

# **Activity Report of SIPCOT Area Community Environmental Monitors (SACEM)**

**December 2003 to December 2009**



**Compiled by:  
SIPCOT Area Community Environmental Monitoring (SACEM)  
&  
Community Environmental Monitoring (CEM)**

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**[www.sipcotcuddalore.com](http://www.sipcotcuddalore.com)**

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## **Introduction to SIPCOT Area Community Environmental Monitoring (SACEM):**

Since the mid-1980's, residents of SIPCOT Cuddalore have suffered the effects of industrial pollution. Their complaints to authorities have traditionally been treated with disdain. Residents were seen and portrayed as ill-informed, anti-development people with an ulterior motive of tarnishing the image of industries. District Collectors, Police and the Tamilnadu Pollution Control Board not only sought to ridicule public complainants, but even intimidate them. Scientific studies, and investigations, though few and far between, confirmed what the villagers complained of. But even these reports were not acted upon by the authorities.

Desperate to have the problems of pollution investigated, bring about a change in the attitude of the authorities and obtain more information from the government and the industries about their shared environmental fate, residents of SIPCOT Cuddalore initiated SIPCOT Area Community Environmental Monitoring (SACEM) in December 2003. This effort was initially supported by Cuddalore based FEDCOT, Cuddalore District Consumer Protection Organisation (CDCPO) and Chennai based Community Environmental Monitoring (CEM), a program of New Delhi based The Other Media.

SACEM is an initiative of six trained community environmental monitors who have used common sense, simple scientific techniques in combination with sophisticated analytical methods to monitor, document, report and take action against environmental and worker safety violations by SIPCOT industries. SACEM is community's response to industrial pollution and governmental apathy. SACEM sees political empowerment and the right to make informed decisions about development as key to success in the struggle against environmental discrimination. While local self-help is an emphasis, SACEM's philosophy also hinges on holding corporations and polluters accountable. Seen in this light, SACEM is not merely a fight for a better environment and health, but is also a struggle of marginalised communities to regain their dignity and to be able to freely exercise the rights guaranteed to them under the Constitution.

## Members of SACEM:

SACEM comprises six members -- G.K Amrithalingam, resident of Eachangdu village, S. Pugazendhi, resident of Sangolikuppam village, J. Parasuraman, S. Shivashankar and S. Ramanathan of Semmankuppam village in SIPCOT region and T. Arulsevam from Cuddalore Town. These members, all of whom are trained environmental monitors, organised themselves as SACEM. They come from different walks of life and have united with a common goal of protecting the environment and health and making the authorities and polluters accountable.



G. K. Amrithalingam is a resident of Eachangadu village, one of the villages worst hit by industrial pollution in the SIPCOT area. Amrithalingam earns his livelihood as a LPG cylinder delivery person for the local gas agency.



S. Pugazhenthhi is a fisherman and a resident of Sangolikuppam village in SIPCOT Cuddalore. Like many other fishermen in the region, Pugazendhi's livelihood too depends on the River Uppanar where SIPCOT industries illegally release their toxic effluents and hazardous wastes.



J. Parasuraman is a resident of Semmankuppam village and is a contract worker in the SIPCOT complex. Semmankuppam village lies in the phase II of SIPCOT complex and currently hosts a PVC plant, and a rocket fuel factory among other chemical industries.



S. Sivashankar is also a resident of Semmankuppam village and is a panchayat bore well operator.



S. Ramanathan is a resident of Semmankuppam village. He used to work as a contract worker in TANFAC industries till 2007. Currently he is engaged in short term contract jobs in the region.



T. Arulsevam is a resident of Cuddalore town, 12 kilometers away from the SIPCOT region. His concern for the environment, health and livelihood of the residents of SIPCOT region motivated him to join the team of environmental monitors.

## **Key Tasks of the SACEM:**

Environmental monitoring by SACEM monitors involves four core activities – monitoring, documenting, communication (to communities, authorities and media) and taking action. Some of the key activities of SACEM include:

- Routine vigil on the polluting industries;
- Pollution patrols in and around the industrial complex documenting the odours, noise, emissions of the units;
- River monitoring to check illegal discharges;
- Regular meetings with other residents and workers in the locality;
- In the last six years, SACEM has produced several reports and scorecards on the ongoing violations of the SIPCOT units. These reports can be accessed from SACEM's website <http://www.sipcotcuddalore.com/reports.html>

Rather than depend on expensive scientific instruments, the monitors use their knowledge and experiences of pollution, daily observations and their senses of sight, smell, hearing and feel to meticulously document the conditions in the complex. In addition to their regular techniques of documentation, on some occasions the monitors use low-cost community friendly scientific sampling tools like the “bucket” (for air samples). The bucket can test for the presence of Volatile Organic Compounds (VOCs) in the air. Besides the bucket, the monitors are trained in using a variety of environmental sampling equipment, including a low-volume air sampler, dust sampling equipment, and water sampling and analytical kits.

Each time monitors record a violation, they file complaints with the Tamil Nadu Pollution Control Board (TNPCB) and other relevant departments, including police, Inspectorate of Factories inspectorate and the district administration and share the information for suitable action under law. Monitors also file requests for information under Right to Information Act to get more information about the units, their functioning, their licenses/ consents etc and then use this information for spreading awareness among the residents and also taking action on errant units. SACEM's information is publicly available through their website: [www.sipcotcuddalore.com](http://www.sipcotcuddalore.com), and through a private circulation newsletter circulated in Cuddalore and Mettur.

SACEM also works with other public interest groups in the region in organising protests, rallies and making efforts in mobilising public opinion highlighting and pressing for its demands from the authorities.

## **Achievements (December 2003 to December 2009):**

Over the last six years, SACEM has systematically recorded and reported on the environmental conditions in SIPCOT area. Its website ([www.sipcotcuddalore.com](http://www.sipcotcuddalore.com)) is probably the only public documentation of environmental and worker hazards in industrial estates in general, and Cuddalore and Mettur in particular. Through its routine monitoring, SACEM has compiled more data of hazardous incident in SIPCOT Cuddalore than the Tamil Nadu Pollution Control Board and the Inspectorate of Factories.

Such documentation and the use of this information for advocacy has resulted in a number of changes for better.

Here are some of the key achievements of SACEM in the last six years:

### **A) Demystifying science:**

SACEM has been able to establish community environmental monitoring as a robust mechanism to record environmental violations and monitor compliance of industries to license conditions. From a scenario where villagers were seen as idiots and incapable of articulating their concerns in a scientific manner, SACEM has managed to change the attitude of regulators, district administration and industries to one of respect. SACEM uses low tech scientific methods to record and articulate complaints. SACEM involves documenting people's experiences in a methodical manner in arriving at a scientific documentation of pollution related incidents in the region. Through its monitoring, SACEM has been able to prove that low tech, cost effective tools are as good as high tech expensive equipments requiring specialisation in monitoring pollution.

In 2004, SACEM came out with first of its kind, odour monitoring report documenting the various kinds of chemical smells and its health effects on people. This report was instrumental in changing the regulators' perception of odour as nuisance to odours being indicative of chemical pollution. The same year, SACEM also came out with its air quality report detailing the various Volatile Organic Compounds and Sulphur compounds present in the SIPCOT air. This was a ground breaking report as for the first time in India, villagers were able to test their air and show levels of many toxic chemicals which even the governmental authorities never checked for. According to the findings of the report:

- A total of 22 toxic chemicals were detected.
- At least 13 of the chemicals detected are used as raw material in one or more SIPCOT industries.
- 8 of the 22 chemicals are known to cause cancer in animals and/or humans.
- At least 14 out of 22 chemicals violate the US EPA Region 6 Effects Screening Levels for residential air.

India does not have standards for VOCs in the air and the work of villagers in SIPCOT Cuddalore has prompted the process of national standard setting of VOC in ambient air. In 2004, the Supreme Court Monitoring Committee, based on the air pollution data submitted by SACEM, directed the Central Pollution Control Board to begin the process of setting standards for VOCs in ambient air. This process is ongoing.

### **B) Increased accountability and responsiveness in government:**

**1. Action by High Court and SCMC:** SACEM's air quality report, Gas Trouble, was noticed by the High Court of Madras in 2004. The High Court took *suo moto* action on the state of pollution in the SIPCOT region and issued notices to the government and the SIPCOT industries. This report was also accepted by the Supreme Court Monitoring Committee (SCMC) on hazardous waste. Based on this report, the SCMC in December 2004 had passed strict recommendations on the TNPCB and the SIPCOT units including constant monitoring of the VOCs in the air as per the US EPA standards.

**2. Air quality study by the SIPCOT industries and NEERI:** SACEM's study of VOCs in the air prompted the industries to carry on their own study to understand the extent of the problem of VOCs in the region. The industry sponsored study never got released as it found much higher levels of many toxic chemicals in its samples as compared to the SACEM report. Finally the TNPCB commissioned an air quality study through National Environmental Engineering Research Institute (NEERI) at Nagpur. After a 2 year study, NEERI finally declared the problem of VOCs in SIPCOT region to be acute and estimated that cancer risk in the region was 2000 times higher.

**3. Local Area Environment Committee with community representatives as members:** Based on the SCMC recommendations after seeing the SACEM report, for the first time in Cuddalore, a

Local Area Environment Committee (LAEC) was formed. LAEC's mandate was to look into the issues of pollution in the region and take action against the polluters. Two members of SACEM, who were also the residents of the SIPCOT area, were nominated as members in the LAEC. This was the first time in Cuddalore where community participation was sought in decision making as until now the decisions were always imposed on the communities without their say.

The LAEC had a significant role in:

- Implementing the directions of Supreme Court's order on display of hazardous materials used and wastes generated inside the unit.
- Setting up of on-line display boards on the emissions from the units.
- Identification of major and minor sources of pollution within industries – particularly with respect to addressing the issue of fugitive emissions. Waste audits were carried in at least 5 SIPCOT units in this respect.

**4. Better response and accountability from the authorities:** Due to the constant vigil of the community groups, even the TNPCB officers are forced to do their jobs of regulating the industries, responding to community complaints by visiting sites of contamination and leaks and carrying on their own investigation. It is now not easy for the TNPCB to refute a complaint by the community without any basis or investigation as before. Change in attitude of the administration can also be seen from the nature of their response to grievances from SIPCOT area. While the administration in 2002 had flippantly advised the fishermen in SIPCOT to wear gloves while fishing to protect themselves from any injuries, the Board had taken at least 3 samples of river water to ascertain contamination after fishermen reported injury in 2008.

In the last six years, SACEM has collected robust data mostly based on local experience and observations. Even now, the authorities rely on this data for monitoring units in the region. The members of TNPCB even conduct joint pollution patrols and river monitoring patrols with the SACEM members in order to monitor and regulate the activities of units.

**5. Amendments in Consent Conditions imposed by TNPCB:** The TNPCB has in the last six years recommended some of the most progressive conditions on the SIPCOT units only because there was demand and pressure from the community to do so. After the release of the NEERI report in 2008, the TNPCB has recommended to the units thus:

- a) Initiate R&D activities to substitute toxic compounds in the processes or adopt cleaner technology.
- b) Make attempts to minimize the VOC/HAP emission so as to achieve nil emission in due course by substitution or technological intervention over a period of 2-3 years.
- c) A third party monitoring within and outside the industrial premises every three months.

Further SACEM's demands of VOC monitoring by the units, a comprehensive health study in the region, display of more information by the units also find a place in the amended Consent Conditions of many units in SIPCOT. As per the law, units need to obtain a 'Consent to Operate' from the pollution control board before commencing operations. The conditions prescribed in the consent need to be strictly followed and any violations of the Consent Conditions are prosecutable offences under the Air and Water (Prevention of Pollution) Acts. Some of the new conditions that have been imposed on the SIPCOT units are as follows:

- a) Monitoring of VOCs mandatory for the units. In 2009, TNPCB shut down two units – Shasun Drugs and Chemicals Ltd and Tagros Chemicals as the VOC levels reported from the unit were higher than the safe limits prescribed by the US EPA and posed a threat to the public health in the region.

- b) Maintain a real-time digital display boards at the entrance of the industrial facilities highlighting the emission levels from the units.
- c) Maintain a display board at the entrance of the industrial facilities highlighting the quantities of hazardous waste generated by the units on a daily basis.
- d) Carry out an epidemiological study of the health in and around the respective units.
- e) Carry out a comprehensive study of the ground water quality by the units in their vicinity.
- f) Installation of Reverse Osmosis technology for effluent management has been made compulsory. In 2007, units like Loyal Super Fabrics and SPIC were shut down for violating this condition.
- g) Conditions like proper and better management of hazardous waste generated by the units have also been prominent in the new list of conditions imposed on the units. TNPCB had issued closure orders to SPIC for violating this condition in 2007.
- h) Conduct a Marine Impact Study by CUSECS and other SIPCOT units.
- i) Imposing better solvent management for the SIPCOT industries.

### **C) Better response from the District Administration:**

**1. Community representation in Environmental Committee appointed by the District Collector:** In 2008, the district administration of Cuddalore set up a committee to look into the matters of environment and health concerns in the SIPCOT region. The committee is headed by the District Collector and comprises members from the district administration, TNPCB, industries, residents of SIPCOT and local panchayat representatives. The committee meets quarterly to discuss the problems in the region. Involvement of community members in the committee indicates the change in the mindset of the administration who are now keen on involving the residents in discussing the problems and proposed solutions in the region.

**2. Better facilities in SIPCOT villages:** Increased awareness among residents about their basic rights and exercise of these rights have enabled them to ensure better facilities in the communities. Recently the District Collector announced –

- a) provision of clean drinking water to SIPCOT villages through a government scheme where the cost of the supply of water would be footed by the SIPCOT industries.
- b) An ambulance service, at the cost of the industries, to transport people in case of any emergency in SIPCOT has also been launched.
- c) The residents also managed to get a 24 hour health monitoring cell during a minor disease outbreak in Sangolikuppam and Semmankuppam villages.

**3. Disaster preparedness plans and awareness:** SACEM's role has been critical in pushing the district administration in setting up disaster preparedness plans for the SIPCOT region. On several occasions while reporting illegalities from SIPCOT region, SACEM had demanded information on the 'on-site' and 'off-site' emergency plans of the SIPCOT units.

- On 19 March 2009 the district administration organised a day long training on disaster management with participation from members of National Disaster Management Institute, SIPCOT

Units and SACEM and other community members.

- On 21 March 2009 SACEM organised a half-day training with senior police officials and administrative officers of Cuddalore. One of the key issues discussed in this training was concerns over lack of awareness on the on and off-site disaster management plans in the SIPCOT region.

- Further on 3 July 2009, the district administration and TANFAC conducted the first off-site emergency drill in Periya Pulliyarmedu village in Cuddalore to look at preparedness and awareness among communities in case of a gas leak or an industrial disaster. SACEM members too participated in the drill and gave their feedback to the collectorate. Though this drill was restricted to a few villages and only one industry, more of similar drills and planning is required for the entire SIPCOT region.

**4. Better relationship with the police officials and district administration:** In the last six years SACEM has been able make significant efforts in sensitising the district administration and the local police on the ongoing environmental and health crisis in SIPCOT region. Regular meeting with the health and administration officials has been key to this. In March 2009, upon invitation from the District Collector of Cuddalore, SACEM organised a three hour workshop on Environment and Environmental Laws with the senior police and other district level officers. Through this meeting, monitors and the police had a very open and honest interaction of doubts, fear and skepticism around taking action on environmental issues. The participants resolved to play a more proactive role in the implementation of environmental regulations and law at the end of the meeting.

**C) Increased awareness and action among people:**

**1. Increased awareness among people:** More people in the community are now aware of the basic redressal mechanism in case of an environmental related issues. Earlier no one even knew that an authority like the TNPCB existed, now people call the officers up at any time during the day to report complaints. Data collected by SACEM is based on the local intelligence and information through a network of people in the villages. The reach of SACEM among people has increased since it was initiated in 2003 and is evident in the number of complaints/ illegalities reported since then. While in 2005 SACEM reported only 31 complaints, in 2009 there were at least 134 complaints registered.

**Table A: Trends of 5 yrs of monitoring**

Type of Incident	Number of Incidents				
	2005	2006	2007	2008	2009
Illegal effluent spill (land)	6	3	6	9	6
Illegal effluent spill (river/ sea)	3	6	12	17	12
Gas leak	6	3	9	115	96
Dumping of hazardous waste	5	2	3	22	3
Illegal construction/ operations	2	3	1	1	2
Industrial accidents	9	7	2	4	6
Other complaints	--	--	--	4	9
<b>TOTAL</b>	<b>31</b>	<b>24</b>	<b>33</b>	<b>172</b>	<b>134</b>

**2. Increased vigil and check on illegal activities of SIPCOT units:** Industries in SIPCOT area are wary of SACEM. SACEM has been able to monitor the illegalities of the industries and forced the authorities to take action on them under law. Some of the key results of SACEM reporting on illegalities have been:

- TNPCB authorities physically dismantling illegal effluent pipelines into Uppanar,
- Closure for Victory Chemicals for more than a month for dumping hazardous waste.
- Several show-cause notices to Tagros and Pioneer for illegal construction of factory units.
- Closure of Southern Pigments, SPIC and Aurobindo Pharma after SACEM reported their operations without valid consents to the authorities.

Monitoring efforts of SACEM in the SIPCOT area is to ensure that none of the existing units violate any provisions of the law and adequate action is taken on them in case of such incident.

**3. ESI compensation and pension:** SACEM assisted R. Anjalai in obtaining a lifelong pension for the death of her husband, late Radhakrishnan, in an industrial accident in TANFAC. In SIPCOT, compensation for accidents and deaths of workers are normally dealt through “katta panchayats” or kangaroo courts by the industries and village strong arms. Such matters do not get reported to the regulatory authorities for requisite action. Under these circumstances, SACEM helped Anjalai in compiling all the requisite paperwork and details of the accident including the post-mortem report from the hospital and filing a pension request under Employee State Insurance Scheme of the government. With regular follow-up, Anjalai's pension started in December 2004, about 7 months after the demise of her husband. Anjalai's case also set a precedent for other workers to claim compensation under the ESI scheme for any industrial accidents.

**4. Better relationship with Industrial workers:** SACEM has been able to build a good relationship with the workers inside the units. While in the beginning of its monitoring work, members of SACEM were seen as 'anti- workers' group, this myth has been dispelled to some extent over the years. SACEM has been able to win the confidence of the workers and also been working in providing them with critical information about occupational health issue which the factory never shares with them. In 2008 when the contract workers in Pioneer Jellice India Pvt Ltd went on a strike, one of their key demands was better working conditions and proper disposal of effluents without harming the environment. With increased awareness and confidence of workers in SACEM has motivated them to share information about ongoing illegalities inside the units that people in outside do not get a wind of. With this information SACEM has been successful in pressing for action on the errant units.

#### **D) Connecting with other pollution impacted communities and civil society groups and highlighting the issue of Cuddalore outside:**

SACEM has played an important role in making people outside SIPCOT aware about the problems of pollution in the region. SACEM has conducted several outreach programs in the schools, colleges and local groups of Cuddalore town and Chennai city to raise awareness among citizens on the environmental conditions in SIPCOT. It has been these efforts of constant engagement with groups outside that helped recognise the seriousness of the issue locally.

In the last six years, SACEM has also been able to lend and get support from other similar pollution impacted communities around the country thus strengthening the respective campaigns.

- On SACEM's invitation, residents living next to chemical and toxic facilities in Mettur and Trichy in Tamil Nadu, members from Louisiana and various parts of South Africa have visited Cuddalore and interacted with the communities about their experiences.

- In 2005, Mettur residents campaigned in Cuddalore against the setting up of Chemplast Sanmar's PVC plant by sharing their experiences of pollution and poisoning by the unit.
- SACEM has also constantly made efforts to share its experiences of pollution and monitoring and has trained community groups in the skills of monitoring in Nagapattinam, Trichy, Mettur, Vazhalur and Karaikal in Tamil Nadu.
- SACEM has lent support to the campaign of the Bhopal survivors by organising events in solidarity locally and participating in their padyatras (walk), dharnas (sit-ins) and relay hunger fasts from time to time.

## **Challenges and future plans:**

Key challenging task for SACEM would be to get a commitment from the Government that Cuddalore will be left alone without further proposals of toxic facilities. The state government though recognises the extent of pollution in the SIPCOT area is using a perverse logic of “polluting the polluted” by planning at least seven new toxic facilities for the region. SACEM's task would be to engage the government in stopping the setting up of polluting facilities in the region.

While workers have shown significant amount of trust in SACEM so far, it would be critical and challenging to work more closely with them and bring them out to talk about the occupational health and safety issues.

Based on SACEM's experience so far and the challenges that lies ahead, its focus in 2010 would mainly be on the following issues:

1. Continue and strengthen the ongoing monitoring exercise in SIPCOT Cuddalore
2. Raise awareness among the community and strengthen the community opposition to new toxic facilities planned for SIPCOT Cuddalore
3. Build community network by working with different members in the region like children, youth and women.
4. Build networks with the workers in the region on Occupational Health and Safety issues.
5. Work towards ensuring basic facilities like hospital, clean drinking water, public distribution system and strengthening the panchayat committees in the villages.