CPCB on progress made on developing standards for toxic gases in ambient air.

Also, the SCMC has gone against its own stated principles and the October 14, 2003, Supreme Court order underlining the importance of public participation in environmental monitoring and decision-making. Despite the fact that SACEM and villagers have played a more important role than the TNPCB in detecting and reporting violations, the SCMC has sought to remove them from the Local Area Environment Committee. Currently, the LAEC does not have even one trained monitor.

The role of the Inspector of Factories, the District Administration (including the police) needs to be vastly improved, and procedural action needs to be taken against offenders, particularly in cases of industrial accidents involving injuries or loss of life.

Table 9: Performance Scorecard of the various areas of environment and different authorities incharge

| S No. | Environment/Department/ Committee | Comments |
|--------------|--|--|
| 1. | Air Pollution | Fail |
| 2. | Effluent Discharge | Fail |
| 3. | Hazardous Waste Management | Fail |
| 4. | Industrial Safety | Fail |
| 5. | Tamil Nadu Pollution Control Board | Unsatisfactory |
| 6. | Factories Inspectorate | Unsatisfactory |
| 7. | Supreme Court Monitoring Committee | Unsatisfactory (Started well but has very poor follow up) |
| 8. | Local Area Environment Committee | Unsatisfactory (First term – very good; second term - unsatisfactory) |
| 9. | SIPCOT Area Community Environmental Monitors | Excellent |

Conclusion

The future looks bleak for Cuddalore. Burdened with a host of polluting industries operating in a virtually unregulated environment, SIPCOT residents are unlikely to receive any assistance from the State. While the TNPCB can predictably be expected to go into a state of indignant denial of this report, it is learnt that the State has earmarked SIPCOT and surrounding areas in Cuddalore district for locating all kinds of hazardous and polluting industries.

Plans for expanding the industrial estate are being pushed through despite the failure of the regulatory system and the already deplorable conditions of living in SIPCOT villages. The following industries are

planned for the region:

- 1.Chemplast Sanmar's PVC factory: Effluent discharge into sea, including of saline rejects from desalination plant.
- 2.Textile dyeing units: It is reported that the toxic textile effluents that have devastated Tirupur, the River Noyyal, and the Orathupalayam Dam, will now be pumped over several kilometers to be discharged into the sea in Cuddalore.
- 3.Oil refinery and petrochemical complex

Conditions in SIPCOT Cuddalore remain highly unsafe. The data of the last 2 years warrants maintaining SIPCOT's status as a Global Toxic Hotspot. Seen in the context of the inept regulatory system – TNPCB and Inspector of Factories – the probability of high-impact disasters and frequent mishaps remains frighteningly high.

ANNEXURE 1

Various incidents reported in SIPCOT from October 2004 till September 2005 (12 months)

| S No. | Date | Type of accident | Name of the unit where the accident took place or was responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB, Inspector of Factories and district administration |
|-------|------------------|-------------------------------------|---|--------------------------|-----------------------|---|--|
| 1. | 3 October 2004 | Effluent discharge or Spill (River) | Victory Chemical | NA | None | Effluent was discharged in the River Uppanar | A complaint was made to the TPCB, which made a site visit on the 5 th October 2004 and reported no problem |
| 2. | 13 October 2004 | Effluent Discharge or Spill (River) | Asian Paints | NA | None | Biscuit colour effluent discharge from Asian Paints Penta division | A complaint was made upon which the TPCB made a visit to the site on the same day and reported that the effluent was not from the company and from SIPCOT pipe |
| 3. | 29 October 2004 | Air Incident - Gas Leak | Tantech Agrochemicals | NA | None | Ammonia leak from Tantech was reported by the villagers of Eachangadu and SACEM monitors. | No action taken by the DEE on the Tantech leak |
| 4. | 1 November 2004 | Air Incident - Gas Leak | SPIC Pharmaceuticals | NA | None | Eachangadu villagers reported the gas leak by SPIC Unit (filed on the village letter head) | PCB – DEE visited the site and reported no problem, calling the incident as mass hysteria |
| 5. | 18 November 2004 | Effluent discharge or Spill (River) | Pioneer Miyagi Chemicals | NA | None | Biscuit colour effluent was reportedly discharged by Pioneer Miyagi into the River Uppanar | No problem reported by the PCB. |
| 6. | 25 November 2004 | Effluent discharge or Spill (Land) | Upset in CUSECS pump no 2 | NA | None | There was a reported upset in the pump of CUSECS 2 that led to effluent discharge, but no complaint was made to the PCB as the DEE was present on the spot. | The DEE was present on the spot to supervise the work. |
| 7. | 29 November 2004 | Workplace accident | Pandian Chemicals | One | None | A rod ruptured a worker's | A police complaint has been |

| S No. | Date | Type of accident | Name of the unit where the accident took place or was responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB, Inspector of Factories and district administration |
|-------|------------------|--|---|--------------------------|-----------------------|--|---|
| | | | | | | stomach when he fell on it from a height. The accident occurred during the construction of Pandian factory. First aid was administered to the worker, later he was hospitalised on the same day and discharged on 1.1.2005 | lodged. No progress on complaint. No investigation. No action taken. |
| 8. | 3 December 2004 | Hazardous waste dumping | Victory Chemicals Pvt. Ltd. | None | None | The waste was dumped illegally outside the SIPCOT area on the Vandipalaym road at S. N. Chavadi village. The waste contained high levels of Barium. | The PCB Ordered closure of the unit after the investigation into the unit. It also directed the company to clean up the waste site. The scientific protocol of the clean up has not been disclosed. The Unit restarted its operations after a month of closure |
| 9. | 17 December 2004 | Effluent discharge or Spill (River) | Unknown industry | None | None | At about 3:00 am there was brick red colour effluent discharge was noticed in the Uppanar from the northern side of SPIC. | A letter of complaint was sent to the DEE of TNPCB but no action has been taken on the matter. |
| 10. | 5 January 2005 | Enquiry about the effects of tsunami on the SIPCOT industrial estate | All industries of SIPCOT Industrial Complex | None | None | Following damages were noticed post tsunami: a) the toxic sludge from behind SPIC unit was washed out in the river b) Mountain of toxic waste from behind Victory Chemicals washed out in the river | No response received |
| 11. | 5 January 2005 | Enquiry about the | All industries of | None | None | CUSECS submarine effluent | No response received |

| S No. | Date | Type of accident | Name of the unit where the accident took place or was responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB, Inspector of Factories and district administration |
|-------|------------------|--|--|--|-----------------------|---|---|
| | | effects of tsunami on the the marine outfall of CUSECS | SIPCOT Industrial Complex | | | outfall was reportedly damaged. | |
| 12. | 7 February 2005 | Effluent Discharge or Spill (Land) | Tagros Chemicals Pvt. Ltd. | None | None | People from the neighbouring village, Pachaiyankuppam reported the incident to the authorities and also complained of severe odour in the region | The TNPCB sprinkled sodium bicarbonate in the area to neutralise the effects of the acid. No action has been taken against the company as per law. |
| 13. | 13 February 2005 | Workplace accident | Tagros Chemicals Pvt. Ltd. | None | None | Boiler explosion followed by heavy white smoke and chemical odour was reported from the site. | No action taken by the TNPCB. Factories Inspectorate investigated in to the matter and gave and gave a clean chit to the company. |
| 14. | 13 February 2005 | Air Incident - Gas Leak* | Tagros Chemicals Pvt. Ltd. | None | None | Boiler explosion followed by heavy white smoke and chemical odour was reported from the site. | No action taken by the TNPCB. Factories Inspectorate investigated in to the matter and gave and gave a clean chit to the company. |
| 15. | 15 February 2005 | Workplace accident | Omni Cast Pvt. Ltd | None | None | There was a fire accident reported from the unit. | No action taken by the factories inspectorate |
| 16. | 16 February 2005 | Air Incident - Gas Leak | Industries in SIPCOT, villagers suspect Tantech Agro Chemicals and SPIC Pharma | One 8 year old school girl from Eachangadu village fainted due to the exposure | None | The chemical odour was reported to be extremely high and the school teacher had to shut all the door and windows to protect the children from exposure. | The TNPCB officials made a site visit and a visit to Tantech to verify the complaints and in their action taken report of 8.3.2005 submitted to the LAEC they mention the violations they noticed during the factory visit. No action has been taken to ensure that such incidents do not get repeated. No feedback from TNPCB to villagers or SACEM after visit. |
| 17. | 17 February 2005 | Workplace accident | Tantech Agro | One worker | None | Accident occurred inside the | No action taken against the |

| S No. | Date | Type of accident | Name of the unit where the accident took place or was responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB, Inspector of Factories and district administration |
|-------|---------------------------------|------------------------------------|---|--------------------------|-----------------------|--|---|
| | | | Chemicals Ltd. | injured | | unit while handling the chemicals | unit |
| 18. | 24 February 2005 | Effluent discharge or Spill (Land) | CUSECS 2 | None | None | The overflow occurred due to the electricity failure at the pump house | No action taken. Investigation report not available. |
| 19. | 28 February 2005 | Illegal operations | Tagros Chemicals | NA | NA | It was brought to the notice to the LAEC and SCMC that the unit had expanded illegally in violation of the EIA Notification | Though the TNPCB had informed the LAEC that a show-cause notice was issued to the company, it failed to provide a letter or any information on further action taken on the company. |
| 20. | 1 March 2005 | Workplace accident | Arkema Peroxides | None | None | There were high flames and black sooty and oily deposits reported after the incident | No action taken. Investigation report not available. |
| 21. | 1 March 2005 | Air Incident* | Arkema Peroxides | None | None | There were high flames and black sooty and oily deposits reported after the incident | No action taken. Investigation report not available. |
| 22. | 21 March 2005 | Effluent discharge or Spill (Land) | CUSECS 2 | None | None | Information about the overflow was sent to DEE over phone and through a letter | TNPCB authorities inspected the spot and ensured that there was no effluent outside the CUSECS. |
| 23. | 28 March 2005 and 30 March 2005 | Other: Fish kill in SIPCOT well | Not Known | None | None | The well near Ganeshan hotel in SIPCOT showed peculiar characteristics, the water seemed to be boiling. There was no change in the colour or chemical odour reported from the well. On 30 th a few fishes were found dead in the well | No investigation carried by the TNPCB. No action taken. |
| 24. | 30/ 31 March 2005 | Effluent discharge or spill (land) | CUSECS 3 | None | None | Power failure at the CUSECS was the cause of the effluent discharge | The matter was reported to the CUSECS authorities who then alerted the companies |

| S No. | Date | Type of accident | Name of the unit where the accident took place or was responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB, Inspector of Factories and district administration |
|-------|---------------|------------------------------------|---|--|-----------------------|---|--|
| | | | | | | | upstream of CUSECS 3 to ensure that no effluent is discharged during the time of the failure. |
| 25. | 5 April 2005 | Air Incident - Gas Leak | SPIC Pharmaceuticals Ltd. | None | None | During the pollution patrol, the monitors recorded a very intense odour from the unit and subsequently wrote to the DEE asking him to investigate into matter. | No response from the DEE. No action taken. |
| 26. | 13 April 2005 | Air Incident - Gas Leak | TANFAC | Commuters on the Cuddalore – Chidambaram road gassed | None | There was thick white smoke around the unit and a strong odour of sulphur in the air. 4 people in a bus on the highway vomited as a reaction to the chemical odour. Other symptoms reported were throat irritation and giddiness | The matter was reported to the DEE of TNPCB. According to the DEE a show cause notice was served on the unit, no reports were provided to the monitors in this regard. |
| 27. | 11 May 2005 | Effluent discharge or spill (land) | CUSECS 3 | None | None | The overflow occurred due to a fault in the pipeline. The workers in the unit had repeatedly complained about the poor conditions of the pipelines but no action was taken. SPIC and Pioneer Miyagi discharge their effluents in the CUSECS 3 | Complaint has been filed with the TNPCB but no information communicated by the latter regarding the action taken on this matter. |
| 28. | 14 May 2005 | Air Incident - Gas Leak | TANFAC | Commuters on the Cuddalore – Chidambaram road gassed | None | The gas leak occurred in the aluminum fluoride tank of the unit. The commuters complained of severe eye irritation | Complaint filed with the TNPCB but no response received on the action taken. |
| 29. | 19 May 2005 | Workplace accident | Tagros Chemicals | None | One worker | Worker died on duty while engaged in the mechanical | Complaint filed with the factories inspectorate, the |

| S No. | Date | Type of accident | Name of the unit where the accident took place or was responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB, Inspector of Factories and district administration |
|-------|----------------|------------------------------|---|--------------------------|-----------------------|--|--|
| | | | | | dead | work inside the unit. The worker died on the spot. | matter had been investigated but there was no report provided by the department. |
| 30. | 12 June 2005 | Effluent discharge or spill | Loyal Superfabrics | None | None | Dark brown, untreated effluent was being discharged from the unit to CUSECS 5 | The matter was reported to CUSECS in-charge Mr. Indra Kumar, who assured immediate investigation and action. SACEM also demanded CUSECS Sample reports. No report or action taken on the above reported incident was provided. |
| 31. | 28 July 2005 | Hazardous waste dumping | Pondicherry Alum | None | None | Illegal dumping of effluents in the village by the company. | A formal complaint was lodged with the DEE of TNPCB in the presence of the LAEC chairperson. No action taken. |
| 32. | August 2005 | Workplace accident | Pandian Chemicals | One | None | A female worker was injured in an accident during the construction work of Pandian Chemicals. The worker was a casual worker engaged in the civil works of the factory. | No complaint filed with the authorities by the worker. |
| 33. | 7 August 2005 | Hazardous waste dumping | Unit unknown | None | None | Illegal dumping of effluents and sludge in Sonachavadi village of SIPCOT Cuddalore. The waste was red in colour and had an acid like odour, it was dumped near a pond about 20 feet away from the houses and 100 mts away from the river Uppanar | Semmanakuppam panchayat president filed a formal complaint with the DEE of the TNPCB, no response on action taken by the authorities. |
| 34. | 21 August 2005 | Effluent discharge/Fish kill | Effluent discharge in Uppanar from | NA | None | The incident occurred at about 3 am in the morning, | Complaint made to the DEE of TNPCB, no response received |

| S No. | Date | Type of accident | Name of the unit where the accident took place or was responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB, Inspector of Factories and district administration |
|-------|-------------------|--------------------------------------|---|--------------------------|-----------------------|--|--|
| | | (River) | behind Arkema Peroxides | | | there was an oily layer on the water observed in the area where effluents were discharged into the river, no colour or odour was reported. The fisherfolk who came in contact of the contaminated water reported itching sensations on the skin | |
| 35. | 7 September 2005 | Effluent discharge/Fish kill (River) | Effluent discharge in Uppanar from behind Arkema Peroxides | NA | None | The incident occurred at about 3 pm in the evening, there was an oily layer on the water observed in the area where effluents were discharged into the river, no colour or odour was reported. The fisherfolk who came in contact of the contaminated water reported itching sensations on the skin | Complaint made to the DEE of TNPCB, no response received |
| 36. | 24 September 2005 | Effluent discharge/Fish kill | Tanker lorry discharged effluents in the river near Pondiankuppam Thonithurai | NA | None | The effluents had a strong pesticides odour, the fish kill was noticed only after sunrise, though the effluent was reportedly discharged at around 4 am. Earlier the fishermen had reported better catch than usual leading to speculations that the poisons may have something to do with larger fish catch | Complaint made to the DEE of TNPCB and the Department of Fisheries but no action taken or report provided. |

* Since the workplace accidents also involved release of toxic gases in the air, it is counted as two incidents.

ANNEXURE 2

Various incidents reported in SIPCOT from October 2005 to February 2006 (5 months)

| S No. | Date | Type of accident | Name of the unit where the accident took place or was responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB and district administration |
|-------|------------------|-------------------------|---|--------------------------|-----------------------|---|--|
| 1. | 5 October 2005 | Workplace accident | Victory Chemicals | NA | One worker dead | The explosion took place at about 9 pm in the night, the injured worker was immediately rushed to the hospital where he died next morning. | A complaint made to the Factories Inspectorate, the company reported the accident to the authorities in order to avoid any procedural actions. After two weeks of the incident, the company paid a compensation of more than 2 lakhs to the wife of the deceased worker. |
| 2. | 17 October 2005 | Workplace accident | Tagros Chemicals | Two workers | None | There was a short circuit in the electrical lines of the unit that injured two workers. | Complaint filed but no response received |
| 3. | 23 October 2005 | Illegal operations | Southern Pigments | None | None | The unit was found operating illegally without the requisite permissions and valid electricity connections. | A complaint was sent to the DEE, no action taken. |
| 4. | 26 October 2005 | Workplace accident | Tagros Chemicals | Four workers | None | An acid spill inside the unit reportedly injured four workers that included permanent workers also | Complaint filed but no response received Tagros has expanded illegally and this violation has been brought to the notice of the TNPCB. A response on this complaint is yet to be received from the Board. |
| 5. | 27 November 2005 | Hazardous waste dumping | Tagros Chemicals | NA | None | A tanker dumped sludge waste from the company on Vyrankuppam road near Sonnanchavadi village. The waste was yellow in colour, no odour was reported from the waste but it is also | A complaint was filed by the panchayat president with the DEE of TNPCB and the local police station. No action has been taken in this matter. |

| S No. | Date | Type of accident | Name of the unit where the accident took place or was responsible | Number of people injured | Number of people dead | Other observations | Action taken by the TNPCB and district administration |
|-------|------------------|------------------------------------|---|--------------------------|-----------------------|--|--|
| | | | | | | suspected that the odour was suppressed because of the rain. Since the area had been flooded, it was feared that the waste got mixed in the flood water and contaminated the neighbouring areas. | |
| 6. | 22 December 2005 | Hazardous waste dumping | Loyal Superfabrics | NA | None | One lorry of effluent was dumped in Kudikadu village of SIPCOT area | A complaint was sent to the DEE of TNPCB who later cordoned off the area where waste was dumped and also issued warnings to the company. |
| 7. | 23 December 2005 | Hazardous waste dumping | TANFAC | NA | None | White colour powder was dumped near the back gate of the company. | A complaint was sent to the DEE who immediately neutralised the waste and also issued a show cause notice on the company. |
| 8. | 1 February 2006 | Effluent discharge or spill (sea) | CUSECS suspected | None | None, one animal dead | A dead dolphin was washed ashore, people suspect that it died after getting poisoned by the SIPCOT effluents | No report from the DEE on this incident. |
| 9. | 9 February 2006 | Effluent discharge or spill (land) | GSR Chemicals | One | None | One contract worker fainted after inhaling toxic fumes from the ground while working on the foundation of the building next to GSR chemicals | Letter sent to the TNPCB no action taken. |

i Source: Letter dated 1 April, 2005, from Nityanand Jayaraman to T. Mohan, Chairman, Cuddalore LAEC
ii Source: Dolphin washed ashore - New Indian Express, February 2, 2006