

Environmental and Human Rights Violations in SIPCOT Complex, Cuddalore

Report of the Public Hearing

Panelists:

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About the panelists:



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Dr. S. Janakarajan, currently a Professor of Economics in the Madras Institute of Development Studies (MIDS, Adyar), obtained his Masters degree from Madras Christian College, Tambaram and Ph.D from Madras University, executed through MIDS. He has done his Post-Doctoral work at the Cornell University, USA, during 1992-93 and subsequently was a visiting Professor at the Oxford University, UK for one year during 1995-96. He has travelled widely and has presented many papers in international and national workshops and conferences. His areas of interest are agriculture and rural development, water management, environment, disaster management, institutions and markets. He has published four books and many papers in national and international journals. His recent book (co-edited with Barbara Harriss-White) titled, *Rural India Facing the 21st Century* has been published by Anthem Press, London (2004). His another book in Tamil *Avala Nilayil Thamizhaga Arugal* is widely acknowledged (published by MIDS and Kalachuvadu 2003). His collaborative work on environment and water pollution in South Asia is summarized in a co-authored book titled *The Fluid Mosaic: Water Governance in the Context of Variability, Uncertainty and Change* and published by NWCF (Nepal) and ISET (USA), 2003.



Dr. Rakhal Gaithonde, has completed his MD in Community Medicine from The Tamil Nadu Dr. MGR Medical University, Chennai, and his Post Graduation from Community Health And Development (CHAD), Cristian Medical College (CMC), Vellore. He has worked as a Research Assistant with Community Health Cell, Bangalore and Community Medicine Department of Sundaram Medical Foundation, Chennai. He has also held the post of Senior House Officer at Intensive Care Unit, Sundaram Medical Foundation and has been the Non PG Registrar at Unit I Dept Of Medicine and Infectious Disease, CMC Vellore from 1998 to 1999. He has also been a lecturer at the Community Health And Development (CHAD), CMC Vellore. Currently Dr. Gaithonde is works with the Community Health Cell (CHC), Chennai. He has written a number of essays for CHC on exploration into health and healing and also delivered the Keynote address and background paper on "Health situation in India", at FAIMER conference on Medical Education at CMC Vellore.

Introduction

In early July, organizations working amongst pollution-impacted communities in SIPCOT, Cuddalore, approached us and invited us to serve on a panel of neutral experts to assess the state of the environment and the well-being of communities in the chemical industrial estate. On July 29, 2006, we visited the industrial estate, interacted with the villagers and listened to testimonies from Cuddalore residents, trade unionists, local politicians, women and social activists at a public hearing held in Cuddalore Town Hall. Prior to that, we had received and reviewed detailed briefing packs containing various reports relating to pollution in Cuddalore, and the responsiveness of regulatory agencies.

We learnt through the reports and our interactions that residents of SIPCOT industrial estate in Cuddalore have complained about pollution from chemical industries for at least 20 years. Industries in the estate manufacture chemicals, pesticides, pharmaceuticals, paints, dye stuff, dyes etc. Over years, pollution from these industries has damaged vast tracts of land, polluted the groundwater and the local river Uppanar, destroyed livelihoods, hurt many and killed others. Residents' complaints about the adverse effects of the industries on environment, health and livelihood have fallen on deaf ears. Villagers allege that the State Government and its regulatory agencies like the Tamil Nadu Pollution Control Board (TNPCB) and the Factories Inspectorate have colluded with industries to shield and condone violations by the industries. Indeed, we even witnessed an ongoing violation in the form of an unauthorized construction at Pioneer Miyagi Ltd in Semmankuppam village.

Numerous agencies, committees and panels have cautioned against the expansion of polluting industries in SIPCOT, and have hinted at the need for studies to assess existing pollution.

As early as in 1994, the Asian Development Bank had warned of salinity intrusion in the region. "The supply of water to the industries is dependent on groundwater. Since the aquifer in the Cuddalore region is close to the coast, there is a danger of seawater intrusion to the aquifer if there is severe depletion of its quantity without adequate recharge from other sources. . .Present data show that saline intrusion has already occurred in the Cuddalore coastal area."¹ In 1998, the State Human Rights Commission headed by Retd. Justice Nainar Sundram investigated reported environment-related human rights violations in SIPCOT. Justice Sundaram, in his report, stated that the SIPCOT Cuddalore is over-polluted and that people's health and the local environment cannot withstand the burden of any new chemical industries. In 1999, the National Environmental Engineering Research Institute conducted a study for the Tamilnadu Pollution Control Board. They advised that "The SIPCOT area with the proposed Phase II requires Regional EIA. . ."²

In July 2003, the Indian People's Tribunal on Environment and Human Rights constituted a committee headed by Justice (Retd) J. Kanakaraj of the Madras High Court to investigate into alleged human rights violations due to industrial pollution and assess local sentiment towards a new PVC factory proposed to be set up by Chemplast Sanmar. The Tribunal cautioned against the setting up of new industries, and recommended that the PVC factory should not be allowed to come up in Cuddalore given the known hazards of PVC as a material and its production.

In September 2004³ and May 2005⁴, villagers trained in environmental monitoring released a report on ambient air quality in SIPCOT. The study which analysed for several toxic gases in the air found at least 25 chemicals including 8 carcinogens in SIPCOT air. Some of these chemicals were 20,000 times above the safe levels prescribed by the US Environment Protection Agency (USEPA). In a latest documentation of pollution incidents in SIPCOT by SIPCOT Area Community Environment Monitoring (SACEM), at least 20 incidents of environmental violations in the SIPCOT complex were reported between January 2006 and June 2006. At least 5 people were injured and three killed in these incidents.

Rather than take past expert recommendations or current warning signs seriously, villagers allege that the Tamilnadu Government is diverting more and more pollution and water-intensive industries to Cuddalore. A controversial PVC factory proposal which was rejected by SIPCOT residents in 2002, and by residents at

¹ ADB, June 1994. "Tamilnadu Environmental Monitoring and Pollution Control." TA No. 1366-Ind, Final Report – Vol. II, pg. 4.26

² NEERI, Nagpur. 1999. "Subsoil water quality assessment in and around the SIPCOT Industrial Complex."

³ SACEM. September 2004. "Gas Trouble: Air Quality in SIPCOT, Cuddalore."

⁴ SACEM, May 2005. "Gas Trouble II: Air Quality Status and Assessment of TNPCB's Compliance to Supreme Court Monitoring Committee Order."

Krishnapatnam, Andhra Pradesh a year later, is attempting to return to Cuddalore in the face of stiff community opposition. Similarly, an oil refinery proposal rejected by local fishermen about five years ago is set to return. In all, at least three industrial proposals threaten SIPCOT Cuddalore:

- 1.A PVC plant by Chemplast Sanmar Ltd
- 2.A Textile Park by South Indian Mills Association
- 3.An Oil Refinery by Nagarjuna Oil Company Ltd

In the meantime, ongoing industrial pollution has worsened the environmental, public health and economic crisis of local farmers, fishers and other residents.

The main objectives of our visit and the public hearing were to evaluate the following:

- 1.What is the status of the environment?
- 2.Are regulatory authorities fulfilling their mandates?
- 3.Have the long-standing concerns of local residents been addressed?
- 4.Is the environmental infrastructure of SIPCOT equipped to safeguard the environment?
- 5.What is the receptivity of local residents to new industries?
- 6.If the concerns of local residents have been addressed?
- 7.Can the local environment support an increase in polluting and water-intensive industries?

In summary, we found the living conditions at SIPCOT Cuddalore to be pitiable. The pervasive bad odour, the devastated environment and the lengthy list of health complaints of residents made us wonder how they managed to live there. The frustration among the local youth was palpable, leading us to believe that any increase in pollution or continued collusion between Government and polluters could result in a serious law and order situation in Cuddalore. Rather than benefit the local economy, industries have eroded the self-sufficiency of the region throwing weavers, fisherfolk and farmers out of their traditional livelihoods. Increased health expenditure combined with lower incomes has impoverished the communities, and compromised their ability to exercise healthy choices. There is also a sense of hopelessness at the blatant manner in which companies pollute and regulators and state administration ignores these violations.

The residents and environment of SIPCOT Cuddalore desperately needs the help of the Government. Like in Bhopal, SIPCOT residents too need clean drinking water, environmental clean-up, long-term medical rehabilitation and livelihood support. The current proposals to set up groundwater intensive polluting industries in Cuddalore will only threaten the long-term economic sustainability of the region. We strongly urge the Government to abandon any proposals to set up new polluting industries in Cuddalore. Instead, the Government should look to providing value-adding opportunities to traditional economies such as fisheries, agriculture and weaving. The proposed textile park, PVC factory and oil refinery are certainly not in the interests of local people, and must be given up.

Prof. R. Saraswati
Prof. S. Janakrajan
Dr. Rakhal Gaithonde

Part I: Site visit to SIPCOT complex, Cuddalore

SIPCOT Industrial Complex

Set up in 1982 by the State Industries Promotion Corporation of Tamilnadu (SIPCOT), the Cuddalore Chemical Industrial Estate is located 8 kms south of Cuddalore town on the seaward side of the Cuddalore-Chidambaram Highway, stretching from Pachaiyankuppam in the North to Semmankuppam in the South. Phase I of the industrial complex spreads over 200 hectares (519 acres) and is set up to accommodate 53 units. Phase II covers 88 hectares (200 acres) while Phase III of the complex will cover about 300 acres of land and is located about 26 km from Cuddalore town, near Periapattu village on the Cuddalore-Chidambaram highway.

Currently, 22 functional units lie within Phase I of the industrial estate on the western bank of the River Uppanar. A few companies such as EID Parry, Arkema Peroxide, Clariant and Bayer operate outside the SIPCOT limits but in the vicinity of the Estate. These companies manufacture pesticides and intermediates, pharmaceuticals and intermediates, chemicals, plastics and plastic additives, dyes and intermediates and textiles.

Site visit:

Our visit to the SIPCOT chemical complex started at 7:30am. The panel members assembled at the 1st crossroad before Tagros Chemicals where they were greeted by local members of SIPCOT Area Community Environmental Monitoring (SACEM). SACEM members introduced us to the history and the background of SIPCOT before taking us on a pollution patrol of the complex. SACEM explained that they regularly conduct pollution patrols. These exercises, usually undertaken by a group of two or more monitors, involves traveling on a bicycle or autorickshaw through the industrial estate observing the levels of pollution, the functioning or non-functioning of specific factories, the levels of odour at various key locations, and other indicators of air or other pollution. The observations of each pollution patrol are sent to the local Tamilnadu Pollution Control Board and uploaded onto a website: www.sipcotcuddalore.com.

Tagros Chemicals:

SACEM monitors informed us that Tagros Chemicals was one of the worst violators in SIPCOT. The unit manufactures pesticides. Work and environmental conditions at the plant are said to be very poor. The company is politically powerful, and was able to strong-arm the Tamilnadu Pollution Control Board into ignoring its legal violations. The company allegedly constructed an entirely illegal factory unit and ran production at the illegal factory with the full knowledge of the Tamilnadu Pollution Control Board. Complaints to the TNPCB and even instructions by the Supreme Court Monitoring Committee failed to elicit any action by the TNPCB. Rather, the company has been given post-facto environmental clearance by the Ministry of Environment & Forests, and Consent to Operate by the Tamilnadu Pollution Control Board. Interestingly, the factory that has been given permission to operate does not yet have permission to be constructed. [For more details on Tagros please refer to SACEM report: "Is SIPCOT Safe? A Scorecard on Environment and Safety in SIPCOT Cuddalore", March 2006]

During the visit, there was no chemical odor but we saw barrels stored 15-feet high inside the company. Monitors told us that the barrels contained toxic wastes. They also said that the odour was low because industries were either shut down or operating at low capacities in anticipation of our visit.

Pachaiyankuppam village:

We stopped at a street in Pachaiyankuppam village near Tagros Chemicals. We spent about twenty minutes interacting primarily with women residents and children.

From their complaints and the visual evidence, we gathered the following to be the main problems:

- Even cooked food and water acquired chemical smell and children fall ill and vomit after eating.
- Metal utensils used for storing water were red in color due to chemical content in the borewell water.
- Until 1990, the ground water was available at around 10 feet and the quality of water was very good. At

present, even though bore water is available, quality has deteriorated drastically. It is unusable, with bad odour and colour. Now the water table has declined and the quality is too poor to be used for consumption.

- During rainy season, untreated effluents from many industries enter people's homes. Rainy days are followed by bouts of sickness.
- Residents reported a range of health problems. Women complained of delayed onset of puberty – at age 15 instead of the normal age of 13 -- among girls. Skin and breathing problems were also common complaints.
- Weaving as a household industry in the area has virtually disappeared.
- People from the village do not get employment in the industries.
- Tagros is the worst polluter identified by people in this village.

Victory Chemicals:

The industry was operating at a low capacity on the day of the hearing. SACEM members informed us about the unit's hazardous waste dumpsite behind the factory on the banks of Uppanar. There was no chemical odour recorded during the visit but the unit was emitting dense white smoke.

CUSECS 6:

When we visited the last pumphouse of CUSECS, the common effluent collection and discharge company, on the banks of river Uppanar, it was shut down. There was no activity around the area. The panel did get a glimpse of the storage tank and the effluents.

CUSECS -- or Cuddalore SIPCOT Industries Common Utilities Ltd is an arrangement through which treated industrial effluents are collected through six pump houses and finally discharged into the sea. In practice, SACEM indicated that only untreated effluents are discharged into the sea as well as into the Uppanar river. [For more details on CUSECS please refer to SACEM report: "Is SIPCOT Safe? A Scorecard on Environment and Safety in SIPCOT Cuddalore", March 2006]

TANFAC Industries:

From our vehicles, we saw the backyard of TANFAC Industries where we saw toxic wastes dumped haphazardly all over the yards. The open manner in which it was lying exposed to the elements spoke volumes about the lenient attitude of the Tamilnadu Pollution Control Board and even the Supreme Court Monitoring Committee, which we were told has been intimated about this violation. What we saw also raised questions about the infrastructure within individual units as well as the entire complex to handle toxics generated during production. There was no odor reported from the unit, and it seemed that the unit was not operating.

Shasun Drugs and Chemicals Ltd:

Though the panel members did not stop at Shasun Chemicals, they could not avoid the strong fruity odor that was coming from the unit. The odor was ranked at 5 on a scale of 1 to 10 by monitors. Some of the members of the pollution patrol team began reporting headaches. By this time, some of us were also feeling distinctly uneasy.

Loyal Super Fabrics, Kudikadu Colony:

We visited the house of Mr. Mani, adjacent to Loyal Super Fabrics in Kudikadu Colony. The house shares one of its boundary walls with the factory's Effluent Treatment Unit and has been worst affected. The sludge stored in the ETP breeds flies which infest the house. The flies were on the kitchen, living room and outside walls, on the roof, inside food and water, and if one were not careful, would even enter the nose and mouth. The flies literally carpeted the walls. Even though the factory has been closed by the TNPCB for some violations, the problems caused by the unit for local residents remain. The residents also complained that the company was pumping

effluents into the ground as a result of which the groundwater in the area has been totally destroyed.

We were also taken to inspect the hazardous waste and the massive mountain of firewood belonging to Loyal Super Fabrics stored in a neighboring plot. A fire in the wood lot can prove disastrous given its proximity to hazardous industries and residential areas. Some local youth were very agitated about the pollution from this company and requested that at the very least the company should be forced to adopt zero discharge and change from wood fuel to furnace oil for its boiler.

CUSECS 5:

Some of the panel members paid a short visit to the CUSECS 5 pumping station only to discover that the pump was working at very low capacity. There was no chemical odor recorded from outside CUSECS 5, but there was an odour within the unit.

GSR Chemicals:

The panel members were also informed about GSR Chemicals which has shut down temporarily for operational reasons. One monitor recalled that the company had discharged its effluents on land, and one worker who was digging a foundation on the site had fainted as a result of gases coming from the ground.

Asian Paints:

The panel members noticed black soot being discharged from the chimneys of Asian Paint. Kudikadu villagers also pointed out the soot deposits on the road barely 20 metres away.

Muniswaran Temple Pond, Kudikadu Village:

East of the Asian Paints rear wall, in Kudikadu, is a small shrine to a local village deity, and a beautiful "sacred" pond at the base of sand dune. About 45 acres of agricultural land stretch eastward and south from the pond. According to villagers, these lands that were irrigated by this pond have lain fallow for several years because of contamination. The tank was completely polluted. The water was foul-smelling and red in colour. Earlier, water from this sacred pond was used to prepare *Thai Pongal*.

According to the residents, this area was destroyed primarily by effluents pumped into the ground by Loyal Super Fabrics.

Tantech Agro Chemicals:

Acid like odor ranking 4 on a scale of 10 was recorded from the service road next to Tantech.

Eachangadu:

The panel visited the riverside of the Eachangadu village. An odour of human excreta assailed us as we entered the village and stayed with us all the way to the river bank more than 200 metres away. According to the monitors, SPIC Pharma was the source of the odour. The company manufactures Penicillin drugs. Some members of the visiting team experienced a feeling of suffocation and headache. We also saw an embankment abutting the factory's back wall extending into what appeared to be the floodplains of Uppanar. We were informed that the area near the landfill was earlier used as salt pans.

Sangolikuppam village:

At Sangolikuppam, we interacted with inland fisherfolk, who complained of damage to livelihood as a result of river pollution. About 15 to 20 years ago, fisherfolk had a lucrative business, catching at least Rs.1000 (at current prices) every day in the Uppanar river. But today they are unable to earn even Rs.50/day. Fisherfolk reported that a number of species had disappeared, and many fish were caught with visible deformities such as tumours or skin diseases. Consumers also reportedly avoid or pay poor prices for fish from the River.

Sangolikuppam to River Uppanar:

After visiting Sangolikuppam, we were taken to the banks of river Uppanar. En route to the river, SACEM pointed out a five-storeyed building under construction inside the premises of Pioneer Miyagi Chemicals. The building is allegedly illegal, and one worker was badly injured during an accident onsite on 28 May, 2006. The company enjoys substantial political support, and has continued construction without permission despite warnings by the TNPCB and the District Collector. However, it was clear that neither the district administration nor the TNPCB was prepared to go beyond warnings. Local TNPCB officials told monitors that they were powerless to act as the Company had the support of higher officials.

At this point the monitors also recorded a change in the wind direction. The wind had shifted and its direction was from South West to North East.

Pioneer Miyagi, Pandian Chemicals, Chemplast site and Arkema Peroxide:

The panel also passed by Pioneer Miyagi, Pandian Chemicals, Arkema Peroxide and the adjoining plot which is the site for the proposed Chemplast PVC plant. The proposed location of Chemplast, adjoining Pandian which manufactures explosive rocket fuel, and Arkema which also reportedly stores explosive substances, is cause for concern. Vinyl Chloride Monomer – Chemplast's primary raw material – is also highly explosive and a confirmed cancer-causing chemical. Because the prevalent wind direction was from Southwest to Northeast, we were unable to sense any odours from these factories as we traveled on the Cuddalore Chidambaram highway.

Sonanchavadi village:

In Sonanchavadi, the panel was greeted by a large number of children and women. Fishermen joined the meeting later. The woes of this village were very similar to that of Sangolikuppam. The fishermen complained of dwindling catch in the river due to chemical pollution and poor sales due to fish contamination. Health disorders related to pollution were also rampant in the area. The fishermen also showed us a fish with visible injuries allegedly caused due to the chemicals in the river. People in this village said they were among the poorest in SIPCOT area. They expressed their concern about the proposed PVC plastic facility and requested the panel to convey the village's opposition to the factory.

Semmankuppam village:

The last stop for the panel was Semmankuppam village, near the proposed site for the Chemplast Sanmar PVC facility. The panel met different groups, predominantly of women, in this village. The first meeting was held at the village Public Distribution System (PDS) outlet near the local school. Groups of men and women gathered to speak to the panelists about the problems they faced due to pollution. The stories of the people were similar to what the panelists had heard in the other villages. Health disorders, menstrual disorders among women, groundwater pollution and low yield of crops were some of the problems narrated by the residents. We also met two other women's SHG in the village. The opposition to new polluting industries was communicated.

Part II: Public hearing at Town hall

A public hearing was held at Cuddalore Town Hall between 3 and 6 p.m. We heard from village representatives, trade unionists, individuals working in public interest, press persons, women and some representatives of political parties. These people expressed their concerns about the pollution from chemical industries in SIPCOT and talked about their apprehensions for the future. They condemned the industries and the Government for ignoring their appeals in this regard. They urged the Government to improve the situation.

One person suggested that industries could be allowed if they ensure zero pollution. Others cried down that idea stating that industries make all kinds of promises before they set up but fail to keep their word. SIPCOT residents reiterated that industries have impoverished the region, and eroded its economic base rather than contribute to it.

Despite being invited, none of the Government agencies attended the hearing. A few PROs from SIPCOT

industries were present. However, no official representations were made by the industry to the panel.

Some of the speakers at the hearing were:

M. Nizamudeen (General Secretary, Cuddalore District Consumer Protection Organisation), Mrs. Sujata Srinivasan (President, Rotary Club of Cuddalore), S. Elumalai (President, Chitrapettai panchayat), P.V. Balu (President, District Jewellers Association), Murali (Member, Liberation Panthers), P. Shanmugham (Member, PMK, resident of Eachangadu), Palanivel (resident of Kudikadu village), M. Mani (resident of Kudikadu village), Ranganathan (resident of Kudikadu village), Venagiri (resident of Vairamkuppam village), Senthil Kumar, Murugan (resident of Semmankuppam village), Kumavel (resident of Sangolikuppam village), P. Pavanambal (resident of Sangolikuppam village), Sumathi (resident of Eachangadu village), Kadal Danasekaran (Consumer Activist from Cuddalore town), R. Anjalai (resident of Periyapillianchavadi village), Tulasinghan (resident of Sonanchavadi village), Nityanand Jayaraman (independent journalist and researcher), Kuppaswamy (resident of Pachiyankuppam village)

Observations of the panelists:

Air pollution: After visiting SIPCOT, we were convinced that the entire area is severely polluted due to industrial activity. Although monitors told us that many industries had closed down or operating at low capacity in anticipation of our visit, the pollution was quite bad in some spots. In every village people told us about the various kinds of odours that emanated from the units in the area. Some of the residents complained of *chest tightness (maar addaippu)*, *itching of the throat and running nose* as a result of their exposure to the clouds of smoke emitted by the factories. One resident said “*when the factories release smoke – it comes like a cloud, we can see it well, we immediately go inside our houses, close everything, close the food.*” We also observed that trees and plants closer to the factories had a higher proportion of dead leaves than those further away.

One of us, Dr. Gaithonde, was also affected by the pollution: “Within about 3 hours after starting the visit, I developed severe itching in the throat, mild breathlessness and watering of the eyes. The breathlessness was certainly a mild wheeze. This, to me, is a clear sign of the presence of pollutants/irritants in the air, given that I do not have a known allergic tendency, and given the timing of the attack and the circumstances it could not be anything else. By the time the visit was over and we were back to Cuddalore and eating lunch I was feeling much better.”

Water Pollution: Looking at people’s utensils, hearing their complaints, having read about the NEERI study on groundwater, and seeing the temple pond, we are convinced that the groundwater in the area has been affected by contamination and salinity intrusion due to industrial activity. In Kudikadu, Shasun Chemicals was reportedly supplying water to a limited number of households. In Pachaiyankuppam, the water was yellow-tinged. Women showed us aluminum vessels that had changed colour from silver to rust brown or orange within six months. Women are particularly burdened as a result of the groundwater problems. One woman told us “*I have to travel more than half a kilometer for drinking water and there I have to wait up to 2 hours to get even one pot of water.*”

Villagers complained that goats and cows fall sick often, especially after consuming local grass or water. They also said that ever since SIPCOT came up, veterinarian’s visits to the villages has increased.

Industries draw their water from deep borewells. Just as predicted by the Asian Development Bank in the 1990s, the drawal of water from the coastal aquifer has now led to widespread salinisation of groundwater in the SIPCOT area. People complain that their borewells and water sources are now useless because of salt water intrusion.

Health: The following ailments were frequently reported: Skin itching and other skin diseases; breathlessness; difficulty in breathing; tightness in chest; giddiness; dizzy spells; headache; throat irritation; stomach ulcers; diarrhea; nausea; indigestion; mouth ulcers; burning sensation in eyes; hearing problems; dimming of vision; asthma; white discharge and excessive bleeding (for women); uterine cancer; infertility; miscarriages; jaundice. Generally, people are affected by one or more of these ailments. There are no proper medical facilities or experienced doctors.

It is very clear that many of these ailments are directly related to pollution. For instance, one woman said: “*The moment the 'cloud' comes there is a chest tightness, itching of the throat and running nose.*” This is indicative of air pollution. Other statements, such as about a spurt in cancer cases, indicate the need for urgent assessment of health issues. One woman said “There are four women of different ages who have got cancer. We have never seen this before.”

In Pachaiyankuppam, we heard women complaining that the average age at puberty among girls was getting delayed from a normal of 13 years to 15 years. This is cause for concern and more indepth study because certain environmental poisons are known to disrupt the endocrine system leading to such disorders.

Agriculture: The panel witnessed first-hand the air pollution, widespread groundwater pollution, direct contamination of land and indiscriminate hazardous waste dumping. We also saw about 45 acres of land near the Temple Pond in Kudikadu that was lying barren. Agriculture on the Western side of the National Highway seemed to be healthier than on the Eastern side where the industries are located. However, villagers testimonies indicate that the effects are spreading to the Western side too. Residents of Semmankuppam, a predominantly agrarian village, say they used to get three crops a year until 1995, but have to struggle to raise one crop nowadays. Also, salinity intrusion -- upto 1 km according to some -- has laid waste their borewells and forced

them to depend on rains. Paddy yields have dropped from 40 bags per acre to 20 bags (of 75kg each). This has had a disproportionate impact on agricultural labourers and small and marginal farmers.

Youth: The attitude of the youth that we interacted with was very pitiable. Faced with unemployment and a desperation and helplessness bred out of the insensitivity of regulatory agencies, the youth were very angry. They constantly referred to resorting to violence or taking extreme measures such as committing suicide if the Government doesn't intervene to end pollution. They were upset that industries had destroyed what options were available for them in agriculture without providing safe and secure employment to locals. Only casual labour in hazardous activities were available. Even here, the pay is low and the job insecure.

Women say that it is difficult to find brides for young men from SIPCOT because people are reluctant to send their daughters in marriage to SIPCOT villages fearing for the bride's health.

Fisheries: Documentary evidence presented by SACEM in the form of two reports titled "Scorecard"⁵ highlights instances of illegal discharge into the River Uppanar by industries. Pioneer Chemical and Arkema Peroxides are named as repeat offenders. Fisherfolk testimonies across villages are consistent that fish catch and average earnings have declined, and fish variety has reduced. Varieties of large crabs and *Vatta Iral* (a large shrimp variety) are locally extinct. Consistent complaints were also received about the low prices fetched by "*chemical meen*" (chemical fish) due to consumer concerns about quality. In Sonnanchavadi, we were shown a fish with visible deformities. One fisher panchayat leader spoke of marine pollution due to discharge by CUSECS into sea. According to villagers and the leader, CUSECS discharges untreated effluents into the sea at Rasapettai.

Weaving: At least one village, Pachaiyankuppam, mentioned that weaving as a livelihood had also disappeared throwing a large number of weavers into destitution.

Social Capital: The locals mentioned that the factories create rifts within communities by giving a contract to one or the other community leader and neglecting the other. They remark that this is done purposely to break the unity among the people. People also mentioned that the local leaders and the panchayat leaders were all in the pay of the factory, thus they always spoke for the factories neglecting the interests of the people.

Industrial employment: People condemned local industries for failing to contribute to the local economy or provide jobs. Only coolie jobs are available on a contract basis, and contractors fail to provide workers with ESI or PF coverage. Industries that were allowed to come up on the backs of promises of jobs for local people failed to provide jobs once they set up. Contract labourers earned between Rs. 60 and Rs. 85. Accidents are treated on an ad-hoc basis and compensation amounts are decided upon by corrupt politicians and trade union leaders. Legal compensation mechanisms are seldom pursued. In an instance, where a worker's widow secured ESI compensation after the death of her husband at an industrial accident in TANFAC, the company continued to deny that the victim had worked at the plant.

Such testimonies strengthen the panel's view that industries in SIPCOT are operating in a negligent manner with a depraved indifference to labour rights. It appears that neither the district administration nor the Labour Department's Inspector of Factories care too much for the workers. The role of trade unions too seems dubious.

Response of Industries and Government: Despite invitations to attend the public hearing, representatives from the industry and Government departments failed to depose in front of the panel. The panel also saw first-hand that the industry seemed to have an upper-hand over the district administration and pollution control regulators. In the instance of Pioneer Miyagi's illegal construction, we learnt that the company had ignored orders by district authorities and the TNPCB. The authorities too seemed reluctant to punish the violators, and seemed content with repeating their orders. We were given the example of Tagros Chemicals, where the company had expanded production at an illegally constructed factory unit. The illegal factory operated for two years before a public hearing was held by the TNPCB to seek comments on whether or not the factory should be constructed. The illegality was pointed out. But the TNPCB did nothing despite confirming the illegality. By and by, both the Ministry of Environment and Forests and the TNPCB regularized the illegality. It is clear that companies with political clout can and do get away with anything in SIPCOT. Such unregulated and corrupt functioning in dealing with highly hazardous industries located in close proximity to residential populations is a recipe for disaster.

⁵ SACEM. March 2006. "Is SIPCOT Safe? A Scorecard on Environment and Safety in SIPCOT, Cuddalore." SACEM, July 2006. "Scorecard on Environment and Safety in SIPCOT, Cuddalore – January to June 2006."

Other Problems: Locals spoke of numerous social problems related to pollution. Women complained that their jewellery were damaged because of air pollution, that people didn't want to send their girls as brides to SIPCOT families, and that relatives didn't want to visit them because of the pollution. People who came to visit would hesitate to eat or drink food at the host's house. In Mr. Mani's house (Kudikadu), flies were seen covering all walls, including kitchen, inside rooms, outside walls and on banana trees in the garden. Pesticides seem to have had no effect on them. Residents said the flies entered their mouths when they opened it to eat. They had to sleep with their mouths and nose covered. As a result, visitors refused to come to their house.

New Industries: Throughout our visit and interaction, we did not hear even one villager who supported the proposals for the Chemplast PVC factory, the SIMA Textile Park and the Nagarjuna petroleum refinery. One woman from Vairankuppam said: "Construct the Chemplast company after killing all of us – on our dead bodies." Others who came from the villages near the proposed textile park expressed their fears that the local groundwater table would be damaged and expressed their opposition to the proposal. Villagers expressed a shared sentiment that they did not trust the Government or the industries to honour their word. Once set up, the industries will behave much in the same way as those in SIPCOT. One fisher leader said that already Chemplast was behaving dishonourably by attempting to conduct surveys without consulting the local fishermen. He referred to an incident where the company was conducting marine surveys on the pretext that it was a survey for a Tsunami warning system. When confronted, the fishing boat hired by the company cut the anchor chain and fled. The collusion between the Government and industries in pushing through industrialization without regard to due process may create an explosive situation.

Villagers said they welcome clean industries that could provide secure jobs to local people.

Recommendations:

1. Provide clean piped drinking water to SIPCOT villagers. The water should be provided by Panchayat and paid for by the industries.
2. No further polluting and/or water-intensive industries must be allowed to come up in Cuddalore. The Government should respect local sentiments and abandon plans to set up the Chemplast PVC plant, the SIMA Textile Park and the Nagarjuna Refinery.
3. Illegal expansion, such as in the case of Tagros Chemicals and Pioneer Miyagi, must be viewed very seriously, and stringent action must be taken against violators and politicians/Government officials protecting the industrialists. This will convey to people that rule of law exists and prevent youth from taking recourse to extreme measures.
4. The capacity of regulatory authorities and their accountability to people must be enhanced, and officials should be protected from political interference.
5. Constitute an empowered committee of local citizens, including women, of unquestionable integrity to monitor pollution, accept and forward grievances, and inspect factories to take samples.
6. Cultivate a culture of transparency by requiring the TNPCB district office to keep the Consent Register and results of periodic sampling open for public inspection.
7. A detailed study on the impact of industrialization and pollution on the lives, health and livelihoods of local people, and on the environment should be conducted by a reputed institution, with participation of local people. The industry must pay for the study, and for compensation for damages assessed in the course of the study.
8. Polluted lands, the River Uppanar and the contaminated aquifers must be rehabilitated at the cost of the polluter.
9. Free medical camps must be organized at least once in three months. A 24-hour hospital with all required facilities and qualified doctors must be set up in the area. The ESI Hospital should be upgraded

and adequately staffed.

10. All companies must be forced to install Reverse Osmosis plants and adopt zero discharge.
11. Existing industries must employ local people and graduates. Contractors must be strictly regulated and casual labourers should be given adequate safety devices, ESI and PF benefits.
12. Any further pressure on the coastal aquifers will lead to massive saline intrusion laying waste vast acreage of agricultural lands. No further drawal of groundwater should be allowed.

Annexure I

Chronology of Reports and observations by various organisations about the environmental and health conditions in SIPCOT Cuddalore

Year	Name of the report	Highlights
1994	Tamil Nadu Environmental Monitoring and Pollution Control, Asian Development Bank, T.A. No. 1366-Ind, Final Report -Vol. II	Asian Development Bank report highlighted that the treated effluent discharged into the Uppanar contains Total Dissolved Solids (TDS), chlorides and sulphates in excess of the TNPCB standards.
1998	Report of the visit of Honourable Thiru Justice S. Nainar Sundaram, Chairperson, State Human Rights Commission, Tamil Nadu, to Cuddalore, during October 1998 for the purpose of making a preliminary enquiry into the representation by the social justice cell, Cuddalore complaining that the running of the industries within SIPCOT Complex around Cuddalore affects human rights	<p>State Human Rights Commission (SHRC) headed by Justice (Retd) Nainar Sundaram investigated complaints of pollution-related human rights violations in SIPCOT Cuddalore. Justice Sundaram reported, "I am convinced the public health cannot take more burden than that which already has ensued by the existing Chemical Industries. Maybe, elsewhere in the District of Cuddalore there could be establishment of Chemical Industries, of course assessing the pros and cons for the same."</p> <p><i>The report categorically recommended against the setting up of polluting industries in the Cuddalore region.</i></p>
1999	Subsoil Water Quality Assessment In And Around The SIPCOT Industrial Complex, Kudikadu Village, Cuddalore	<p>That a study carried out by Nagpur-based National Environmental Engineering Research Institute (NEERI) found that the groundwater in several villages within SIPCOT was seriously contaminated due to indiscriminate disposal of toxic wastes and effluents by SIPCOT industries.</p> <p>The study also suggested that the local environment was under stress, and recommended that a comprehensive Regional Environmental Impact Assessment and a carrying capacity study of the River Uppanar be conducted before contemplating the establishment of any new industries in the industrial estate.</p>
2003	The Indian People's Tribunal Report On Human Rights Violations, Industrial Pollution and the Implications of the Proposed Chemplast Sanmar PVC Factory in SIPCOT, Cuddalore, T.N	<p>Indian People's Tribunal on Environment and Human Rights in July 2003, headed by Justice (Retd.) J. Kanakaraj, highlighted the human rights violations in SIPCOT Cuddalore due to the indiscriminate pollution from the chemical industries in the area.</p> <p><i>The report recommends that only labour-intensive and non-polluting units should be allowed to come up in Phase II of SIPCOT. The report categorically recommended against the setting up of Chemplast Sanmar's PVC factory.</i></p>

http://www.sipcotcuddalore.com/downloads/Cuddalore_IPT_rep

Year	Name of the report	Highlights
2004	Gas Trouble – Air Quality in SIPCOT, Cuddalore	<p data-bbox="558 212 651 235">ort.pdf</p> <p data-bbox="558 289 1463 468">First air quality report released by the local communities testing for the presence of the toxic chemicals like the Volatile Organic Compounds and the Sulphur Compounds. The report found the presence of 22 toxic chemicals in the air, including 8 carcinogens and some chemicals were in levels 22000 times above the safe levels prescribed by the US Environment Protection Agency.</p> <p data-bbox="558 506 1463 569">http://www.sipcotcuddalore.com/downloads/cuddalore_air_quality_report.pdf</p>
2005	Gas Trouble II - Air Quality Status and Assessment of TNPCB's Compliance to Supreme Court Monitoring Committee Order	<p data-bbox="558 621 1463 768">A follow up study to the 2004 Air quality report was conducted and the results were similar to the earlier report thus highlighting that despite strict recommendations from the Supreme Court Monitoring Committee the TNPCB and the SIPCOT industries failed to check the levels of toxic gases in the air.</p> <p data-bbox="558 806 1435 835">http://www.sipcotcuddalore.com/downloads/gas_trouble_2.pdf</p>
2006	Is SIPCOT Safe? A Scorecard on Environment and Safety in SIPCOT, Cuddalore	<p data-bbox="558 888 1463 1035">The report is a compilation of various pollution incidents in SIPCOT Cuddalore, in the past seventeen months. The report documents 45 instances of environmental violations, including 10 cases of industrial accidents that have injured at least 9 persons and killed 2. On average, SIPCOT witnesses one major incident every week.</p> <p data-bbox="558 1068 1463 1134">http://www.sipcotcuddalore.com/downloads/Cuddalore_Scorecard.pdf</p>