Common Hazardous Waste Dumpsite and Incinerator at SIPCOT Industrial Complex, Gummidipoondi

The Industrial Waste Management Association and the Tamilnadu Pollution Control Board are pushing ahead with plans to locate a hazardous waste landfill and incinerator in the Export Promotion Industrial Park, Gummidipoondi. The project is proposed to be implemented by Tamilnadu Waste Management Ltd, a consortium of companies led by Hyderabad-based M/S Ramky Enviro Engineers. In 2004, the project was rejected by villagers in Melakottaiyur, Kanchipuram district, over fears that the project would contaminate groundwater, degrade the health and destroy agriculture in the region.

The project is coming up at a site that NEERI describes as "White Zone" for groundwater. In other words, Gummidipoondi is an area with excellent groundwater resources – a rarity in Tamilnadu where freshwater sources are systematically polluted. NEERI recommends that the site is not suitable for the landfill project. Even while the Tamilnadu Government contemplates capital-intensive projects such as desalination plants for freshwater, it is actively pushing proposals that will destroy natural sources of freshwater.

HOW YOU CAN SUPPORT

An Government sponsored **public hearing** to hear the concerns of villagers is being held **at the District Collector's office, Thiruvallur, at 11 a.m. on 18 March 2005.**

You can support by attending the hearing and expressing your support to the villagers.

The public hearing venue is about 50 km from the project site, and villagers would have to lose a day's wages and spend Rs. 20 each on taking state buses to rech the venue. They are currently raising money locally to hire a few buses. Your contributions would go a long way in helping bringing locals to the public hearing.

KEY FACTS ABOUT PROJECT

Location of Project	On 60 acres of land on Western and Eastern side of the road leading from the entrance to the Export Promotion Industrial Park, on the Kulupacheruvu Lake and beyond.
Total waste to be buried, burnt or stored	35618 tonnes per year
Incinerable waste	3364 tonnes, including spent solvents, waste oils, pesticide wastes, capacitors containing polychlorinated biphenyls, organic waste
Incinerator type and capacity	1 tonne per hour. Supplied by Alstom Power Systems. ***Chimney height:*** 30 metres
Landfill capacity	12000 tonnes per year

Corporate Accountability Desk
H19/4 Gangai Street, Kalakshetra Colony, Besant Nagar, Chennai 600 090
www.sipcotcuddalore.com

Proposed life span of facility	25 years
Number of Industries covered	390 or more in three districts – Chennai, Thiruvallur, Kanchipuram

KEY FACTS ABOUT GUMMIDIPOONDI

Gummidipoondi is located in the midst of a triangle whose vertices are marked by three lakes – Poondi reservoir, Red Hills and Sholavaram reservoir. All three lakes are important drinking water sources for nearby areas and Chennai, and also play an important part in maintaining the groundwater balance in the area. On normal years, the district gets a rainfall of more than 1000 mm annually.

Given the abundant availability of sweet groundwater and the fertile soil, Gummidipoondi is acknowledged as a major agricultural area. Virtually all local residents are either active farmers or come from families that are directly or indirectly linked to farming. The villages in Gummidipoondi still retain the charm of rural life, and the countryside is dotted with farms, groves, streams, ponds and ancient temples.

One part of the the proposed project site covers the entire spread of Kuluva Cheruvu, a perennial lake that was used for irrigation and domestic water supply by farmers until the SIPCOT industrial estate was set up about 15 years ago.

Gummidipoondi has more than a decade-long history of community struggle against polluting industries. In 1995, the local community managed to defeat DuPont's proposal to set up a Nylon 6,6 plant in Gummidipoondi. A few years later, though, the community resistance to HiTech Carbon – a Birla group company manufacturing Carbon black – was overcome, and the company was set up close to Pappankuppam. HiTech is among the most controversial names in the neighbourhood, and is blamed for serious health disorders, frequent soot emissions and air pollution. Local residents say the Tamilnadu Pollution Control Board has ignored their complaints for five years, and even colluded with Hitech.

THE PROBLEMS WITH THE PROJECT

The US Environmental Protection Agency acknowledges that even the most high-tech landfills leak over time and contaminate groundwater sources. Incinerators that burn hazardous wastes are known to emit some of the most poisonous chemicals known to science, namely dioxins and furans. Numerous health studies link the exposure to chemicals from landfills and incinerators to a host of health disorders among people residing near such facilities. That is why siting guidelines for toxic disposal facilities stipulate that such facilities should NOT be located in areas:

1. with a high groundwater table and/or porous or permeable soil
2. that are prone to flooding
3. that are close to human habitation
4. near drinking water sources

In January 2005, the National Environment Engineering Research Institute submitted an environmental appraisal report that did a preliminary evaluation of Gummidipoondi as a proposed site for a toxic waste landfill. In summary, NEERI said the Gummidipoondi site had the following characteristics:

- Highly permeable sand
- Potential area for groundwater exploitation
- Very good ground water quality

- Close to major drainage (Araniyar) located downstream
- Alternative source of water supply for Chennai in summer

According to NEERI, "From a perusal of all these criteria and guidelines, it would appear that the proposed landfill facility may not be located at the SIPCOT Industrial Complex, Gummidipoondi."

WHAT IS A LANDFILL?

A landfill is a hole in the ground fitted with special liners to slow down and reduce the migration of poisons from the toxic wastes to the groundwater beneath it. The Gummidipoondi landfill will have three layers – compacted clay, synthetic liner and another layer of compacted clay – topped by a special synthetic layer that is meant to serve as a filter.

Problems arise in landfills when moisture in the waste or rainwater begins mobilising the toxins in the waste. Water reacts with the waste to form a highly acidic leachate – or toxic juice – that can eat into the best liner systems and escape to the groundwater beneath. Modern landfills are equipped with systems of pipes – or leachate collection systems -- to collect the toxic juice and convey it to a treatment plant. Despite this, over a period of years, entire aquifers can be contaminated.

The landfill will be used for 25 years. After that it will be closed and covered with water-resistant layers. The covering process is called "Capping" – like putting on a cap to protect your head from water. But the cap requires monitoring and maintenance. It is common knowledge that nobody maintains a closed facility. US experts estimate that the cost of maintaining the cap for the duration of the dangers posed by the toxic wastes could cost thousands of crores of rupees.

One scientific study concluded that even the best available liners can be expected to leak at the rate of about 200 litres per hectare per day even if they are installed with the very best and most expensive quality-control procedures.[1] The leakage is caused by pinholes in the liner during manufacture, and by holes created when the seams are welded together during landfill construction, according to Rachel's Hazardous Waste News. Landfill liners are rolled out like huge carpets and welded together, side by side, to create a continuous field of plastic. New scientific evidence also indicates that liner material allow some chemicals – like xylene, toluene, trichloroethylene and methylene chloride – to pass through them quite readily.

A 1992 report examined various scientific studies – most of it funded by the American Government -- on landfills, and confirmed that landfill technology should always be expected to contaminate groundwater. The report reviews evidence "that landfill liners leak for a variety of reasons; that leachate collection systems clog up and thus fail to prevent landfill leakage; that landfill leachate will remain a danger to groundwater for thousands of years; that even low-rainfall areas are not safe for landfill placement . . . that groundwater, once it is contaminated, cannot be cleaned up and must be considered permanently destroyed."[2]

Various scientific studies have found that:

- Children born to parents living near landfill sites have low birth-weight and tend to grow up to be smaller than children from unpolluted areas
- New born babies whose parents were exposed to contaminated drinking water from near a landfill site tended to have higher rates of birth defects
- Children living near landfills had higher than normal incidences of speech and hearing defects

WHAT IS AN INCINERATOR

An incinerator is a machine where wastes are burnt at high temperatures ranging from 850 degrees to 1100 degree Celsius. Burning is expected to break down complex compounds into relatively harmless chemicals. However, in practice, incinerators have been identified as a significant source of some of the most dangerous chemicals known to science.

Emissions from incinerators include toxic ash, heavy metals and persistent poisons like dioxins and furans. Persistent poisons resist degradation by natural processes and remain in the environment for very long periods of time. They also tend to accumulate in the fat of living organisms, and build up over a period of time. As a result, concentrated fat sources like cow's milk or mother's breast milk tend to become reservoirs of these super-poisons.

Dioxins and furans attack the body's ability to fight diseases, cause cancer and reproductive disorders and result in birth deformities among children born to exposed parents. Heavy metals such as mercury and lead can cause nervous system impairments, affect children's brains, and lead to death in the long run.

SHOULD CHENNAIITES BE WORRIED?

DRINKING WATER

In evaluating Gummidipoondi's suitability for hosting a hazardous waste facility, NEERI is categorical in stating that Gummidipoondi has "very good" quality groundwater, and that it is an alternative source of drinking water for Chennai. It would be unwise to dump poisons into our drinking water.

TRANSPORTATION HAZARD

The road to Gummidipoondi passes through extremely high-traffic zones such as Anna Nagar, Villivakkam. The fact that more than 35,000 tonnes of toxic waste will be trucked through crowded areas on Chennai roads should be sufficient cause for concern. The damage caused by an accidental spill of toxic waste in such areas could be significant.

---

[1] Rudolph Bonaparte and Beth A. Gross, "Field Behavior of Double-Liner Systems," in Rudolph Bonaparte (editor), *Waste Containment Systems: Construction, Regulation, And Performance* [Geotechnical Special Publication No. 26] (New York: American Society of Civil Engineers, 1990), pgs. 52-83.

[2] Rachel's Hazardous Waste News, #316. December 16, 1992.