
Death by a Thousand Cuts: Report of Public Hearing Held On Loss of Ecology and Fisher Livelihood in Ennore Creek

April 2016

Organized by Ennore Anaithu Meenava Grama Kootamaipu with support from The
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Acknowledgement

Sincere thanks to,

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Panel Profile



Justice. D. Hariparanthaman is a retired Judge of the Madras High Court. He was in office between 2009-2016. Prior to that, he practiced labour law and represented solely, the interests of workers in many matters.



Dr.S.Janakarajan, retired Professor of Economics in the Madras Institute of Development Studies MIDS, Adyar, and currently, President, South Asia Consortium for Interdisciplinary Water Resources Studies (SaciWATERS), obtained his Ph.D from Madras University, executed through MIDS. He has done his Post-Doctoral work at the Cornell University, USA. His areas of interest are agriculture and rural development, water management, environment, disaster management, climate change and adaptation, institutions and markets.



Dr. Karen Coelho is an urban anthropologist and works as Assistant Professor at the Madras Institute of Development Studies. Having obtained her PhD from University of Arizona, her work focusses on the changing state and civil society formations in the context of reforms in urban governance.

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Executive Summary

A three-member panel headed by Justice (Retd) D. Hariparanthaman enquired into the loss of ecology and fisher livelihood in the Ennore Creek located in Thiruvallur District of Tamil Nadu. He was assisted by Prof (Retd) S Janakarajan and Prof. Karen Coelho from Madras Institute of Development Studies. The panel conducted field visits on the Ennore Creek and heard testimonies of local people and other stakeholders.

The Ennore Creek is surrounded by several industrial operations – Manali and Thiruvotriyur Industrial Areas, North Chennai Thermal Power Station (NCTPS), NTECL power plant in Vallur, the Ennore Thermal Power Station (ETPS), Kamaraj Port Ltd (KPL) and L&T Port (now Adani) in Kattupalli. More power plants are proposed in Kattupalli and at the current fly ash dumpsite of NCTPS.

This report focuses on the various illegalities and violations carried out by industries present around the creek. It also looks into the allegation that regulatory authorities have failed to monitor and enforce compliance to environmental conditions lawfully imposed on these industries and assess effects of these lapses on the ecology and livelihoods of fisherfolk dependent on the creek for survival.

The panel specifically enquired into the involvement of KPL, ETPS, NCTPS and NTECL's Vallur Thermal Power Station among other industries in the destruction of the ecology and hydrology of the creek.

The public hearing in a hall was preceded by a tour of the Ennore Creek on boat where local fisherfolk pointed out violations, and explained its material impact on their livelihoods and health, on regional flood vulnerability and biodiversity.

During the boat tour through the creek, the panel observed that:

a) North Chennai Thermal Power Station (NCTPS), owned and operated by Government of Tamil Nadu-owned TANGEDCO was found discharging coolant water into the estuary near the mouth. Fisherfolk pointed out that this was both a hazard for fishers who came in contact with the hot water, and for fish catch because the hot water's zone of influence has been converted into a dead zone.

b) Flyash-laden water from NCTPS' flyash storage pond was seen entering the Ennore creek through a channel. Boat approach to this channel was made difficult because flyash deposits had reduced the depth of the river from 14 feet to 1 or 2 feet. In some places, flyash mounds were visible above water level. According to fisher leaders who accompanied the panel, the Vallur NTECL power plant also discharges similar flyash effluent into the creek with similar effect.

c) Leakage of flyash slurry from the rusting pipelines conveying the toxic substance from power plant to the storage pond had spilled on to the river and created a concrete-like ground that was devoid of any visible biological activity.

d) Kamaraj Port Limited, a mini-ratna PSU, had dumped sand and earth dredged from the sea on the Ennore Creek to create new land. In the process, salt pans, tidal mud flats, mangroves and natural drainages had been destroyed. According to fisherfolk, dumping work had been suspended after fishers opposed the illegal activity. Reclaiming land from tidal influenced waterbodies is prohibited under the CRZ Notification.

e) In the creek area within Athipattu village limits, Kamaraj Port had dumped dredged mud on tidal mudflats and salt pan areas, and created a large coal and iron ore storage yards now operated by private concessionaires. Such reclamation of salt pans and tidal water bodies is prohibited under the CRZ Notification, 2011. Fine silt from dumped mud has leaked into the remaining portion of the river and silted up the river reducing its depth and ability to carry floodwaters.

f) Kamaraj Port Ltd has constructed a massive bund across the creek connecting the port to the coal yard. The river, which is nearly 1 km wide, at that point has been reduced to less than 30 meters. Fisherfolk say that even that gap is heavily silted up and cannot be navigated across during low tide. The structure appears to be a violation as such structures that obstruct the flow of tidal-influenced water bodies are not permissible under CRZ Notification, 2011.

g) At the point where NTECL's overhead coal conveyor belt crosses the river, it was observed that a section of the Buckingham Canal had disappeared, under large mounds of earth and flyash.

h) Several structures – railway bridges, road bridges and conveyor belts – crisscrossed the river at several points. Fishers pointed out that there are 10 such structures. Each of these is built on pillars. The agencies responsible for building these structures have failed to remove the debris between the pillars after construction. According to fishers, the residual debris has altered river flow, introduced dangerous turbulence and hindered navigation.

i) The Buckingham Canal joins the river at Kattukuppam. At this point, it is filled with a stinking, viscous oily black liquid that had no resemblance to water. Villagers told the panel that this is due to oily effluents from the Manali Industrial Area, and sewage and solid waste from Thiruvottriyur and Kathivakkam municipalities. In these areas too, the river depth had reduced due to sedimentation with industrial and sewage sludge.

j) During the visit by road and boat, thick smoke was seen emanating from the chimney of Ennore Thermal Power Station. Coal dust, reportedly from the crusher of NTECL, formed

a huge localised cloud that was being blown by the wind. Smoke was visible, though not as thick, at the chimneys of NCTPS and NTECL too.

From being a river with clean water, sprawling mudflats and mangrove-fringed salt pans with intricate channels that abounded in mullets, shrimps and crab, the river has now been reduced to a stinking cesspool. Villagers complained of declining fish catch, and a poor market for fish from these waters as consumers found the taste disagreeable and were concerned about contamination. Since fishing brought the men in contact with water, skin diseases were rampant. People also complained about air pollution from the cluster of power plants.

Based on what was seen and heard, the panel noted that:

a) Most of the violations were by Central and State Government agencies. Those who are meant to protect nature and enforce the law were violating the law, and harming nature and livelihoods.

b) The dumping of flyash by NCTPS and NTECL Vallur power plants, dumping of dredged mud by Kamaraj Port, the failure to remove debris between the columns of various bridges by various agencies, has vastly compromised the ability of the river to carry floodwaters. Further, the flyash dykes of NCTPS and NTECL also obstruct eastward flow of water, including from distributaries of the Kosasthalaiyar leading to flooding in areas around these structures. The irresponsible actions of these agencies can be squarely blamed for causing floods in Athipattu, Ernavur and Ennore.

c) Maps provided to the panel highlighted how areas covered by former salt pan lands, mangroves and waterbodies and marked as ecologically sensitive in the coastal zone management plan have been earmarked for 'Hazardous and Special Industries' in 2nd Chennai Master Plan by the Chennai Metropolitan Development Authority (CMDA). We were told that Kamaraj Port, NTECL Vallur, HPCL and BPCL have all either already encroached or are proposing to encroach on these wetlands

d) The blatant and visible violations indicate that law enforcement is totally absent. The District Administration, Public Works Department, CMDA, The State Coastal Zone Management Authority, the Tamil Nadu Pollution Control Board and the Police are some of the key agencies that are missing in action.

e) Villagers, particularly fisherfolk, have suffered gravely because of declining fish catch, compromised fish quality, disappearance of commercially valuable species, and health problems arising from contact with contaminated water.

Recommendations of the Panel:

- a) Immediately institute a comprehensive inspection of the functioning of all power plants and industries near the creek, ensure a halt to all effluent discharge into the water body, and impose severe and retrospective penalties for all violations of the companies' environmental conditions of operation.
- b) Impose a moratorium on expansion of Industries. No further polluting industries and power plants (new or through expansion) or activities that hinder the flow of river water should be permitted in this region until a thorough, comprehensive and cumulative Environmental Impact Assessment has been conducted.
- c) Expansion of NCTPS, NTECL, ETPS and Kamaraj Port must be immediately halted considering the evident violations of statutory conditions of their respective environmental licenses under various laws.
- d) The legality of all existing structures crossing the Ennore Creek, particularly with respect to CRZ Notification and relevant laws applicable to water bodies and rivers, must be examined and action taken against violations based on the same.
- e) Ensure that CMDA Masterplan does not authorise conversion of wetlands, mangroves, salt pan lands and other ecologically and hydrologically sensitive areas to industrial or other zones. Such areas currently classified for conversion should be identified and the masterplan amended to retain the integrity of these wetlands.
- f) Ensure that all walls, landfills, blockages and encroachments on the water body are removed. Institute severe penalties on existing violators and ensure no future encroachments on the water body.
- g) Create a committee to look into and carry forward remediation of the pollution in the waterway. The State Coastal Zone Management Authority and TNPCB must initiate action to make polluters restore the river to a healthy state so that it is capable of supporting life and carry floodwaters.
- h) Dredge and remove all the silt and deposits on the creek bed and restore the depth of the river. Restore destroyed mangrove cover and ensure safe and healthy breeding ground for aquatic life.
- i) Villagers and other river users whose health and livelihoods have been harmed because of degradation in river water quality must be compensated for their losses.
- j) A comprehensive physical and mental health study may be conducted by reputed agencies such as National Institute of Epidemiology to assess the impact of industrial

pollution on the health and well being of local communities and enhancing the capacity of local medical infrastructure to detect and deal with environmental health problem.

k) Since violations of environmental laws are offences under the respective laws, the Tamil Nadu Pollution Control Board must initiate credible criminal action against the entities and occupiers of NTECL, NCTPS, Kamaraj Port and ETPS as such action will serve as a deterrent.

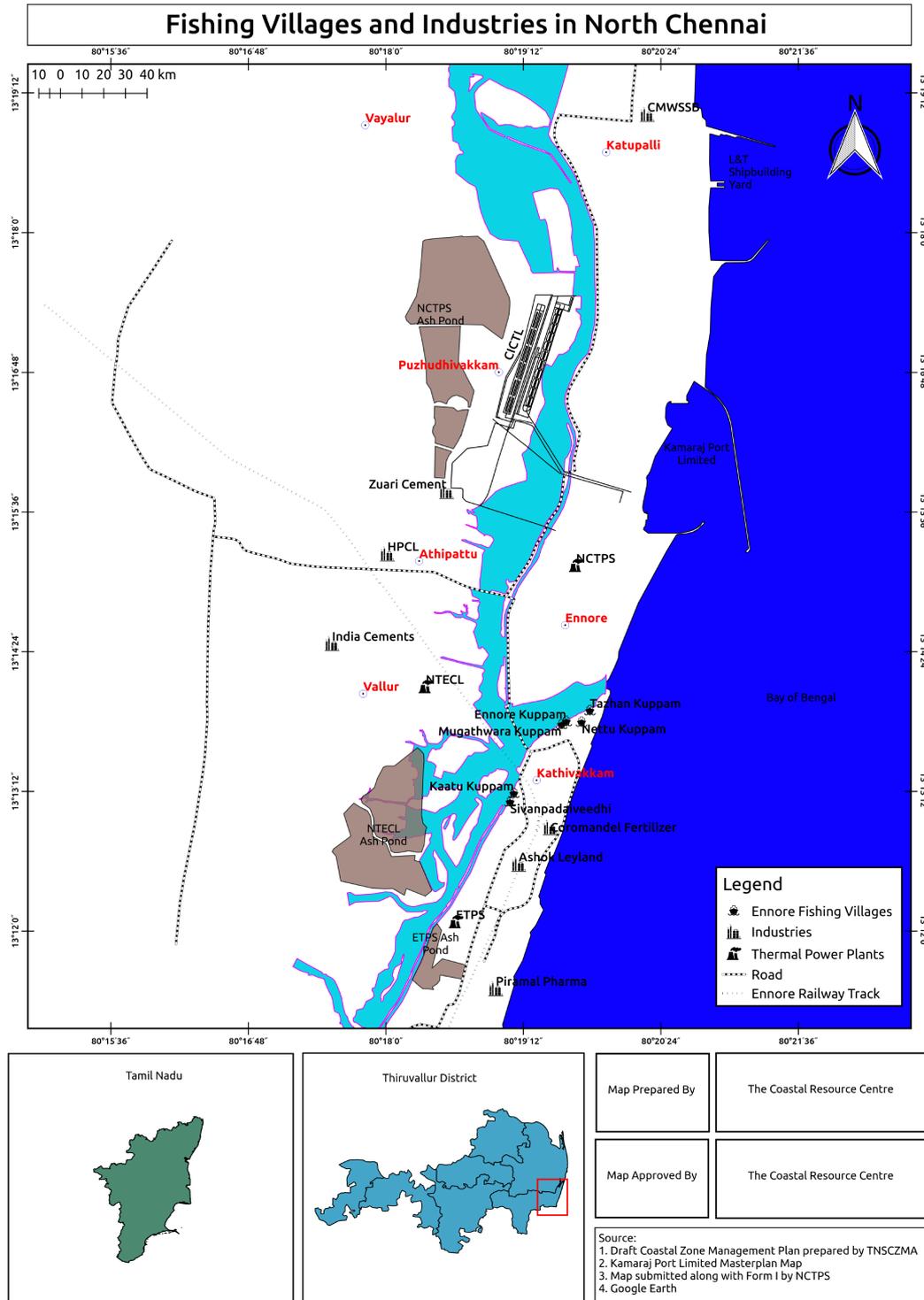


Fig.1.0 Map Showing Fishing Villages and Industries in North Chennai

Background

Introduction to Ennore Creek :

The Ennore creek is located in the Thiruvallur District of Tamil Nadu, approximately 20 KM North of Chennai City. This creek is part of a lagoon ecosystem that plays a vital role in balancing the coastal ecosystem in the area. Ennore Creek connects the Kosasthalaiyar River and the Pulicat Lake to the Bay of Bengal through the Ennore estuary. Pulicat Lake is the second largest brackish water lake in the country and is a protected area. The creek forms an estuary that is about 400 m wide. The Buckingham canal also runs alongside the creek, intersecting the creek at different points.

Dotted with salt pans, mangroves, fish farms and mud flats, Ennore Creek provides a variety of habitats that support a large number of animal and plant life. The Ennore Creek is the primary source of livelihood for six fishing villages. Mugathwara Kuppam, Kaatu Kuppam and Sivanpadaiveethi Kuppam rely wholly and perennially on the river and creek. Nettu Kuppam, Thazhan Kuppam and Ennore Kuppam fish in the river during the monsoons.

Ecology of the Ennore Creek:

Once a biological hotspot, biodiversity in the Ennore Creek has been steadily declining. In the 1960s, the Manali Industrial Area and Ennore Thermal Power Station were set up encroaching on wetlands connected to the creek. The industrialisation and consequent degradation intensified starting in the 1980s with the setting up of NCTPS (1980s), KPL (2000) and the Vallur Thermal Power Plant about five years ago.

The degree of pollution in the water bodies has risen to dangerous levels. A study by the Aquaculture Foundation of India and three institutions including Anna University, found high concentrations of heavy metals in the water and marine organisms in and around Ennore creek due to pollution from industries and domestic sources. This study found high levels of heavy metals such as mercury, cadmium and chromium. Species such as flathead grey mullet, a widely eaten fish had levels that hovered close to dangerous limits.

Over the years, several commercially valuable fish – including tiger prawn, mud crab, striped crab, sand whiting, silver biddy, etroplus, cat fish, mackerel, grey eel catfish, croaker and white prawn – have disappeared from the creek. Other species like mullet are still found but not in the quantities that they were earlier found.

Industries Around the Ennore Creek:

The following industries are located in close proximity to the Ennore Creek.

East

- ❖ North Chennai Thermal Power Station (NCTPS) 3 x 210MW; 2 x 600 MW = 1830 MW
- ❖ Kamaraj Port Limited (KPL; formerly known as Ennore Port)
- ❖ L&T Ship Building Yard (now Adani)

West

- ❖ Chettinad International Coal Terminal
- ❖ NTECL's Vallur Thermal Power Plant 3 x 500 MW = 1500 MW
- ❖ HPCL – Hindustan Petroleum Corporation Limited

South

- ❖ Ennore Thermal Power Plant 2 x 60 MW ; 3 x 110 MW = 450 MW

Within the 5 KM Radius

- ❖ Manali Industrial Estate
- ❖ Coromandel Fertilizer
- ❖ Kothari Fertilizer
- ❖ Ashok Leyland

Additionally, state authorities now propose *six* new thermal power projects and other polluting industries in this region in this region:

- ❖ 800 MW NCTPS Stage III, on the green belt of the current NCTPS, Ennore
- ❖ 1600 MW Ennore SEZ, on the ash pond of NCTPS
- ❖ 600 MW Super Critical Ennore Thermal Power Station (Annexe)
- ❖ 2 x 600 MW Ennore Thermal Power Station Replacement Project
- ❖ 1200 MW North Chennai Power Company, at Katupalli
- ❖ 1030 MW Chennai Power Generation Ltd, Katupalli and Kalanji village
- ❖ Bharat Petroleum Corporation Ltd Petroleum Storage Yard

If all these power plants come up, this region alone will have close to 10,000 MW of coal-power generation capacity and all the air and water pollution associated with it.

Nature of Violations its Impact on Ennore Creek

S. No	Nature of Violation	Responsible Party	Description	Nature of Impact
1	Illegal Dumping of Dredged Material (Photo 1)	Kamaraj Port Limited	<ul style="list-style-type: none"> • Dumping carried out on Ennore Creek and Buckingham Canal • Dumping carries out on Salt Pans, marked as CRZ I (Ecologically Sensitive) • Illegal Under CRZ Notification 2001 and Water Act, 1974 	Hydrological Impact
2	Leakage of Ash Slurry into the Ennore Creek (Photo 2) (Photo 7)	NCTPS	<ul style="list-style-type: none"> • Leaking pipelines deposit large quantities of Ash Slurry on the water body • Hardens and destroys natural flow of the waterbody • Releases a range of harmful toxins into the aquatic ecosystem • Can affect fish resources and in turn, livelihood of fishermen • Coal ash contains heavy metals such as arsenic, boron, cadmium, chromium, mercury and selenium. Heavy metals such as selenium bioaccumulate in fish and harm their ability to reproduce 	Hydrological Impact, Ecological Impact, Livelihood Impact
3	Ash Pond as a physical barrier (Photo 3)	NTECL	<ul style="list-style-type: none"> • Part of the creek opposite Sivanpadaiveedhi Kuppam and Kaatu Kuppam have been encroached upon for the ash pond of NTECL's TPP • Presence of the Ash Pond hinders the flow of east flowing canals and tributaries of the Kosasthalaiyar River • Contributes significantly to the siltation in the river 	Hydrological Impact, Ecological Impact
4	Encroachment on Fish Farms (Photo 4)	Kamaraj Port Limited / CICTL	<ul style="list-style-type: none"> • Fish Farms have been encroached upon for construction of coal yards • Apart from affecting the water flow, it also discharges toxic coal leachate into the creek • Affects aquatic life and livelihoods 	Hydrological Impact, Ecological Impact, Livelihood Impact
5	Increased Siltation and alteration of river flow due to bridges (Photo 5)	Kamaraj Port Limited, NCTPS, NTECL, HPCL, GoTN	<ul style="list-style-type: none"> • 10 bridges, including coal conveyer belts, coolant water intake and outlet pipes, ash pipelines, LNG pipelines, roads and railway lines cut across the Ennore Creek • Lesser space to navigate. • Bridges are built on pilings, after construction these pilings are not removed and depth is not restored. • Leads to changed water flow, higher turbulence and currents • This leads to increased boat accidents, higher risk for life and damage to fishing gear. • Reduces water carrying capacity of the river 	Hydrological Impact, Livelihood Impact

S. No	Nature of Violation	Responsible Party	Description	Nature of Impact
6	Leakage of Ash Pond Filtrate Water (Photo 6)	NCTPS, NTECL	<ul style="list-style-type: none"> NCTPS and NTECL Illegally discharge filtrate water into the Ennore Creek Consent to Operate given to both TPP's by TNPCB specifically orders that no water from the ash pond can be discharged into the river Entire stretch of the creek has been silted up with ash sediments. These sediments are above the level of water during low tide 	Hydrological Impact, Ecological Impact, Livelihood Impact
7	Discharge of Coolant Water into the Ennore Creek (Photo 8)	NCTPS, NTECL	<ul style="list-style-type: none"> NCTPS and NTECL use coolant water systems that discharge the water used as coolant back into the water body after use Causes large scale thermal pollution, as the water discharged back is always above the ambient temperature of the water body Reduces the dissolved oxygen, in turn affecting fish life. Chemicals like Zinc, Chromium and Cadmium are added to the water during the cooling process, that contribute to pollution of the receiving body. 	Ecological Impact. Livelihood Impact.
8	Discharge of Petrochemical Effluents into the Ennore Creek	CPCL & Manali Industrial Estate	<ul style="list-style-type: none"> Industrial area of Manali is located close to the Ennore Creek They discharge trade effluents into the Ennore Creek. Oil tanker washing and other oil based effluents are common. Quality of seafood caught has deteriorated drastically Reduces commercial viability of fish caught from the Creek Can exhibit itself in a variety of health implications 	Ecological Impact, Livelihood Impact, Health Impact on Residents
9	Discharge of Domestic Sewage into the Ennore Creek	Village Municipality	<ul style="list-style-type: none"> Domestic sewage and garbage is regularly discharged into the creek This comes from several village municipalities including Kathivakkam and Thiruvotriyur 	Ecological Impact, Health impact on Residents



Photo 1: Dumping of Dredged Spoils on Ennore Creek by Kamaraj Port



Photo 2: Parts of the Ennore Creek solidified by leakage of Ash Slurry



Photo 3: Ash pond of NTECL's TPP Encroaches on parts of the Ennore Creek



Photo 4: KPL's Coal Yard operated by CICTL has been built by encroaching on the Ennore Creek



Photos 5: Different Bridges cross the Ennore Creek. The Construction of these bridges have drastically affected the natural flow of the water.



Photo 6 : NTECL's Ash Pond discharges filtrate water and Ash into the Ennore Creek



Photo 7 : Pipelines that carry Ash Slurry from NCTPS's TPP to Ash Pond leak all year around, slowly destroying the Ennore Creek



Photo 8: NCTPS's Coolant Water being let out into the creek

Demands by Locals

1. Action against errant industries and environmental offenders –

General and specific conditions issued in the Consent to Operate under Air and Water (Protection and Prevention of Pollution) Acts stipulate a number of environmental conditions, including the restriction of discharge of water from ash ponds, a provision to submit daily discharge statements, a requirement to comply with provisions under notifications such as the Fly Ash Notification 1999 and Hazardous Waste Rules 2008. The extent of compliance to environmental conditions issued during the initial establishment and operation of the industries must be re-evaluated.

Large-scale reclamation and land creation processes are on-going/planned in the area. This is in gross violation with the Coastal Regulation Notification 2011, which strictly prohibits reclamation. Reclamation is defined as “changing existing land use and undertaking illegal construction, bunding, dumping in natural water sources”. The existing mangrove cover in and around the Ennore Creek is under grave danger. The erosion of mangrove cover has spiked due to industrial and allied human activity, an activity prohibited under the Environment (Protection) Act, 1986. Hence, locals call upon regulatory authorities to immediately start the independent re-evaluation of the status of compliance of these industries and start the enforcement of laws and conditions accordingly. The TNPCB and State Coastal Zone Management Authority must adhere the ‘Polluter Pays’ principle and penalise the violators and costs of remediation be borne by the polluter.

2. Moratorium on Expansion or Setting up of of New Polluting Industries in this region–

The concentration of polluting industries has damaged the local ecosystem. The authorities are urged to impose a moratorium on any further expansion of industries in this belt, until an independent, comprehensive and cumulative environmental impact assessment has been carried out.. Such assessment should measure how the carrying capacity of the regional ecosystems have been exceeded and recommend measures to restore the ecology in the area.

3. Restoration of the Ennore Creek –

Due to various reasons mentioned above, the state of the ecological and hydrological health of the Ennore Creek is under threat. Therefore, it must be a priority to maintain, amongst others, the river and its health needs, preserve livelihood security for fishermen, ensure flood mitigation, complete the food chain, preserve the ecological significance of aquatic vegetation and to safeguard nursery grounds for fish resources. Regulatory authorities must ensure that native species are regenerated, nursery grounds like mangrove covers are replaced, physical obstructions are removed and the river is dredged back to its original depth.

The Public Hearing

Terms of Reference :

The Public Hearing was conducted keeping in mind the following objectives -

1. Analyse the state of Ennore Creek with respect to Industrial Pollution ,Physical Pollution/Blockages , Encroachments.
2. Observe Carrying Capacity of the area.
3. Record the Impacts on Livelihoods of Fishing Community.
4. Health Effects on the Public.
5. Assess the adequacy of the health infrastructure in the area.
6. Need for preventive/punitive compensation for ecological degradation

On the 26th of March 2016, a Panel consisting of Justice (Retd) D. Hariparanthaman, Prof (Retd) Dr S. Janakarajan and Dr. Karen Coelho visited the Ennore Creek as part of a panel hearing the public's grievances on the loss of ecology and fisher livelihood in Ennore Creek. Invitations were sent to various government departments, industries in and around the Creek and the Media. The panel's visit and the public hearing was publicised in the area through the distribution of pamphlets through the panchayat of the fishing villages.

Tour of the Ennore Creek:

At 7:15 AM, Srinivasan, from Kaatu Kuppam accompanied the panel on the tour of the Ennore Creek. The panel was shown the various physical encroachments and sources of chemical pollution that are responsible for the slow death of the ecosystem.

The panel noted that the North Chennai Thermal Power Station (NCTPS) is on the opposite bank of the river and a large quantity of water was being discharged into the creek near the estuary. The organisers mentioned that this was the coolant water let out by the NCTPS after the generation of electricity. Thermal power plants burn coal to heat water to produce steam to produce electricity. After generation, seawater is used to cool the boiler and the resultant hot water is let out through a channel into the creek. This water is warmer than the ambient water temperature of the creek and flows fast into the river in abundance. According to them, this increase in the temperature of the water body results in the depletion of fish resources.

The Panel also saw the Vallur thermal power station on the western side of the bank of the river. Bridges are built across the river for transporting ash slurry through pipelines from NCTPS to the ash pond. It was also noted that conveyer belt for the supply of coal and coolant water intake pipe to NTECL was constructed on the Ennore Creek. Ash slurry was leaking and pouring in large quantities into the creek from NCTPS's Ash Pipeline Bridge

The fisherfolk said that ash deposits in the riverbed are mainly due to the large-scale seepage from the ash pipeline and ash ponds.

While the panel was on the boat, fishermen showed the huge ash deposits all along. Ash deposits have replaced the sediment in the riverbed reducing the depth of the river to 1 or 2 feet from 14ft at many places. Due to the low depth, at many places, the fishermen had to pull the boat manually as the boat could not sail. It was mentioned that the visit was during the high tide and during low tide the ash deposits would be more clearly visible. However, at some places, even during the high tide, ash heaps were above the river water level. The fishermen also demonstrated by holding in their hands the mud from the river and it was nothing but the ash deposits.

There are mangroves on both sides of the banks of the river. But, the mangroves are not dense. The fishermen complained that the Kamaraj Port systematically destroys the mangroves by reclamation of the creek for the construction of allied infrastructure like coal yards. The organizers showed us the recent dumping carried out by Kamaraj Port on the eastern side of the river; we saw that the dumping encroaches upon a vast area of the riverbank as well as the river itself. The landfilling was carried out by dumping the area with sand dredged in their basin on the sea.

According to the Panel, the worst thing witnessed on the tour was the road built by the Kamaraj Port across the creek that blocks about 90% of the width of the creek. Only a narrow gap in the bridge is left for the boats to move further towards Pazhaverkadu Lake. While the other 9 bridges are built using pillars and without blocking the river, Kamaraj Port atrociously blocked the river by constructing the access road to the coal yard on the river and thereby destroyed the river. The trip ended at Kaatu Kuppam at about 9:30 am.

Important Observations by Panelists at the time of the Tour:

- a) Most of the violations were by Central and State Government agencies. Those who are meant to protect nature and enforce the law were violating the law, and harming nature and livelihoods.
- b) The dumping of flyash by NCTPS and NTECL Vallur power plants, dumping of dredged mud by Kamaraj Port, the failure to remove debris between the columns of various bridges by various agencies, has vastly compromised the ability of the river to carry floodwaters. Further, the flyash dykes of NCTPS and NTECL also obstruct eastward flow of water, including from distributaries of the Kosasthalaiyar leading to flooding in areas around these structures. The irresponsible actions of these agencies can be squarely blamed for causing floods in Athipattu, Ernavur and Ennore.
- c) The blatant and visible violations indicate that law enforcement is totally absent. The district administration, Public Works Department, the State Coastal Zone Management Authority, the Tamil Nadu Pollution Control Board and the Police are some of the key agencies that are missing in action.

d) Villagers, particularly fisherfolk, have suffered gravely because of declining fish catch, compromised fish quality, disappearance of commercially valuable species, and health problems arising from contact with contaminated water

Public Hearing at Ennore Vyabarigal Sangam Chatthiram :

The Panel then proceeded to the Public Hearing Venue which was a marriage hall on Kathivakkam High Road. The hearing was conducted between 10:30 and 2:00 PM. Approximately 300 people attended the public hearing. All depositions/presentations were documented. The public hearing was well covered in both English and Tamil media.

Important points raised by the Public, as noted by the Panel :

- ❖ From Ennore to Pazhaverkadu - a stretch of about 20 KM was full of water and life even in the last two decades - with Ennore creek joined by Buckingham Canal, Seawater, Freshwater from Araniar and Kosasthalayar and a large number of streams that carried water from upstream tanks.
- ❖ The river water was so clean that villagers would wash their mouths, faces and clothes in the river. Now, they feel disgusted to even set foot in the water.
- ❖ Ennore river used to be called *Sanjeevini Aaru* but not any more as water quality and fish resources have dwindled due to pollution.
- ❖ For fishermen in these 6 villages it is a nightmare due to continuous emission of smoke, ash particles, poor drinking water supply and sanitation, and compromised livelihoods. Since they are not trained in anything but fishing, they are unable to shift to other occupations. Youngsters, who are educated and with college degrees, are unable to find employment in local companies due to discrimination.
- ❖ People said they felt betrayed by the government and the companies, who had assured them that they would benefit from the industries being established there.
- ❖ Inland fishermen from Mugathwara Kuppam and Kaatupkuppam, who traditionally specialized in stake-net fishing inside the creek reported that the hot water discharge from the NCTPS near the mouth of the creek discouraged the entry of fish from the sea. Not only had there been a drastic reduction in catch, forcing local fishermen to travel much further in search of fish, but even the meager catch they obtained was of poor quality, smelled of oil, and fetched low prices.
- ❖ Several women from the fishing villages testified about difficulties in supporting their families from selling fish, and decried the lack of alternative livelihoods in the area. However, the fishermen were most bitter about the destruction of their fishing livelihood.

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- ❖ The number of women engaged in buying fish from Kasimedu and reselling it at various distant markets has increased even as fishing income of the men has dwindled.
 - ❖ The residents in the six villages live alongside the sewage-mixed polluted water of the Creek. Groundwater is salty and un-usable.
 - ❖ Health hazards are on the rise. They spoke of sores, burns and skin lesions that they got due to hot water or toxic water from the creek splashing on them. Many residents from the fishing villages also spoke of respiratory and skin diseases that affected children and adults in these areas.
 - ❖ There is no insurance - either for health or to compensate the loss of livelihoods.
 - ❖ When the port and thermal power stations were constructed, jobs were assured to the fisherfolk. At that time, the fishermen refused those jobs because the income that they earned from fishing was much higher than what was offered as the day's wage. Average daily earning used to be anything between Rs.2000 to Rs.20,000 per day per boat three decades ago.
 - ❖ When the wage rate per day in the construction site was Rs.1.25 per day, the fishermen were earning Rs.100 to 500 per day.
 - ❖ It was also reported that the bio-medical wastes discharged by the GH in Central also joins the Creek.
 - ❖ Maps provided to the panel highlighted how areas covered by former salt pan lands, mangroves and waterbodies and marked as ecologically sensitive in the coastal zone management plan have been earmarked for 'Hazardous and Special Industries' in 2nd Chennai Master Plan by the Chennai Metropolitan Development Authority (CMDA). We were told that Kamaraj Port, NTECL Vallur, HPCL and BPCL have all either already encroached or are proposing to encroach on these wetlands

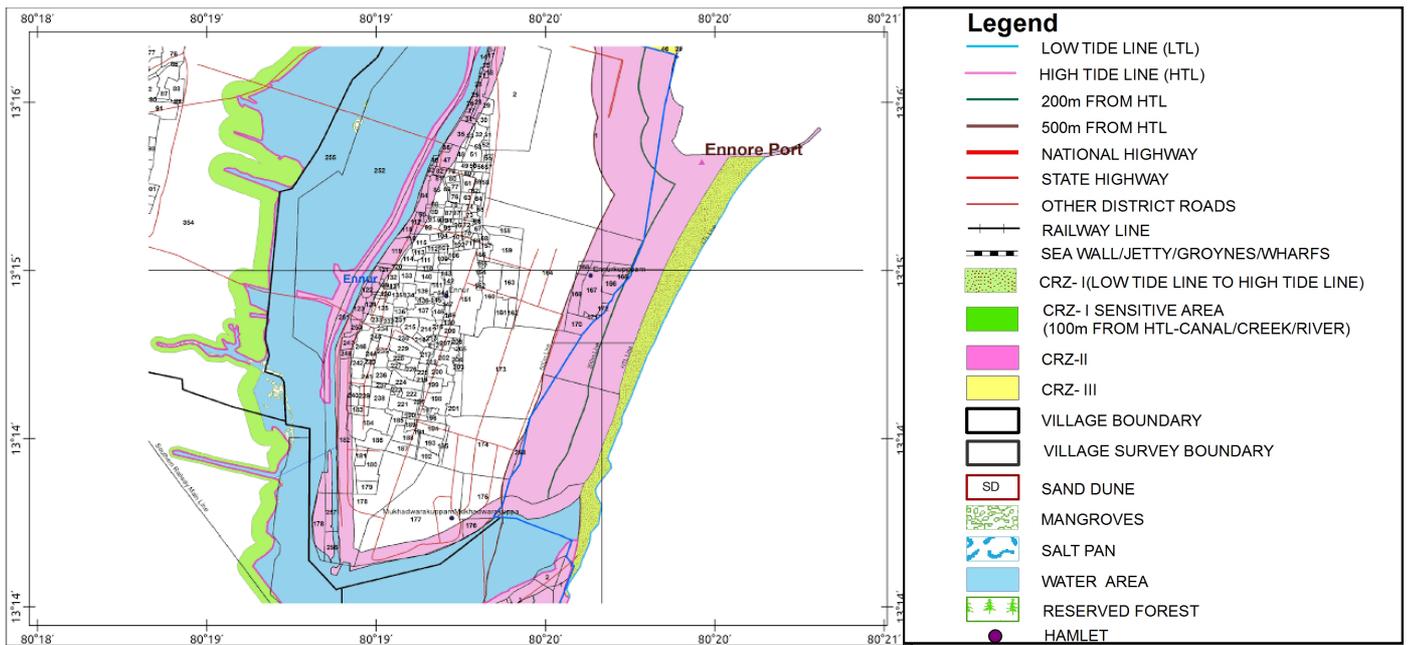


Fig 2:0 : Coastal Zone Management Plan of Tamil Nadu

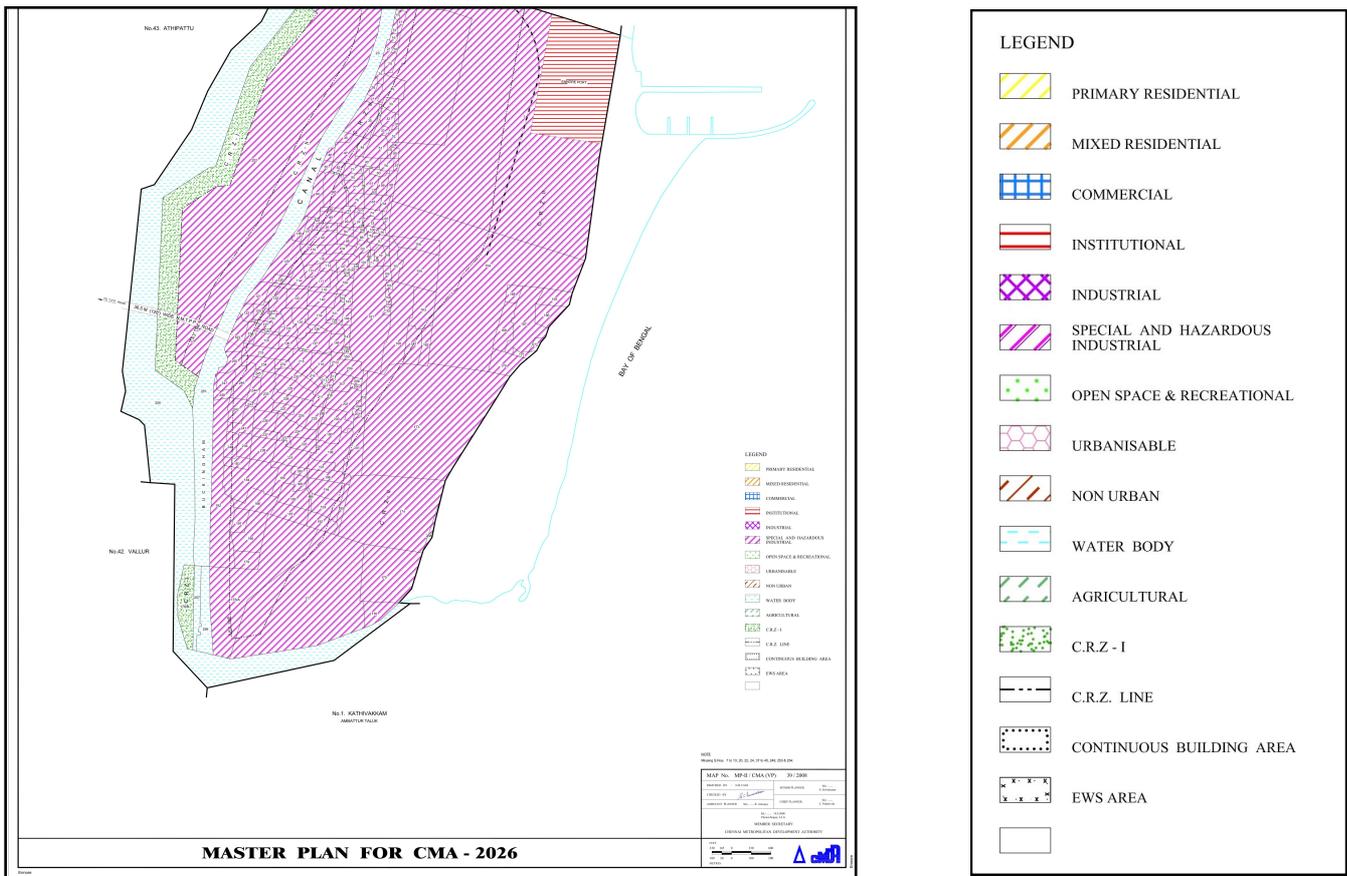


Fig 3.0 : Map showing the second Master Plan for Chennai Metropolitan Area demarcating water bodies for 'special and hazardous' industries

Findings and Recommendations

1.Hypocritical and discriminatory character of Government of Tamil Nadu’s efforts to “protect and restore” water bodies.

In the 1960s and 70s, many of Chennai’s lakes, ponds and tanks were filled in and converted to land for “development” by government agencies as well as by private individuals and developers. However, by the 1990s, as floods, water shortages and falling water tables took on critical and chronic dimensions in Chennai, the folly of this approach and the damages it had caused to the sustainability of urban life in the city were highlighted by many civil society and environmental NGOs in the city,. This was also recognized by the state. Concerted attempts by all arms of the state are now being ostensibly made to restore and revive what remains of lakes and tanks around the city, armed with legislation such as the Tank Encroachment Act 2008. Many thousands of crores of rupees are also being spent to remove encroachments, reduce pollution and restore flow in Chennai’s rivers. At a time when the importance of waterbodies is being emphasized in government policies and schemes, this large and critically important part of the coastal ecology is being sacrificed in the name of industrial and energy needs.

The systematic damage being unleashed on the Ennore creek renders all other efforts at ecological restoration (such as the Adyar and Cooum restoration, the Chetpet lake restoration, and the Pallikaranai ecopark plans) not only hypocritical but also discriminatory as they focus on the privileged southern parts of the city, leaving the ecological assets of the northern geography of the city to rampant destruction.

2.Criminal violations by companies in the area

The unrestrained dumping of effluents, dust, silt, slurry, filtrates and other discharges into the waterbody by companies on its banks not only constitutes a violation of their conditions for operating, but also exhibits a criminal disregard for the consequences of these actions on the public in terms of the health, livelihood and ecological impacts of these discharges.

3.Criminal failure of regulatory authorities to protect the waterbody and the livelihoods associated with it.

The impunity that these companies have enjoyed over decades, despite several complaints to regulatory authorities such as the State Pollution Control Board and the State Coastal Zone Management Authority, points to a criminal degree of inaction and dereliction of duty on the part of these authorities. The state has failed not only the fishing communities dependent on the river, but also the larger city. What we have witnessed in Ennore suggests that citizens of Chennai and Tamil Nadu should rightly be skeptical of the capacity or indeed the willingness of the state to regulate industry in any way.

Considering the above, We, the undersigned. (i) D. Hari Paranthaman, Judge (Retd) Madras High Court, (ii) Dr. S. Janakarajan, Professor (Retd), Madras Institute of Developmental Studies, (iii) Dr. Karen Coelho, Asst Professor, Madras Institute of Developmental Studies chaired a Public Hearing at Ennore Vyabarigal Sanga Chatthiram, KH Road, Ennore, Chennai 600057 between 10:30 am and 2 pm on Saturday, 26/03/2016

and recommend the following to the relevant authorities, including the Tamil Nadu Department of Environment and Forests, Tamil Nadu State Coastal Zone Management Authority, Tamil Nadu Pollution Control Board, The Office of the Collector (Thiruvallur District) and the Public Works Department

a) Immediately institute a comprehensive inspection of the functioning of all power plants and industries near the creek, ensure a halt to all effluent discharge into the water body, and impose severe and retrospective penalties for all violations of the companies' environmental conditions of operation.

b) Impose a moratorium on expansion of Industries. No further polluting industries and power plants (new or through expansion) or activities that hinder the flow of river water should be permitted in this region until a thorough, comprehensive and cumulative Environmental Impact Assessment has been conducted.

c) Expansion of NCTPS, NTECL, ETPS and Kamaraj Port must be immediately halted considering the evident violations of statutory conditions of their respective environmental licenses under various laws.

d) The legality of all existing structures crossing the Ennore Creek, particularly with respect to CRZ Notification and relevant laws applicable to water bodies and rivers, must be examined and action taken against violations based on the same.

e) Ensure that CMDA Masterplan does not authorise conversion of wetlands, mangroves, salt pan lands and other ecologically and hydrologically sensitive areas to industrial or other zones. Such areas currently classified for conversion should be identified and the masterplan amended to retain the integrity of these wetlands.

f) Ensure that all walls, landfills, blockages and encroachments on the water body are removed. Institute severe penalties on existing violators and ensure no future encroachments on the water body.

g) Create a committee to look into and carry forward remediation of the pollution in the waterway. The State Coastal Zone Management Authority and TNPCB must initiate action to make polluters restore the river to a healthy state so that it is capable of supporting life and carry floodwaters.

h) Dredge and remove all the silt and deposits on the creek bed and restore the depth of the river. Restore destroyed mangrove cover and ensure safe and healthy breeding ground for aquatic life.

i) Villagers and other river users whose health and livelihoods have been harmed because of degradation in river water quality must be compensated for their losses.

j) A comprehensive physical and mental health study may be conducted by reputed agencies such as National Institute of Epidemiology to assess the impact of industrial pollution on the health and well being of local communities and enhancing the capacity of local medical infrastructure to detect and deal with environmental health problem.

k) Since violations of environmental laws are offences under the respective laws, the Tamil Nadu Pollution Control Board must initiate credible criminal action against the entities and occupiers of NTECL, NCTPS, Kamaraj Port and ETPS as such action will serve as a deterrent.

Justice (Retd)
D. Hariparanthaman

Prof Dr. S Janakarajan

Prof Dr. Karen Coelho