Annual Environment Survey Report

2008-2009

Botanical Garden

Puducherry Pollution Control Committee
Department of Science ,Tech. & Environment
Government of Puducherry.


Sedrapet Eri

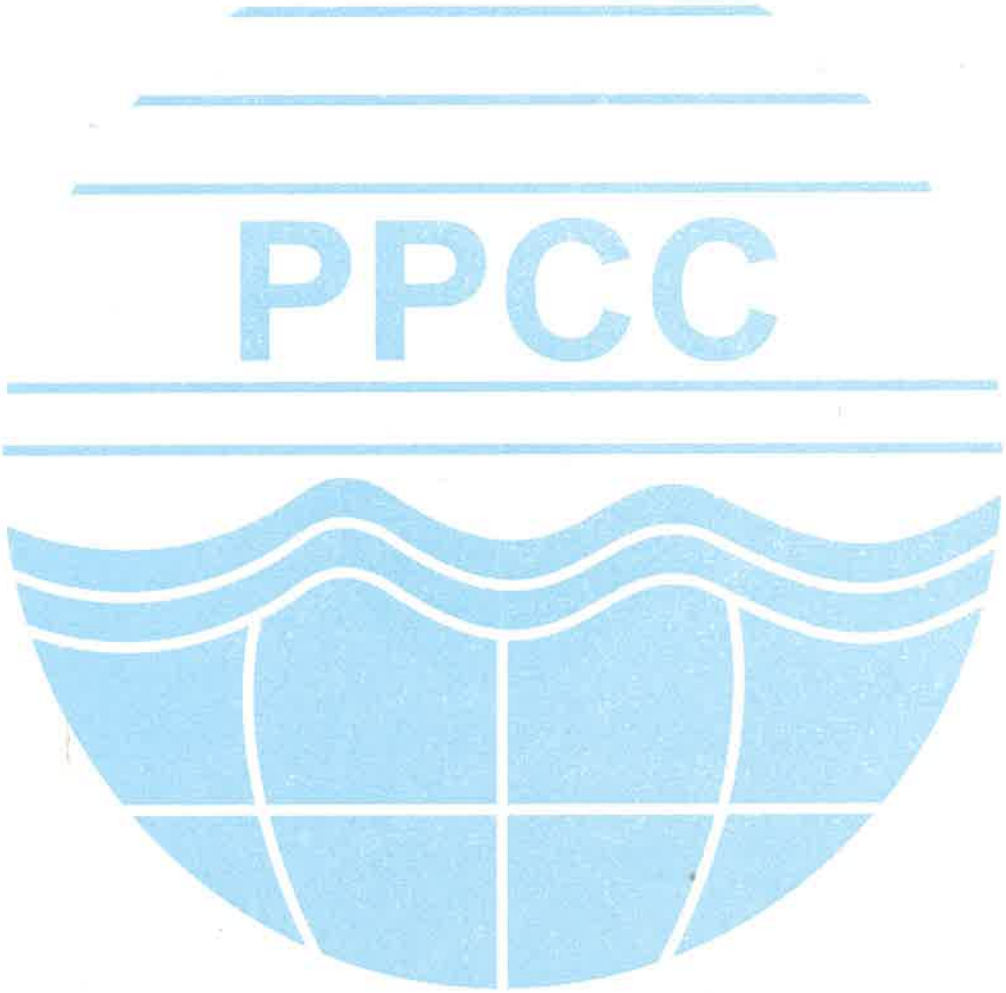
Annual Environment Survey Report

2008 - 2009

PUDUCHERRY POLLUTION CONTROL COMMITTEE

III Floor, Housing Board Building
Anna Nagar,
Pondicherry - 605 005.

PUDUCHERRY POLLUTION CONTROL COMMITTEE



Marching towards
Greener & Cleaner Puducherry.

V.VAITHILINGAM
Chief Minister

MESSAGE

Conservation and protection of the environment have been an inseparable part of Indian heritage and culture. Realizing its importance, the Indian State has also enshrined it in the Constitution which requires both the state and citizen to "protect and improve the environment".

Our Government understand that environment conservation is more important than globalisation, industrialisation and modernization because the former is the foundation and the latter are roof of the building. Environment protection has been mingled with all the development programmes. Government is primarily committed to give fresh air, pure water and green land besides offering other welfare schemes.

I am pleased to know that Department of Science, Technology and Environment and Puducherry Pollution Control Committee have brought out the "Annual Environmental Survey Report of the year 2008-2009". I am sure that this report would be of immense help to the policy makers , stake holder and research scholars who are involved in environmental protection.

V. Vaithilingam

Puducherry
25.05.2009

E. VALSARAJ
Home Minister

MESSAGE

Pressures of population growth, rapid urbanization, industrialization and stress on natural resources provide new challenges to the Government in managing the environment. Government of Puducherry strives to incorporate the environment as a major element in State development process and policy making. Puducherry is gifted with almost all the ecosystems of the universe, hills, marine, forestry, pasture, sand dunes, river, lakes and wetlands. Department of Science, Technology and Environment and its sister concern, Puducherry Pollution Controi Committee have been pursuing to reach the goal of the "Clean and Green Puducherry". One of the such initiative is ban on usage of plastic carry bags, cups, plates etc. with effect from 1st July,2009.

The Government strives to maintain the delegate balance between nature and developmental activity. Government policy in not encouraging water based and polluting industry have halted salt water intrusion in the coastal aquifer and improved air quality in the U.T.

This annual report reflects the commitment of the Department in environmentally and industry friendly approach, and initiatives towards sustainable industrilisation of the U.T.

E. Valsaraj

Puducherry
22.05.2009

R. CHANDRA MOHAN
Chief Secretary

MESSAGE

I am happy to learn that the Puducherry Pollution Control Committee with the support of the State Department of Science, Technology and Environment will be releasing the first issue of the Annual Environmental survey on 5th June 2009. This will for the first time bring in the public domain comprehensively the environmental issues concerning the State.

The Report should assist each resident to prioritize the environmental issues for collective action for the sustainable development of the State. I expect the Report to generate a lot of public debate and discussions and these should help the State Environment Department in formulating an appropriate strategy while preparing the Environmental Action Plan for the State with citizen's participation.

My compliments to the officers of the PPCC and the State S & T and Environment Department for the efforts made and expect that the tradition will be maintained on every World Environment Day.

Puducherry
26.05.2009

R. Chandramohan 26/5/09

G. THEVA NEETHI DHAS
Special Secretary (Environment)

PREFACE

The environment where we live and the eco-system, of which we are a part, are two susceptible base that their finite resources can not be overexploited. Sustainable development, in essence, is achieving progress without causing permanent damage to the environment. Changes in weather pattern, sea level rise, thinning of the polar ice and the hole in the ozone layer are symptoms of damage already inflicted by man's onslaught on nature.

Industrialisation is essential for progress. But our very existence can be in danger if the associated environmental damage is left unchecked. Like other Pollution control Boards in India, the Puducherry Pollution Control Committee (PPCC) has the difficult task of striking the delicate balance between environmental sustainability and industrial progress in view of limited resources and infrastructure.

PPCC the statutory body under the Department of Science, Technology and Environment (DSTE) Govt. of Puducherry has been entrusted with the responsibility of enforcing various Acts, Rules and Notification pertaining to environment protection. PPCC not only carries out the regulatory job and also advocates eco and industrial friendly approach towards greener and cleaner Puducherry. It is both the power centre of enforcement and resource centre for guiding and offering consultancy to the entrepreneur in adopting Clean Development Mechanism (CDM), Corporate Responsibility and Industrial Ecology.

Documentation of the activity helps in assessing the capacity and short falls to take remedial action. The task of conservation of nature requires co-ordination of all concerned. Therfore PPCC organizes sensitization programmes to the stake holders including line departments. This annual environment survey report (2008-09) will serve as a source material for the people involved in the environmental related matters.

Puducherry
22.05.2009

G. Theva Neethi Dhas

G. RAJAMOHAN
Member Secretary
Puducherry Pollution Control Committee

From the Desk of Member Secretary

Administration in PPCC is transparent, accountable and participatory in nature. Good environmental governance is all about use of resources to meet the "need" and not succumbing to the "greed" as, in the words of Mahatma Gandhi, the earth provides enough to satisfy every man's need, but not for every man's greed". The role of regulator is normally perceived as reactive, because regulation is needed where things have gone wrong or likely to go wrong. However, it would be pernicious for enforcement authority to confine itself to this restricted role in the current milieu because not only in terms of the mandates but also in terms of the mode to play the role of watchdog and facilitator of environmental sustainability. PPCC not only focuses on end of the pipe concept but also advocates in modern scientific and technologies invention on pollution abatement.

Around 2000 industries comes under the purview of PPCC. With the limited available resources, PPCC marches ahead in the field of environmental protection with continuous, dedicated and uninterrupted support from the Government. Entrepreneur-friendly-clearance-process and stern action against the defaulter are the two arms of PPCC. Besides being enforcement authority, PPCC have taken many initiatives towards clean and green Puducherry like emphasizing Corporate Responsibility, voluntary ISO certification process, CDM and creating awareness programme in the grass root level.

As per the provision of Section 24 of the Water (Prevention and Control of Pollution) Rules, 1974, all the Pollution Control Boards/Committees shall prepare Annual Report. Annual report is like a mirror. Any administration can self visualize its activity and streamline it. PPCC , is bringing this annual report for the financial year 2008-2009 and released on the occasion of the World Environment Day, 5th June, 2009. I complement all the staff of DSTE and PPCC who has put sincere efforts in bringing this report.

Puducherry
22.05.2009

G. Rajamohan

CONTENTS

LIST OF TABLES

LIST OF FIGURES AND PLATES

1. INTRODUCTION

Department of Science, Technology and Environment (DSTE) was established on 1.1.1993 after merging of the erstwhile Science, Technology and Environment cells functioning in the U.T. Administration. Puducherry Pollution Control Committee (PPCC) was started functioning from 1.4.1992 after the Central Pollution Control Board (CPCB) had delegated all its power in exercise of the power conferred by section 4, clause (4) of the Water (Prevention and Control of Pollution) Act, 1974 and section 6 of the Air (Prevention and Control of Pollution) Act, 1981 as a sister concern of DSTE. PPCC is acting as custodian of environment of Puducherry.

Puducherry Pollution Control Committee has been playing a key role in abatement and control of pollution in the U.T. by generating relevant data, providing scientific information, rendering technical inputs for formation of State policies and programmes, training and development of man power and organizing activities for promoting awareness at different levels of the Government and public at large. It occupies a prominent niche in progressive and industrial development of the State.

Puducherry Pollution Control Committee not only acting as statutory and enforcing authority but it also serve as centre of information and consultancy for making road for greener and sustainable industrialization. It propagate emerging concept like Clean Development Mechanism (CDM), Industrial Ecology and Zero discharge among entrepreneur and stake holders.

Recent and frequent interference of judiciary and role of Right to Information Act, 2005, compelled PPCC to equip to provide public domain of any information pertaining to environment. The aim of this Annual report is to reach the unreached people who desired to know the activities of the Department of Science, Technology and Environment.

Like other Boards of the country, PPCC also constrained with inadequate man power and infrastructure. Nevertheless it march towards Clean and Green Puducherry .

2. CONSTITUTION OF PUDUCHERRY POLLUTION CONTROL COMMITTEE

1.	Secretary to Government (Environment & Forests), Union Territory (UT) of Puducherry	Chairman
2.	Chief Town Planner, Town and Country Planning Department, UT of Puducherry	Member
3.	Chief Engineer, Public Works Department, UT of Puducherry	Member
4.	Director of Health and Family Services UT of Puducherry	Member
5.	Director of Local Administration Dept, UT of Puducherry	Member
6.	Commissioner of respective Commune Panchayats	Member
7.	Director of Agriculture UT of Puducherry	Member
8.	Director of Industries, UT of Puducherry	Member
9.	President of the Chamber of Commerce	Member
10.	Director, Department of Science, Technology and Environment	Member Secretary

FUNCTIONS OF PUDUCHERRY POLLUTION CONTROL COMMITTEE

(i) Planning of comprehensive programme for the prevention and control of pollution.

(ii) Advise the State Government in framing Environment and Industrial policy

(iii) Collect and disseminate information relating to natural resource, environment protection and pollution control.

(iv) Carrying research programme pertaining to pollution control and conservation.

(v) Collaborate with the Ministry of Environment and Forest and Central Pollution Control Board in organizing training relating to prevention, control or abatement of pollution and to organize mass education programmes.

(vi) Scrutinize application and inspect the site and grant/reject Consent to Establish for industrial unit .

(vii) Ensure compliance of Consent to Establish conditions and issue Consent to Operate or take action against defaulter.

(viii) Keep strict vigil and monitoring on the industrial activity and performance of pollution control devices.

(ix) Evolving economical and reliable methods of treatment of sewage and trade effluent.

(x) Encourage Entrepreneur to pursue Corporate Responsibility measures and adopt Clean Development Mechanism.

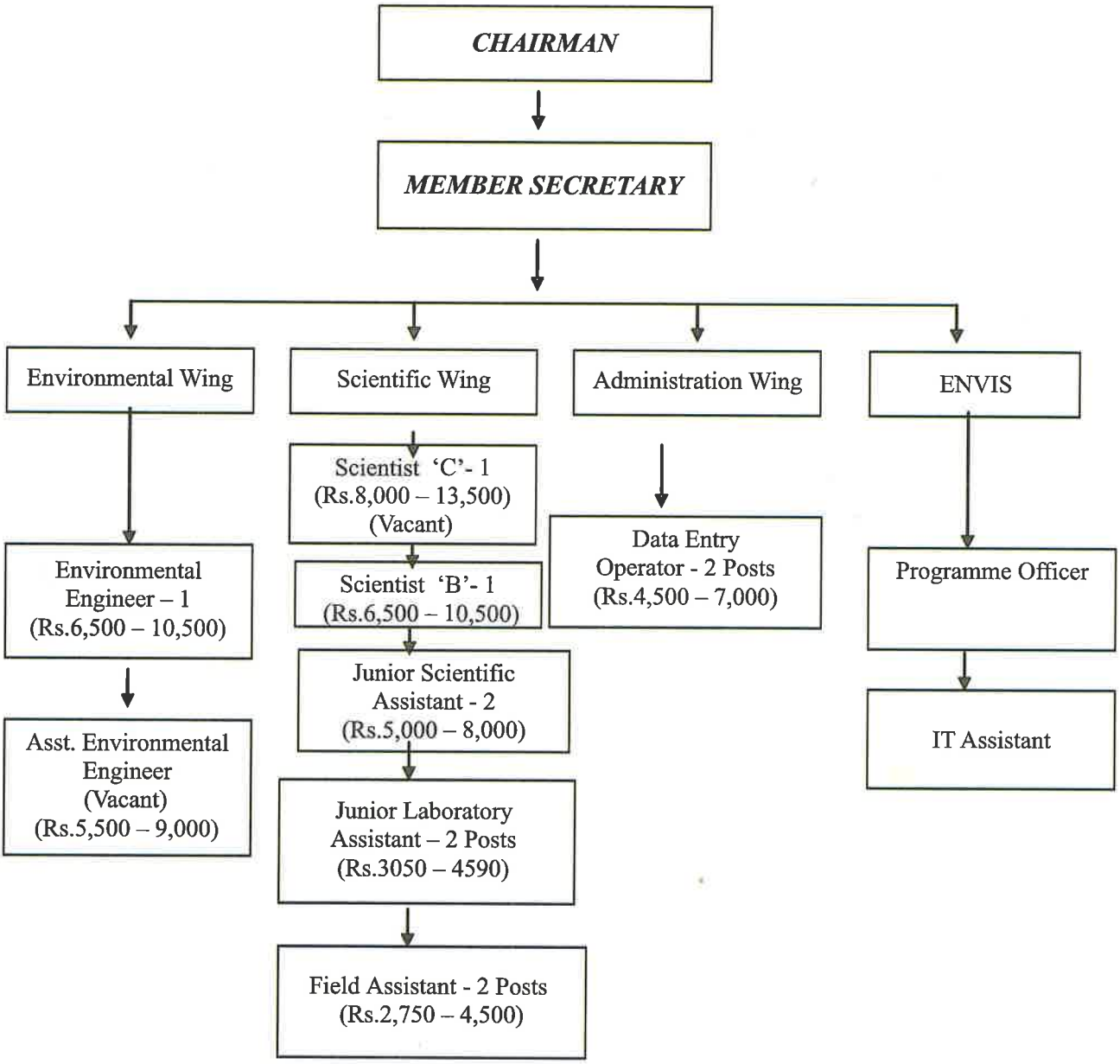
(xi) Involving Self Help Groups, NGOs , Farmer and Student in environmental awareness creating programmes.

(xii) Preparation of action plan on Solid wastes, Biomedical wastes and Hazardous wastes management.

PPCC IMPLEMENTS THE FOLLOWING ACTS ,RULES AND NOTIFICATIONS:

1. The Water (Prevention and Control of Pollution) Act, 1974
2. The Water (Prevention and Control of Pollution) Rules, 1975
3. The Water (Prevention and Control of Pollution) Cess Act, 1977
4. The Water (Prevention and Control of Pollution) Cess Rules, 1978
5. The Air (Prevention and Control of Pollution) Act, 1981
6. The Air (Prevention and Control of Pollution) Rules, 1981
7. The Environment (Protection) Act, 1986
8. The Environment (Protection) Rules, 1986
9. The Manufacture, Use, Import, Export and Storage of Hazardous Micro-Organism Genetically Engineered Organism or Cells Rules, 1989
10. The Hazardous Wastes (Management & Handling) Rules, 1989
11. The Manufacture, Storage and Import of Hazardous Chemical Rules,1989
12. Notification on Coastal Regulation Zones, 1991
13. The Public Liability Insurance Act, 1991
14. Fly Ash Notification, 1991
15. Environmental Impact Assessment Notification, 1994
16. The Bio-Medical Waste (Management & Handling) Rules, 1998
17. The Plastics Manufacture, Sale and Usage Rules, 1999
18. The Municipal Solid Wastes (Management & Handling) Rules, 2000
19. The Noise Pollution (Regulation and Control) Rules, 2000
20. The Ozone Depleting Substances (Regulation) Rules, 2000
21. The Batteries (Management & Handling) Rules, 2001

PUDUCHERRY POLLUTION CONTROL COMMITTEE
ORGANIZATIONAL CHART



3. SUB-COMMITTEE CONSTITUTED AND THEIR ACTIVITY

The Government of Puducherry has issued an order constituting a working group under the Chairmanship of Development Commissioner, Puducherry to discuss and resolve with the representative of M/s. Reliance Industries Ltd.,(RIL) various issues pertaining to executing legal binding agreement between M/s. Reliance Industries Ltd. Mumbai and the Government of Puducherry for laying pipeline at Yanam for KG-DWN – 98/3 (KG-D6).

The Working Group suggested for formation of an Expert committee to study/ analyse in detail Environment Impact Assessment (EIA), Risk Analysis (RA) and other details pertaining to costal zone management in respect of M/s. RIL project and to advice the PPCC for further course of action.

After careful examination of the recommendation of the Working Group, Expert Committee has been constituted with the following members.

1. Dr. M.A Sivasankaran, – Chairman.
   Prof. & Head, Environmental Engineering,
   Puducherry Engineering College.

2. Thiru S. Balaji, – Member
   Additional Chief, Environmental Engineering,
   Tamilnadu Pollution Control Board, Chennai

3. Thiru M.P Senthilnathan, – Member
   Senior Law officer,
   Tamilnadu Pollution Control Board, Chennai

4. Dr. N.Ramesh, – Member Secretary
   Environmental Engineer,
   Puducherry Pollution Control Committee

The Expert Committee inspected M/s. Reliance Industries Ltd. Yanam on 18.10.2008 and 19.10.2009 and submitted its final report on 8.11.2008.

Fig. 1 Expert Committee inspecting construction activity of M/s.Reliance Industries Ltd.Yanam

Meetings of the Committee

As per the provision of Section 8 of the Water (Prevention and Control of Pollution) Act, 1974, a Board shall meet at least once in every three months. 97 PPCC meetings have been convened since its inception. The following meetings have been convened during the financial year.

Table 1.PPCC Meetings convened

No. of the Committee	Date of convened
93rd MEETING	26.05.2008
94th MEETING	5.11.2008
95th MEETING	29.12.2008
96th MEETING	04.02.2009
97th MEETING	12.02.2009

4. A GLANCE ON INDUSTRIALIZATION

Pandit Jawaharlal Nehru had envisioned a special status for Puducherry to preserve " The Window to the French Culture in India" . While Nehru was laying strong foundations for a modern industrialised nation, Puducherry has joined the union of India in 1954 with limited industrial inheritance. There were only 3 large textile mills and 5 odd small industrial units. Until the end of the 70s , Puducherry witnessed slow phase of industrialisation. Only 9 large scale units had been established. (Dept .of industries, Govt. of Puducherry, 1997)

Industrialisation gained momentum in Puducherry during 1980. By the end of the 1980s, Puducherry had 12 Large scale, 41 Medium scale and 1426 Small scale units. By February 1997, there were impressive establishment of 25 large scale industries,88 medium and 5,492 small scale units. The union territory of Puducherry has received since April 1993 the benefit of income tax holiday for five years for new industries. This has brought in a new spurt in the industrial growth. By 2003 there were 55 large scale , 137 medium scale and 6876 small scale units in the Puducherry with a total investment of Rs.1722 cores and providing employment of 84640 persons. Currently the industrial sector plays a vital role in the state economy and accounts for 37% of state income. (Report on index of industrial production, 2001). It has been estimated that the annual industrial growth rate is 4.9% . Investment on industries has increased 250 folds during the last twelve years.

Besides tax incentives and subsidized power, well – connected road network, abundant ground water availability and uninterrupted power supply available in the state have accelerated the industrial growth of Puducherry. Puducherry Industrial Promotion Development Corporation (PIPDIC) have established six industrial estates in Puducherry Region viz. Thattanchavadi, Mettupalayam, Sedarapet, Kirumamabakkam, Kattukuppam and Thirubhuvanai during the period from 1972-2002.

A detailed analysis of industrialisation from environmental perspective revealed that industries set up in pre 1980s were mostly textiles , sugars, and distilleries that were not only water intensive but also had higher pollution potential, exerting enormous pressure on air and water environment besides these also account for 40% of total industrial water consumption.

The period between 1980-1990s witnessed the introduction of several new types of industries such as food processing, cosmetics, automobile components units. A few environmentally hazardous units such as potassium chlorates, Galvanising units were introduced in the late 1980s. in 1997, the first industry policy was framed . The objectives of the industrial policy are:

1) To promote sustainable industrialisation in the Union territory of Puducherry.
2) To gainfully utilize the human resource of the Territory and maximise employment.
3) To improve the standard of living and quality of life of the people of the Union Territory.
4) To conserve the environment of the Puducherry for sustained and rapid industrial growth.
5) To participate in the globalisation of the economy with greater exports and imaginative imports.
6) To take advantage of the special features of the Puducherry including its heritage and culture.
7) To ensure balanced industrial development in all the regions of the Union territory.

Table.2: Profile of Industries

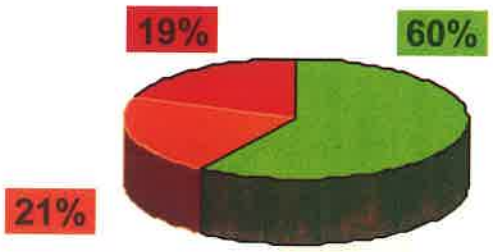
Size	Number
SSI	7308
MSI	162
LSI	70
TOTAL	7540

5. CONSENT MECHANISM

Based on the Prevention and Control of Pollution (Uniform Consent Procedure) Rule, 1999, industries in Puducherry have been classified into three categories viz.

- Green - Lesser Polluted.
- Orange - Moderately Polluted.
- Red - Highly Polluted

Fig.2 Categorization of Industries



Category	No
Green	1232
Orange	444
Red	404
Total	**2080**

a. Consent to Establish (No Objection Certificate)

Application is forwarded by Industries Department (Red Category) and through Single Window Committee (Green and Orange). PPCC consider the following aspects for considering the proposal for issue of consent to establish.

- Pollution potential and its abatement measures.
- Site Clearance from Town & Country Planning Department.
- Power feasibility issued by the Electricity Department
- Ground Water Clearance from State Ground Water Authority
- Land Conversion from State Land Use Board.

b. Consent to Operate

Based on the compliance of Consent to Establish conditions, Consent to operate is issued

c. Renewal of Consent

Based on inspection / monitoring consent is renewed. The validity period of the consent is as given below:

Table 3. Periodicity of renewal

Category	Period
Green	3 years
Orange	2 years
Red	1 year

d. Delegation of power for issue of Consent to Establish, Consent to operate and Renewal of Consent

In order to simplify and expedite the consent procedure, power has been delegated at different levels as given below:

Table 4. Delegation of power

<table>
<tr><th>Sl. No.</th><th>Category</th><th>Size</th><th>Power to issue NOC</th><th>Power to issue Consent to Operate</th><th>Consent Renewal</th></tr>
<tr><td>1</td><td>Red</td><td>Large, Medium & Small</td><td>By Committee</td><td>Chairman</td><td>Chairman</td></tr>
<tr><td>2</td><td>Orange</td><td>Large, Medium & Small</td><td>Chairman</td><td>Member Secretary</td><td>Member Secretary</td></tr>
<tr><td rowspan="2">3</td><td rowspan="2">Green</td><td>Large & Medium</td><td colspan="3">Member Secretary</td></tr>
<tr><td>Small</td><td>Member Secretary</td><td colspan="2">Exempted from obtaining Consent to operate and renewal of consent.</td></tr>
</table>

6. LABORATORY ACTIVITIES

Grade 'B' analytical laboratory is functioning in the Department since 1992. The activities of the laboratory includes:

1. Ambient air quality and Stack monitoring in industries.
2. Monitoring of industrial effluent.
3. Noise monitoring
4. Vehicular monitoring
5. Surface and ground water quality monitoring
6. Monitoring on festival occasion such as Deepavali and Vinayagar Chathurthi (Ganesh festival)

Laboratory is participating regularly in the analytical Quality Control exercise conducted by the CPCB, Delhi. The performance of the Laboratory in the Analytical Quality Control exercise was highly appreciated by the Central Pollution Control Board, GOI, New Delhi. Based on the analytical performance of the Staff during 1992-1995, Department's Laboratory has been certified as one of the Tenth best performing laboratory out of 70 Laboratories in our Country.

Laboratory staff have participated in Analytical Quality Control Exercise (Air Samples) conducted by CPCB and GTZ at New Delhi in All India basis during 5th –14th , March 2001 at CPCB, New Delhi and stood at third best performing laboratory at national level.

As there were no scientific staff in Puducherry Pollution Contol Committee till the year 2006, the entire laboratory activities regarding monitoring and analysis were carried out by the Laboratory staff of the Department of Science, Technology & Environment.

Fig. 3 Dr.V.Sumathy, Scientist and P.Vipin Babu, JSA are attending the NAMP/NWMP review meeting.

416 Consent to Establish , 82 Consent to operate, 102 authorisation have been accorded during the year. The details are as given below:

Table 5

No. of Consent to Establish issued during the period March, 08 - April, 09

Month	NOC	Air Consent to Operate	Water Consent to operate	Air Consent Renewal	Water Consent Renewal	Authori -zation	PCZ MA Clear ances
April'2008	45	9	8	8	3	8	5
May'2008	39	9	3	8	10	17	3
June' 2008	40	4	2	21	17	8	7
July'2008	64	16	4	28	27	16	7
August'08	38	5	3	13	17	12	8
September'08	14	2	2	8	8	7	6
October'08	28	4	2	7	7	5	2
November'08	17	8	2	3	4	4	13
December'08	52	9	2	11	16	2	2
January'09	37	8	1	12	10	2	9
February'09	29	6	3	13	12	18	8
March'09	13	2	3	6	6	3	8
Total	416	82	35	138	137	102	78

Table – 6 : Parameter Assessed in the Laboratory (Water samples)

S.No.	Parameter	Method Followed
1.	Temperature	Thermometric method
2.	PH	Electrometric method
3.	Turbidity	Nephlometric method
4.	Dissolved Oxygen	Iodometric method
5.	Biochemical oxygen Demand	Dilution method
6.	Nitrogen, nitrate + nitrite	Amalgamated Cadmium Reduction method for reduction of nitrate to nitrite by diazotization method
7.	Conductivity	Conductometric method
8.	Chloride	Argentometirc method
9.	Total Residual Chlorine	Titrimetric method
10.	Hardness	EDTA Titrimetric method
11.	Calcium	EDTA Titrimetric method
12.	Magnesium	By difference of 13 and 14
13.	Alkalinity	Visual titration Method
14.	Sulphate	Turbidimetric method
15.	Sodium	Flame photometric method
16.	Pottasium	Flame photometric method
17.	Chemical Oxygen Demand	Dichromate reflex method
18.	Total Dissolved Solids and Fixed Dissolved Solids	Gravimetric method
19.	Phosphate	Molybdate method (Colorimetry)
20.	Boron	Curcumin method (Colorimetry)
21.	Ammonia	Nesselerisation Method
22.	TKN	Distillation followed by Colorimetry method
23	P/R ratio	Iodometric method
24.	Oil & grease	Solvent Extraction Method
25.	TSS	Gravimetric method
28.	Chromium Trivalent	Colorimetry method
29.	Chromium Hexavalent	Colorimetry method

Table 7.Air Samples

S.No.	Parameter	Method Followed
01.	Suspended Particulate Matter (SPM)	Gravimetric
02.	Respirable Suspended Particulate Matter(RSPM)	Gravimetric
03.	Sulphur di oxide (SO_2)	Improved West and Gaeke Method
04	Oxides of Nitrogen as (NOx)	Jacob & Hochheiser Modified Method
05.	Chlorine	Calorimetric method
06.	Acid Mist (HCl & H_2SO_4)	Titrimetric
07.	Ammonia	Nesslerisation

Table 8
Details of monitoring conducted during 2008-09

S.No	Type of Monitoring	No. of Monitoring
1.	Ambient	209
2.	Stack	66
3.	Effluent	38
4.	Noise level survey	3
5.	Vehicular emission	1

Fig.4 Ambient monitoring in M.S. ingots manufacturing unit

Fig.5 Stack monitoring

Fig.6. Stack monitoring

Fig 7 Analytical work at the laboratory

CENTRALLY SPONSORED SCHEMES

a. National Ambient Air Quality Monitoring (NAMP)

The Central pollution Control Board (CPCB) in collaboration with the Puducherry Pollution Control Committee (PPCC) has established a National Ambient Air Quality Monitoring (NAMP) network, to collect, compile and disseminate information on air quality. PPCC is operating 3 Air Quality monitoring station under National Air Quality Monitoring (NAMP)

b. National Water Quality Monitoring Programme (NWMP)

The Central pollution Control Board (CPCB) in collaboration with the State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs) established a wide network of Water Quality Monitoring Programme (NWMP).

Publication

Report on Ambient Noise Level and Air Quality Survey during Deepavali Festival in Puducherry - A Comparative Study, 2000-20007 has been published.

7. STATUS OF AIR QUALITY

PPCC is operating 3 Air Quality monitoring stations under National Air Quality Monitoring (NAMP) The details of air quality monitoring stations are as given below:

Table 9. Air Quality Monitoring Stations

Location	Classification of area	Sources of Air Pollution
Chamber of Commerce	Residential area	Automobile sources
DSTE	Residential area	Modern Rice Mill near by and Automobile emissions
PIPDIC Industrial Estate, Mettupalayam (PIPDIC)	Industrial area	Industrial emissions and burning of debris in the open ground

Working Pattern

Each station is being monitored 24 hours a day – twice a week in a cyclic manner. The monitoring of Ambient Air Quality of Puducherry region includes the findings of Suspended Particulate Matter (SPM), Respirable Suspended Particulate Matter (RSPM), Sulphur-di-oxide (SO_2) and Nitrogen di oxide(NO_2).

Table 10 National Ambient Air Quality Standards

Pollutants	Time-weighted average	Concentration in ambient air			Method of measurement
		Industrial Areas	Residential, Rural & other Areas	Sensitive Areas	
Sulphur Dioxide (SO_2)	Annual Average*	80 µg/m^3	60 µg/m^3	15 µg/m^3	Improved West and Gaeke Method
	24 hours**	120 µg/m^3	80 µg/m^3	30 µg/m^3	
Oxides of Nitrogen as (NOx)	Annual Average*	80 µg/m^3	60 µg/m^3	15 µg/m^3	Jacob & Hochheiser Modified Method
	24 hours**	120 µg/m^3	80 µg/m^3	30 µg/m^3	
Suspended Particulate Matter (SPM)	Annual Average*	360 µg/m^3	140 µg/m^3	70 µg/m^3	High Volume Sampling Method
	24 hours**	500 µg/m^3	200 µg/m^3	100 µg/m^3	
Respirable Particulate Matter (RPM) (size less than 10 microns)	Annual Average*	120 µg/m^3	60 µg/m^3	50 µg/m^3	Respirable Particulate Matter Sampler Method
	24 hours**	150 µg/m^3	100 µg/m^3	75 µg/m^3	

Fig.8 Suspended Particulate Matter (SPM) concentration in ambient air of Puducherry (2008-2009)

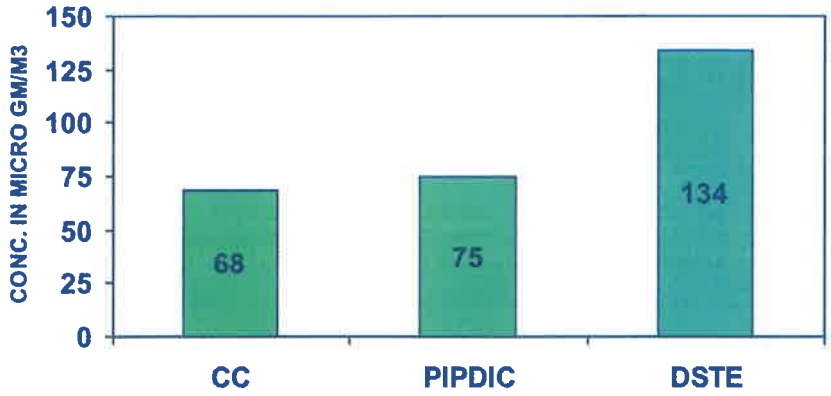


Fig.9 Sulphur di oxide (SO2) concentration in Ambient air of Puducherry (2008-2009)

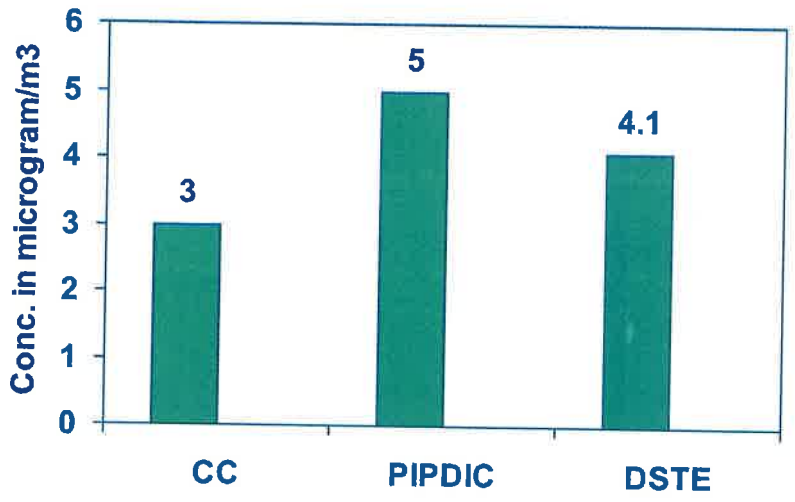


Fig.10 Nitrogen Di Oxide (NO_2) Concentration in Ambient Air of Puducherry (2008-2009)

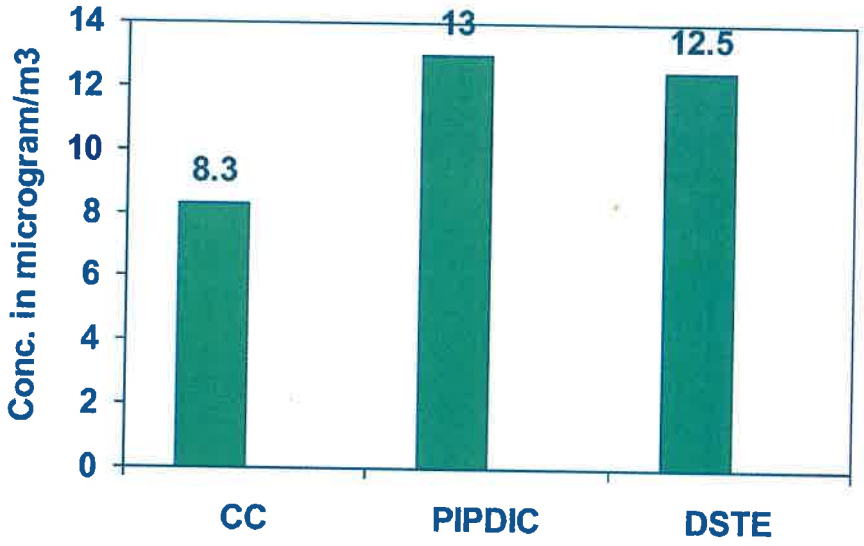


Table - 11

Air Pollution level in industrial and residential area as per the CPCB guidelines

Pollution Level	Annual Mean Concentration Range (µg/m^3)			
	Industrial		Residential	
	SO_2 & NO_2	SPM	SO_2 & NO_2	SPM
Low (L)	0-40	0-180	0-30	0-70
Moderate (M)	40-80	180-360	30-60	70-140
High (H)	80-120	360-540	60-90	140-210
Critical (C)	>120	>540	>90	>210

Table - 12

Ambient Air Quality Status for Puducherry Region (2008-2009)

LOCALITY	SPM	SO2	NO2
Chamber of Commerce	L	L	L
DSTE	M	L	L
PIPDIC	L	L	L

SPM, SO2 & NO2 are within the prescribed standard limit(Annual average) in all the three locations . The reason for moderate pollution in the location DSTE is due to movement of vehicles and modern rice milling activity.

Air quality Index

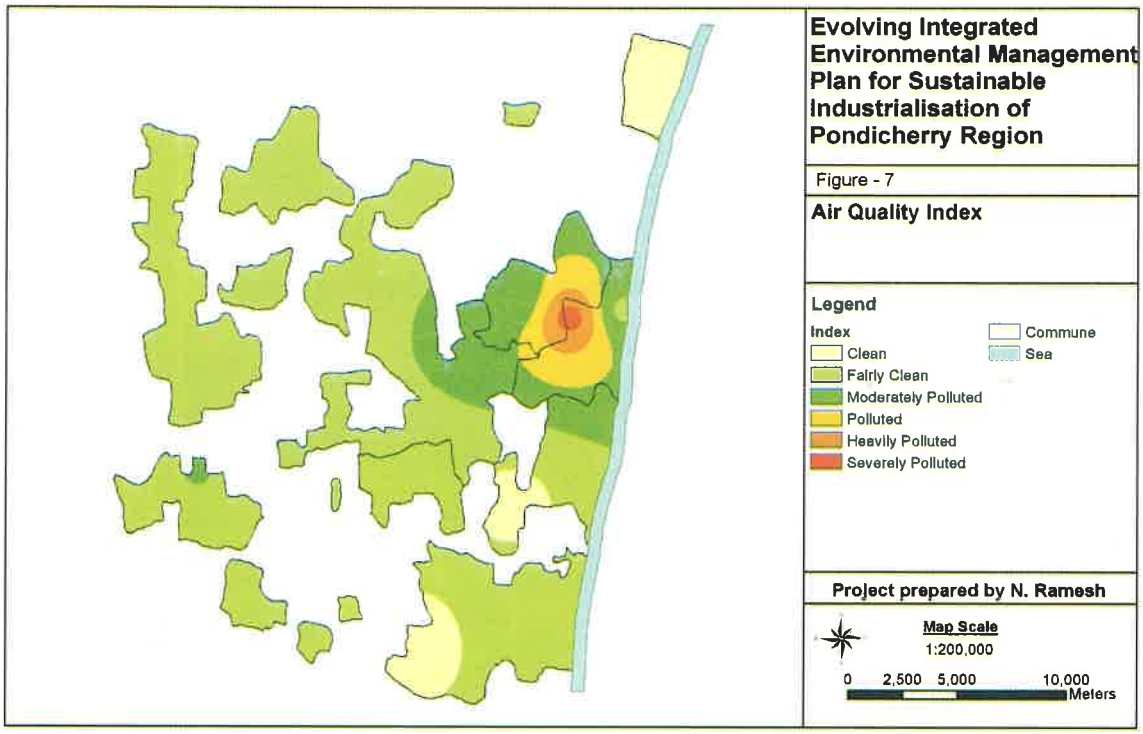
With the available data air quality index has been worked out as below

Table - 13

AIR QUALITY INDEX FOR PUDUCHERRY REGION

Location	Nature	Index value	Description
Mettupalayam	Industrial Estate	50.5	Moderately polluted
Nellitope	Commercial/Residential	133.8	Severely polluted
Abishegapakkam	Residential/Agricultural	18.8	Clean
Pillayar Kuppam	Residential-cum-Industrial	31.3	Fairly clean
Thirupanambakkam	Residential/Agricultural	19.1	Clean
Eripakkam	Residential-cum-Industrial	50.3	Moderately polluted
Thirubuvanai	Industrial/Residential	34.6	Fairly clean
Katteri Kuppam	Residential/Agricultural	27.8	Fairly clean
Kalapet	Residential/ Institution	15.3	Clean
Sedrapet	Industrial Estate	34.2	Fairly clean
Chamber of Commerce	Coastal/ Residential	46.4	Fairly clean

Fig.11. Air quality Index



- It indicates that 9.19% (26.63 sq.km) area comes in 'Clean' category
- 69.09% (200.29 sq.km.) area comes in "Fairly Clean" category
- 14.98% (43.35 sq.km.) area falls in 'Moderately polluted" category
- 4.73% (13.72 sq.km) area comes in "Polluted" category,
- 1.66% (4.81 sq.km) area comes under "Heavily polluted" category
- 0.34% (0.99 sq.km) area comes under severely polluted category
- It also reveals that air quality in North and North Western part of Puducherry region is comparatively cleaner than South and Southern West part.
- It is due to presence of large numbers of air polluting units like M.S.Ingots, Calcium Carbide etc. in the latter regions.

- It is interesting to note that the industrial areas are coming under moderately polluted category while commercial areas are coming under severely polluted areas. This indicates that the major contributor for air pollution in Puducherry is the vehicular traffic in the urban and commercial areas.

Table – 14 **Air quality of Puducherry in comparison with selected cities of India (µg/m3)**

Air Pollutants	Area category	Delhi	Chennai	Bangalore	Nagpur	Chandigarh	Kanpur	Hyderabad	Jammu	Puducherry	CPCB Stds
SPM	Residential	**355**	99	**158**	**190**	**196**	**390**	**158**	**240**	101	140
	Industrial	**381**	123	125	165	262	**457**	153	190	75	360
SO2	Residential	15.8	8.37	25.66	7.54	5.27	11.87	11.87	1.6	3.55	60
	Industrial	20.2	20.23	24.44	8.91	11.57	13.92	14.14	18.4	**21.60**	**80**
NOx	Residential	30.09	15.84	20.96	14.32	15.47	15.42	23.93	4	10.05	60
	Industrial	32.38	16.96	17.32	16.35	17.98	17.67	23.23	4.2	13	80

It is interesting to note that the values of SPM, SO2 and NOx in the residential areas are comparatively lower than Delhi, Chennai, Bangalore, Chandigarh, Kanpur and Hyderabad. However, the values of SPM, SO2 and NOx in the industrial areas are higher than in highly industrialised cities such as Chennai, Bangalore Nagpur and Hyderabad

Ambient air quality and Noise level during Diwali festival day on 27.10.2008

Ambient air quality monitoring was carried out at Residential area (Anna Nagar) to assess the air pollutants due to firing of crackers on 27th October, 2008. The concentration of suspended particulate matter was higher(235 ug/m3) than the prescribed standard limit. The concentration of Suphur di oxide have significantly increased (106 ug/m3) when compared to the standard limit (80 ug/m3) While the concentration of Nitrogen di oxide is found to be within the prescribed standard limit.

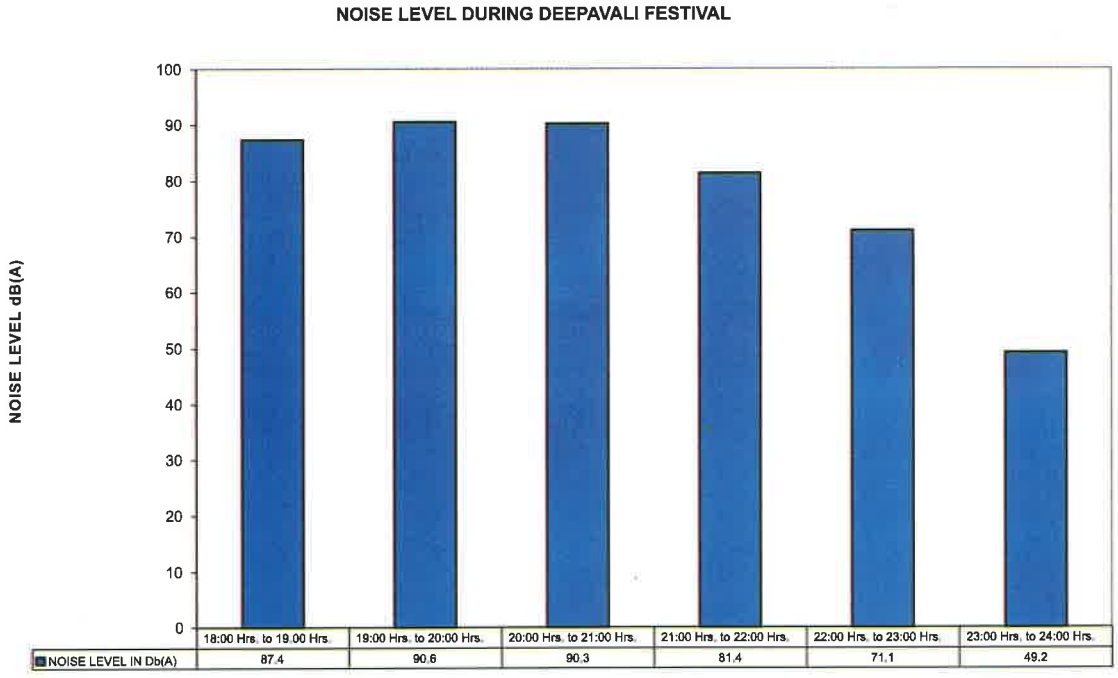
Noise monitoring was also conducted to assess noise pollution due to firing of cracker. Noise level monitoring was carried out at Muthialpet from 18:00 Hrs to 24:00 Hrs for the duration of 06.00 Hrs. The Noise level (L eq) for every one hour during this period ranged between 49.2 dB(A) and 90.6 dB(A)

Table - 15

Ambient Noise Monitoring on Deepavali day (27/10/2008).

Sl.No.	Time duration	L equivalent dB(A)
1.	18:00 Hrs. to 19.00 Hrs.	87.4
2.	19:00 Hrs. to 20:00 Hrs.	90.6
3.	20:00 Hrs. to 21:00 Hrs.	90.3
4.	21:00 Hrs. to 22:00 Hrs.	81.4
5.	22:00 Hrs. to 23:00 Hrs.	71.1
6.	23:00 Hrs. to 24:00 Hrs.	49.2
Average L equivalent dB(A)		78.3

Fig.12 Noise Level during Diwali festival



From the report it was observed that the Noise level (Leq) reached upto 90.6dB(A) on the festival day.

8. STATUS OF WATER QUALITY

Department of Science, Technology & Environment and Puducherry Pollution Control Committee (PPCC) is monitoring water quality regularly at various water sources with financial assistance from Central Pollution Control Board, Delhi. The parameters monitored are as per the guidelines of Central Pollution Control Board. Monitoring is done on quarterly basis in surface water and on half yearly basis in case of bore well water.

Table.16 Water quality monitoring stations
Puducherry Region

Sl. No.	Station Code	Location	Type	Latitude	Longitude	Date of inception
1	1396	Ousteri	Lake	11° 56' N	79 ° 44' E	11-01-90
2	1397	Ramakrishna Nagar, Muthialpet	Borewell	11° 56' N	79 ° 50' E	11-01-90
3	1398	Tengaithittu	Borewell	11° 54' N	79 ° 49' E	11-01-90
4	1453	Muthirappalayam	Borewell	11° 56' N	79 ° 46' E	01-01-92
5	1454	Puducherry University, Kalapet	Borewell	12° 10' N	79 ° 51' E	01-01-92
6	1688	Katterikuppam	Borewell	12° 00' N	79 ° 42' E	15-05-02
7	1686	Bahour	Lake	11° 48' N	79 ° 44' E	15-05-02
8	1687	Nehru Statue	Borewell	12° 01' N	79 ° 51' E	15-05-02
9	1689	Chunnambar	River	11° 52' N	79 ° 47' E	15-05-02
10	2009	Kurumbapet	Borewell	11° 55' N	79 ° 45' E	16-05-06
11	2010	Mettupalayam	Borewell	11° 56' N	79 ° 47' E	15-05-06
12	2011	Uruvaiyar	Borewell	11° 53' N	79 ° 45' E	15-05-06
13	2012	Karuvadikuppam	Borewell	11° 58' N	79 ° 48' E	15-05-06

Table.17 Karaikal Region

Sl. No.	Station Code	Location	Type	Latitude	Longitude	Date of inception
1	1685	Arasalar	River	10° 54' 562" N	79 ° 49' 066" E	15-05-02
2	2013	T.R.Pattinam	Borewell	10° 50' 485" N	79 ° 49' 918" E	16-05-06
3	2014	Vadamattam	Borewell	11° 56' 773" N	79 ° 49' 771" E	16-05-06

Fig.13 NWMP Stations in Puducherry

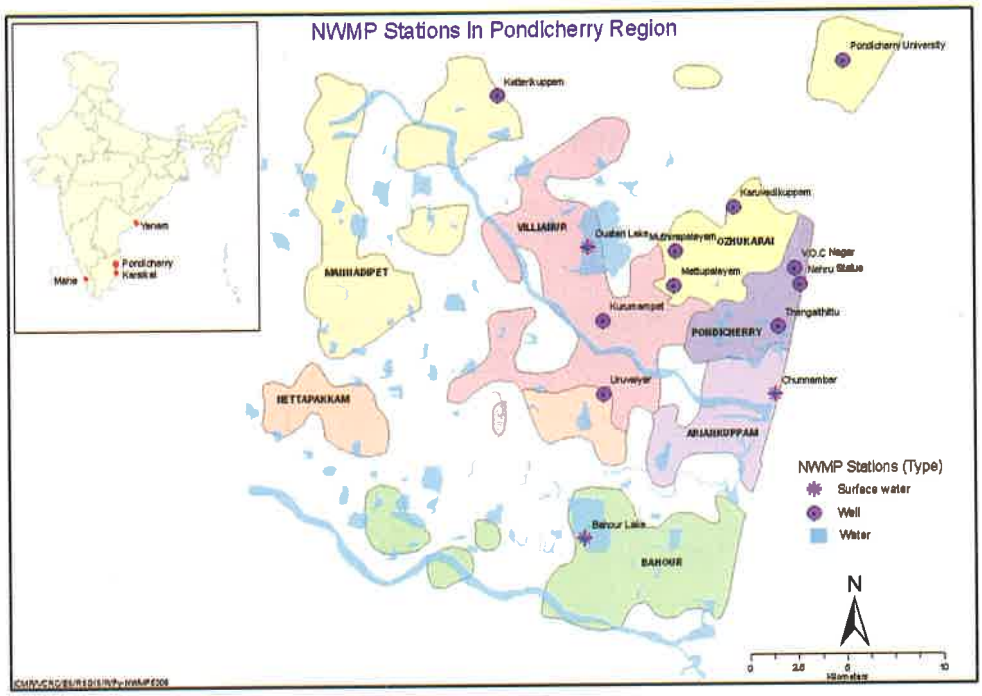


Fig.14 NWMP stations in Karaikal

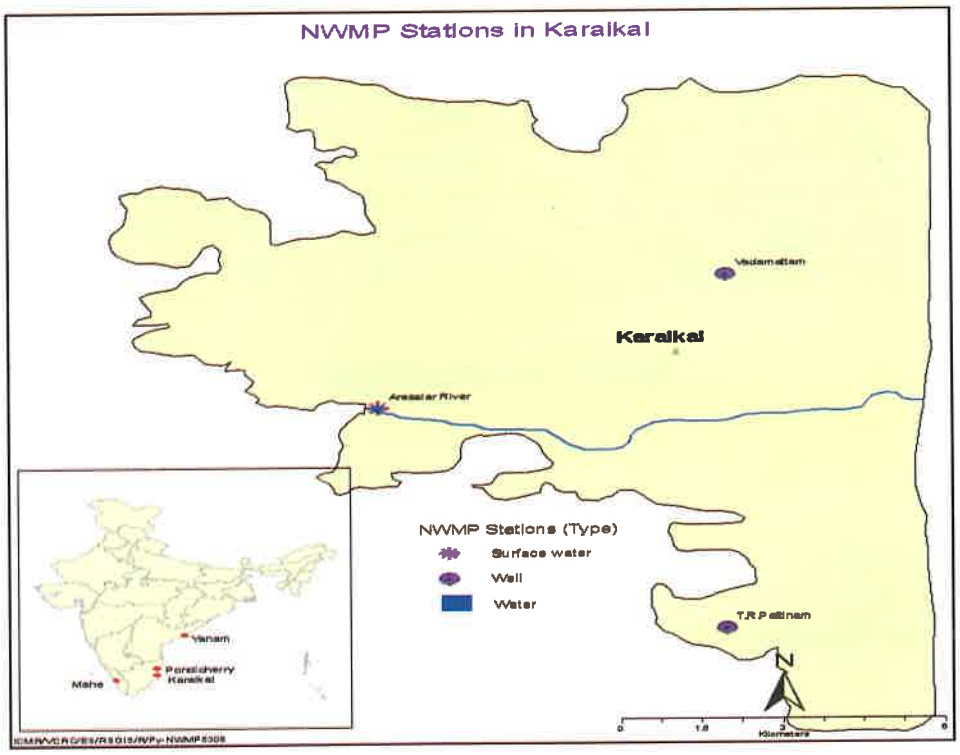


Fig.15 pH Status of Water Quality in Surface Water

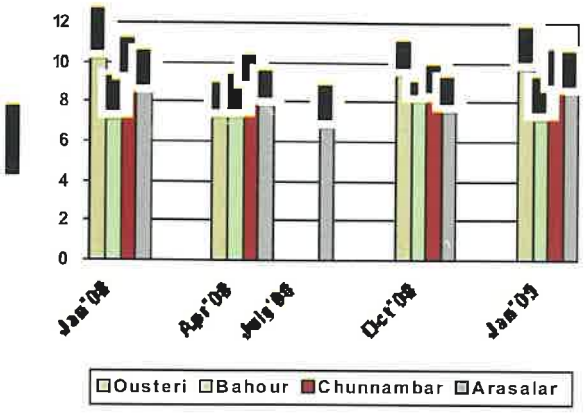


Fig.16 Conductivity in micro mho/cm

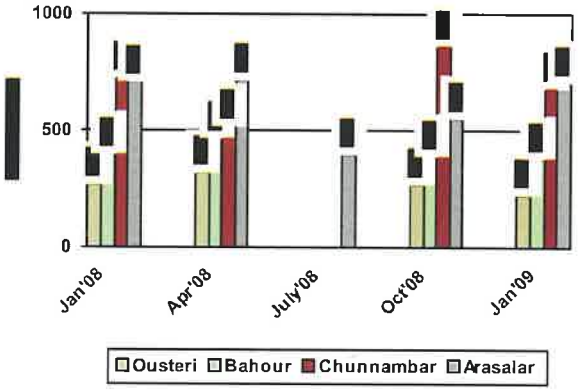


Fig.17 Dissolved Oxygen in mg/l

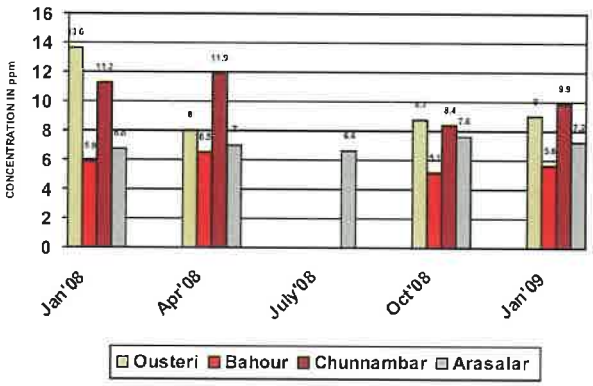
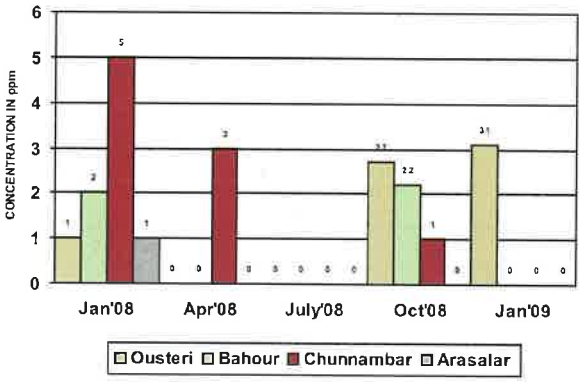


Fig.18.Biochemical Oxygen Demand in mg/l



Note: During July'2008 Sample was not collect at Ousteri, Bahour and Chunnambar stations due to non-flow of water.

Fig.19.Water sample collection under NWMP

Status of Water Quality in Borewells

Fig.20 pH

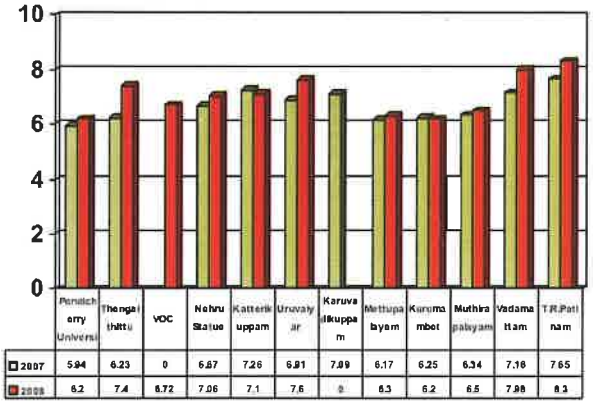


Fig.21 Conductivity in micro mho/cm

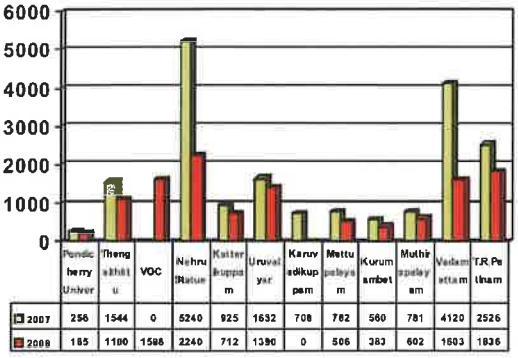


Fig. 22 Dissolved Oxygen in mg/l

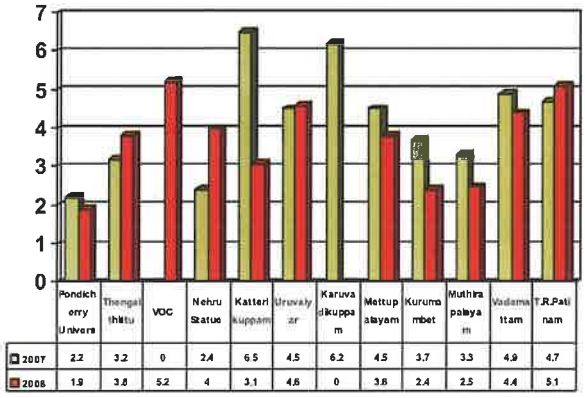


Fig. 23 Total Dissolved Solid in mg/l

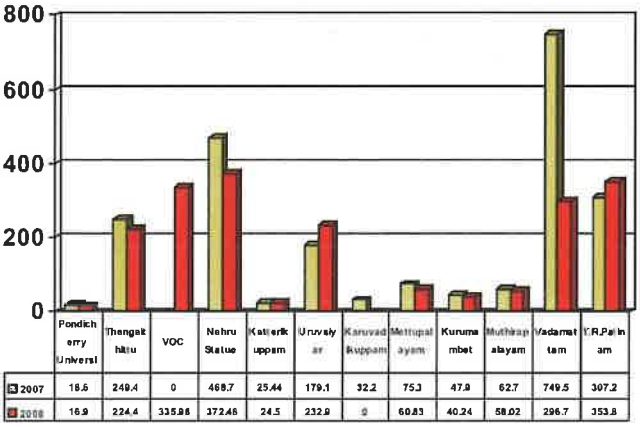


Fig.24 Chloride in mg/l

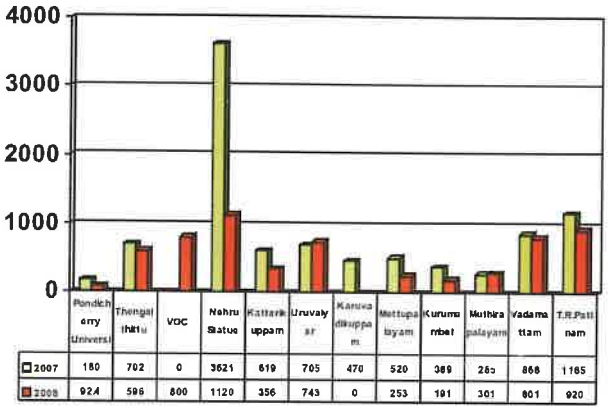


Fig.25 Alkalinity in mg/l

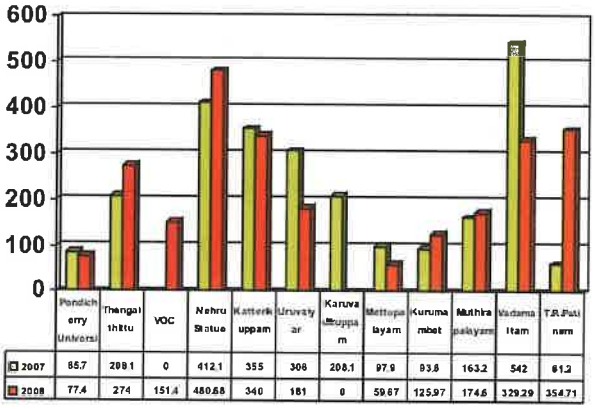


Fig.26 TSS in mg/l

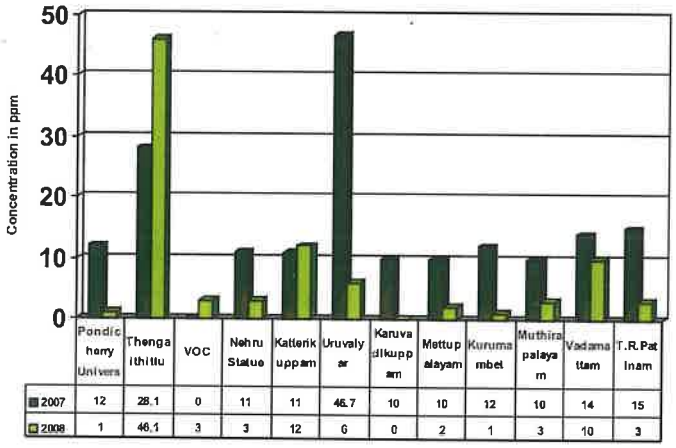


Fig.27 Total Hardness in mg/l

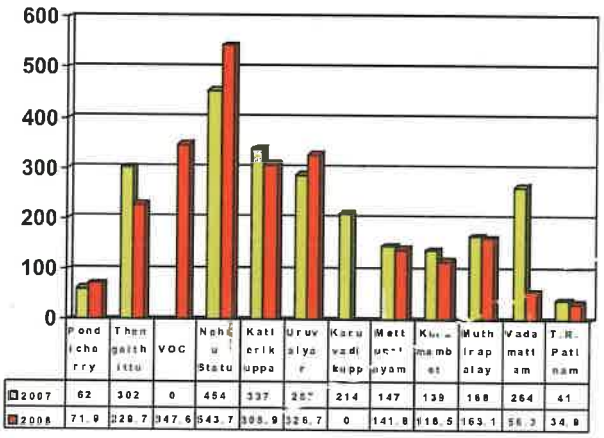


Fig.28 Sulphate in mg/l

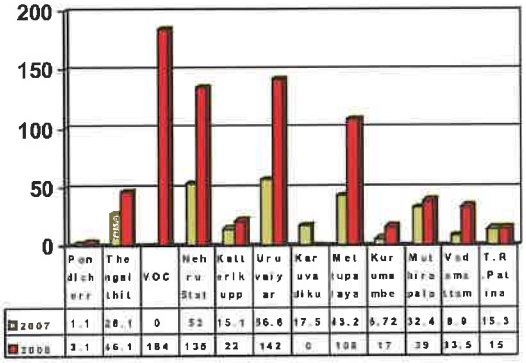
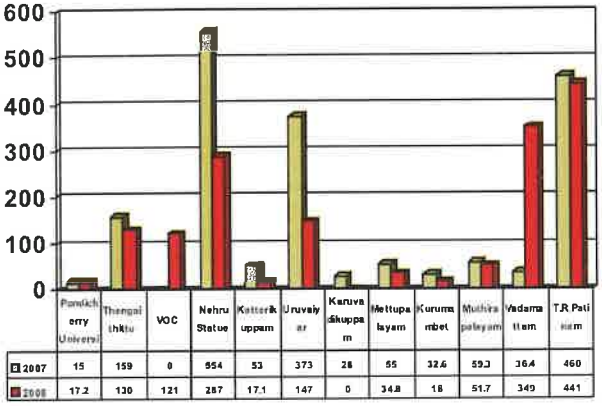


Fig.29 Sodium in mg/l



Newly sanctioned stations by CPCB

The following stations are sanctioned by CPCB. It is proposed to conduct monitoring once in a year subject to flow of water in the surface water bodies.

Table.18 Yanam Region

Sl.No	Station Code	Location	Type	Latitude	Longitude
1	2442	Gautami-Godavari	River	16° 72' 597" N	82 ° 20' 216" E
2	2443	Gautami-Godavari	River	16° 71' 519" N	82 ° 26' 158" E
3	2444	Coringa	River	16° 73' 000" N	82 ° 21' 747" E

Table.19 Mahe Region

Sl. No.	Station Code	Location	Type	Latitude	Longitude
1	2445	Mahe river	River	11° 42' 184" N	75 ° 32' 381" E
2	2446	Pallur	Openwell	11° 43' 575" N	75 ° 32' 274" E
3	2447	Panthakkal	Openwell	11° 45' 123" N	75 ° 32' 284" E

Fig.30 Proposed NWMP stations in Yanam

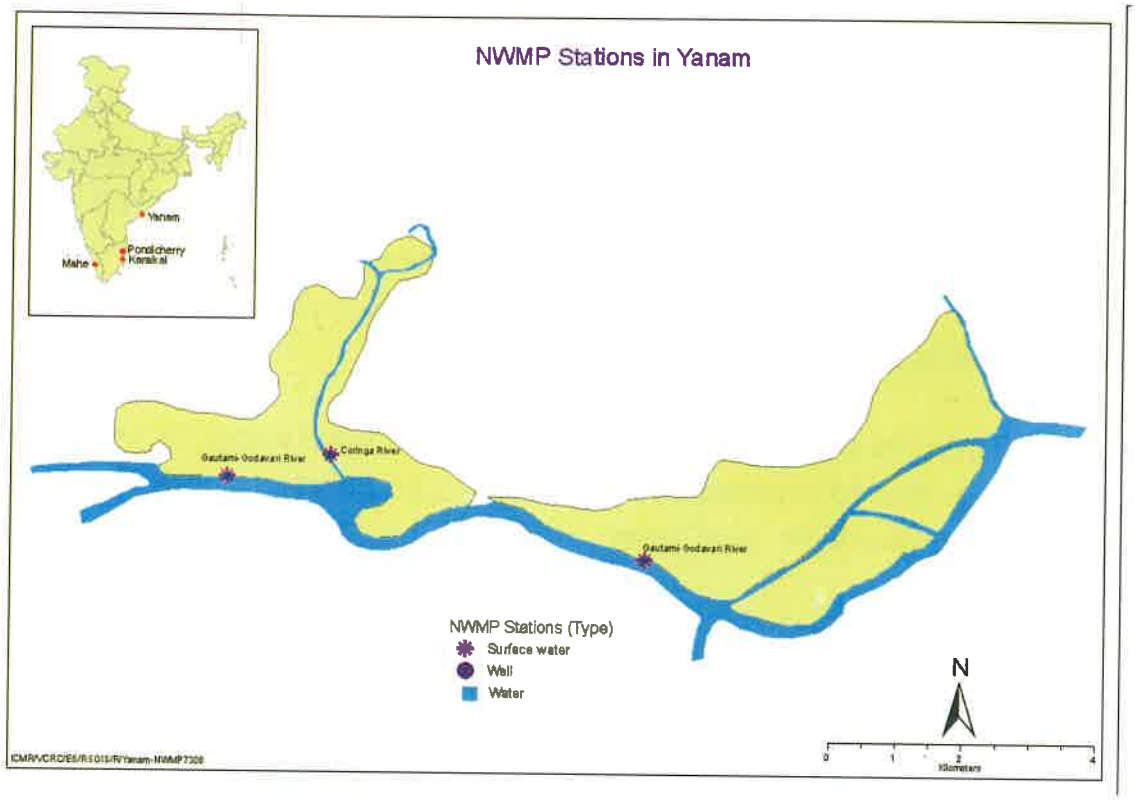
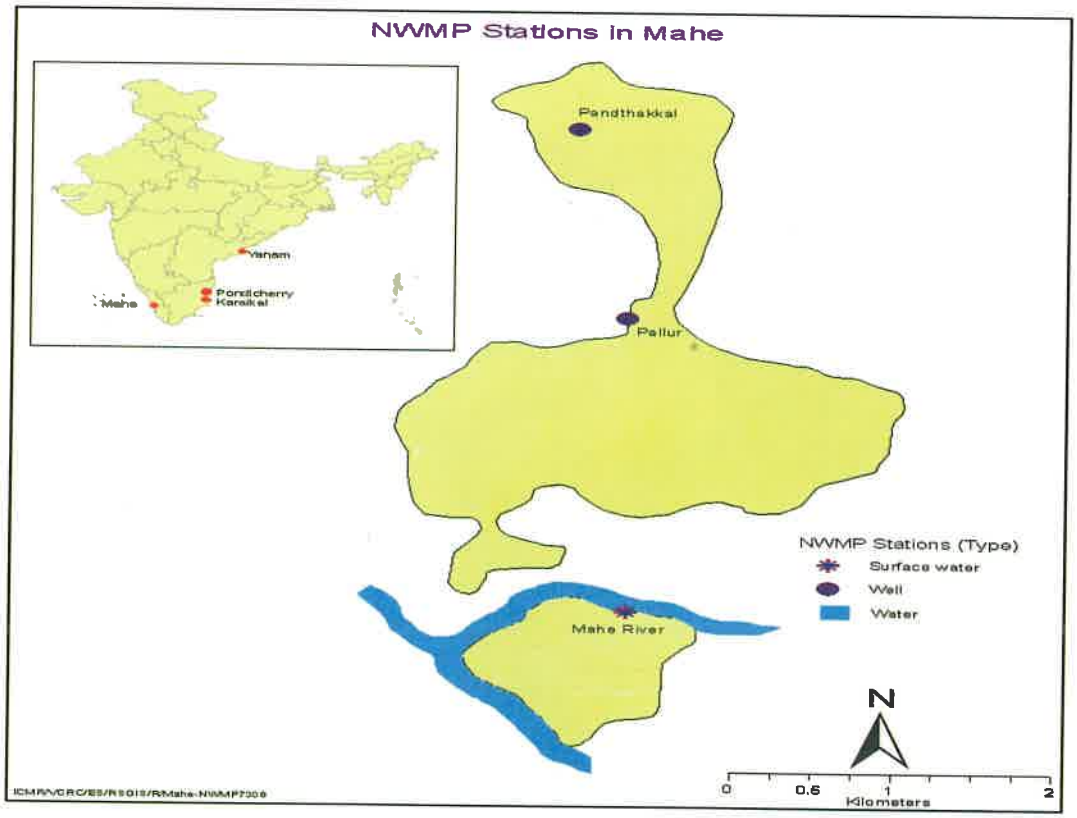


Fig.31 Proposed NWMP stations in Mahe



Assessment of water quality during Vinayaka Chathurthi Festival

On Vinayaka Chathurthi, it has been a tradition in our Country to immerse idols in various bodies such as rivers, lakes, ponds, estuaries, sea etc., and Pollution of such water bodies has been a matter of concern. To prevent pollution due to series immersion of idols in the water bodies on the occasion of Vinayaka Chathurthi Festival. The District Collector and the Sr. Superintendent of Police (L&O), Puducherry were requested to issue necessary instruction to the concerned Department. Advertisement was also released in the Newspaper to prevent pollution and health hazard.

In Puducherry the immersion of idols is done in coastal water. To assess the Coastal water quality due to immersion, samples were collected at three stages viz., pre immersion, immersion and post immersion and analysed as per the CPCB guidelines.

Fig.32 Coastal sampling

Table.20 :Coastal monitoring conducted due to idol immersion in the sea on the occasion of Vinayaka Chathurthi Festival

Parameter	Pre Immersion 1.09.2008		During Immersion 7.09.2008		Post Immersion 18.09.2008	
	Surface	Bottom	Surface	Bottom	Surface	Bottom
Temperature	30	30	27	27	28	30
pH	8.15	8.27	7.79	8.05	8.22	8.27
Conductivity	41.3	42.1	52.0	52.9	41.3	43.1
TDS	36,962	34,956	35,209	34,946	41,939	34,354
TS	36,975	34,978	35,250	34,988	42,078	34,581
DO	6.0	5.7	5.6	5.4	6.5	6.3
COD	BDL	BDL	BDL	BDL	5.4	3.1
BOD	BDL	BDL	BDL	BDL	BDL	BDL
Turbidity	3	2	8	5	6	14

Note: Except pH, turbidity (in NTU) and Conductivity (in mS), all the other parameters are expressed in mg/l. Bottom samples were collected at a depth of 6m. BDL – Below Detectable Limit.

Due to idol immersion in the sea, the concentration of the parameters monitored did not show much variation during immersion and post immersion period compared to the pre immersion time.

9. MUNICIPAL SOLID WASTE MANAGEMENT

Solid Waste Management (SWM) is one of the important obligatory functions of Local Bodies in India. This service falls far short of desired levels, resulting in problems of health, sanitation and environmental degradation. In order to ensure scientific way of disposal of Municipal Solid Waste, Ministry of Environment and Forest have notified The Municipal Solid Wastes (Management & Handling) Rules, 2000

These Rules as apply to every municipal authority responsible for collection, segregation, storage, transportation, processing and disposal of municipal solid wastes. "Municipal solid waste" includes commercial and residential wastes generated in municipal or

notified areas in either solid or semi-solid form excluding industrial hazardous wastes but including treated bio-medical wastes.

As per the Rules, all the local bodies have been directed to apply in Form-I for obtaining authorization under the above said Rules. So far, the two Municipalities viz. Puducherry and Oulgaret Municipalities and one Govt. Undertaking PASIC, Karaikal has obtained authorization under the above said Rules.

Awareness Programmes conducted

i) One day capacity Building workshop has been conducted on 1st February, 2008 in collaboration with C.P.R. Environment Education Centre, Chennai, to create awareness among the councilors of Puducherry and Oulgaret Municipalities.

ii) During April 4th 2009, one day Workshop has been conducted for the Commissioners of Local bodies to prepare an Action Plan on Municipal Solid waste Management and to insist to apply in Form-I for obtaining the authorization under the above said Rules.

Table.21: Status of MSW disposal in Local bodies

Sl. No.	Name of the local body	Quantity of waste generation MT/ Day	Place and method of disposal
1.	Puducherry Municipality	180	Karuvadikuppam (land filling)
2.	Oulgaret Municipality	120	Kalmedupet
3.	Karaikal Municipality	15	PASIC is composting degradable waste
4.	Yanam Municipality	15	Farampeta dry land (land filling)
5.	Mahe Municipality	5.0	
6.	Ariankuppam Commune Panchayat	< 12	Dumping in low lying area
6.	Villianur Commune Panchayat	<12	Dumping in low lying area
7.	Bahour Commune Panchayat	8	Dumping in low lying area
8.	T.R. Pattinam Commune Panchayat	3	Dumping in low lying area
9.	Nedungadu Commune Panchayat	0.25	Dumping in low lying area
10.	Kottucherry Commune Panchayat	4.5	-Do-
11.	Neravy Commune Panchayat	0.75	-Do-
12.	Thirunallar Commune Panchayat	2.50	-Do-

13.	Mannadipet Commune Panchayat	3.0	-Do-
14.	Thirunallar Commune Panchayat	3.5	-Do-
15.	Nettapakkam Commune Panchayat	2.0	-Do-

Puducherry Region:

There are two Municipalities viz. Puducherry and Oulgaret Municipality functioning in Puducherry region.

Puducherry Municipality:

The Puducherry Municipality spread over 19.46 sq.km has been divided in to 42 Municipal wards consisting a population of 2.21 lacs. Garbage generated per head per day is 400 gms. The total generation of garbage in the entire Municipal area is around 200 MT per day, including Markets and other public places. 100% of waste collections are being done by this Municipality without any processing of waste.45 no. of Associations are helping the Municipality in keeping the area clean.

Collection of garbage is done door to door in the Bouleward town. While around 60 to 70 % of residents are co-operating, it is found that co-operation from the merchant and trading community is lacking in spite of all kinds of persuasion. Apart from that, Door to Door collection is done in 28 other areas.

At present suitable dumping yard is not available with this Municipality of its own, hence processing as pointed out above could not be carried out. However a portion of garbage is converted into compost by PASIC (Puducherry Agro Services and Industrial Corporation) a unit of Government of Puducherry undertaking.

15 TPD degradable waste collected form Hotels and Big Market are sent to PASIC composting yard at Arasur for composting .

Oulgaret Municipality:

Oulgaret Municipality is the second major Municipality in Puducherry with a population of 2,17,623. The major part of the Municipality is the semi urban in nature with some rural villages like Alankuppam, Kanagachettikulam, Periakalapet and Pillaichavady. The total area is 36.5 Sq.Kms. For the purpose of sanitation this Municipality has been divided into three zones and in each zone 10 –11 villages are covered.

This Municipality is now adopting two method of Primary Collection depending upon on the area. Door steps collection of garbages are being done in 44 developed colonies.

The garbage collected by door-to-door and by hand cart are collected by the Lorry / Trucks from the transit point located in each area. They are shifted to the compost yard/ dumping yard. The garbage collected by door-to-door and by handcart are temporarily near the main roads (Transit points) in various places.

The total generation of garbages in Oulgaret Municiipality is around 140 tons per day and the per capita generation of garbage is 400 gms. As per the survey conducted by this Municipality the composition of garbage are as follows:-

Table.22 Composition of MSW

Sl.No		
1.	Domestic wastes including kitchen waste	40%
2.	Market Waste	10%
3.	Garden and Agricultural waste	8%
4.	Hospital Waste	2%
5.	Road and construction waste	30%
6.	Sweeping and Sanitary waste	10%
	Total	100%

The garbage collected by the Oulgaret Municipality contains 78% of organic and 22% of in-organic matter. The in-organic matter contains 4.5 % of plastics and other recyclable paper and related matters such as rubber, stones and other inert materials. Segregation of garbage into

organic and in-organic matters is not being done at source, but during the process of composting the same is being segregated and kept for landfill.

The chemical composition of garbage in Oulgaret Municipality is as follows:

Table.23 Chemical analysis of MSW

Sl.No		
1.	Moisture	27 to37%
2.	Organic carbon	21.87%
3.	Nitrogen	0.52%
4.	Phosporus	76 mg
5.	Potassium	42 mg

Karaikal Municipality:

This Municipality is having less than 1.00 lakh population. Total solid waste generation in this Municipality is around 15 MT /day. At present the disposal of waste is done in an unscientific manner.

The management of solid waste by PASIC will pave way for effective management of solid waste for converting the waste as compost will create acceptable sanitation, good environment and prevent health hazard.

Yanam Municipality:

This Municipality is having population of about 31,362 persons. The total solid waste generation is about 15 MT/day. At present wastes are being dumped in the dumping yard at Farampeta.

Mahe Municipality:

This Municipality is having population of about 36,823 persons. The total solid waste generation is about 5 MT/day. At present wastes are being dumped in the low lying area.

10. BIOMEDICAL WASTE MANAGEMNT

Bio-Medical Waste' means any waste, which is generated during the diagnosis, treatment of immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biological, and including categories mentioned in Schedule-I. of Bio-medical waste (Management and Handling) Rules, 1998.

- Puducherry Pollution Control Committee has been notified as Prescribed Authority to implement these Rules in the U.T. of Puducherry.

- Bio-Medical Waste Notification was published in the Puducherry Gazette on 12th September 2000. Republished the II amendment on 26th October 2000 for general information of the public.·

- As per Rule-8: All Hospitals, Nursing Home, Clinic, pathological laboratories, veterinary institutions, animal house, blood bank – providing treatment less than 1000 patients per month are directed to obtain authorisation from PPCC.

- An Appellate authority has been constituted for hearing appeals against the orders of the Prescribed Authority as below:

  i) Development Commissioner - Chairman
  ii) Secretary (Envt.) - Member
  iii) Secretary (Health) - Member

- As per Sec. 8(3) of the rule and pursuant to the decision taken in the Puducherry Pollution Control Committee meeting, it is proposed to collect authorisation fee i.e., Rs.1,500/- for the hospitals located within the Municipal Area and Rs.1000/- for the hospitals located in other areas for a period of three years.

Awareness Programme:

- Two-day Workshop has been conducted on 8th and 9th October 1999 at Jawaharlal Nehru Institute of Post Graduate Medical Education and Research, Puducherry to create awareness on the above said Rule. A similar one-day workshop was also heldat General Hospital, Puducherry on 11.4.2000 for the Management of private hospitals .

- One – day training programme was conducted on 15.12.2001 at Govt. General Hospital, Puducherry for all Supervisory Staff responsible for handling Bio-Medical Waste so as to emphasize strict adherence to the Rules and Regulations of the Act.

One – day Workshop on Bio-Medical Waste Management was held on 19.9.2004 at Hotel Annamalai International.

- One – day Workshop on Bio-Medical Waste Management was held on 02.02.2008 at Hotel Anandha Inn, Puducherry in co-ordination with the C.P.R. Foundation, Chennai.

Status of Health care Units:

So far 113 Hospitals have been identified as Bio-Medical Waste generators and Puducherry Pollution Control Committee has directed all the hospitals and institutions handling Bio-medical Waste to apply for Authorization under this Rule. So far 47 Health care facilities have obtained Authorization in U.T.of Puducherry.

Table.24 Details of BMW authorization issued to hospitals

Region	*Government Hospitals* Total No.	*Private Hospitals* Total No.
Puducherry Region	61	25
Karaikal Region	13	4
Mahe Region	3	1
Yanam	1	5

Common Bio-Medical Waste Treatment Facility:

One private entrepreneur has established a Common Bio-Medical waste Treatment Facility (CBWTF) at Thuthipet viz. Puducherry Solid Waste Management Pvt. Ltd.., Operation would be commenced very soon.

Current Facilities:

At present one incinerator has been installed at Gorimedu by Health Department(Opp. to JIPMER) to dispose the Bio-Medical waste generated in the General Hospital and Maternity Hospital, Puducherry. The list of other hospitals in the U.T. of Puducherry having their own incinerators is as follows:

(i) JIPMER, Dhanvandhari Nagar, Puducherry

(ii) General Hospital, Karaikal

(iii) General Hospital, Mahe

(iv) Mahatma Gandhi Medical College and Research Institute, Puducherry

(v) Aarupadai Veedu Medical College and Hospital, Puducherry

(vi) Puducherry Institute of Medical Sciences, Puducherry and

(vii) Vinayaga Mission Medical College and Hospital, Karaikal.

Few other hospitals / institutions have autoclave and shredders but not incinerators. The bio-medical waste generated by these hospitals / institutions is collected by the local bodies and disposed off.

Total No. of Beds in U.T. of Puducherry - 5033 (approx)
Solid bio-medical waste generation in U.T. of Puducherry - 115670.45 Kgs / month

Approximate liquid waste generation in U.T. of Puducherry - 16607 lits/month

Table.25 Authorisation Status

Category	Total No. of Hospitals	Time limit to get Authorisation	Authorisation Status
Above 500 Beds	5 (2-G, 3-P)	June 2000	Issued
200 to 500 Beds	6 (2-G, 4-P)	Dec. 2000	Issued
50 to 200 Beds	7 (5-G, 2-P)	Dec. 2001	Issued
Less than 50 Beds	76 (46-G, 30-P)	Dec. 2002	Issued (29)
All other not covered in above	Animal Dispensary –18 Vet. College - 1	Dec. 2002	Not issued

G : Government Institution
P : Private Institution

Table.26 Details of Hospitals

1) With 500 Beds and above (Total - 5 Nos. : 2 Govt. Hospitals & 3 Private Hospitals)

Sl. No.	Name of the Hospital	No. of Beds	Qty. of Waste in Kg/month
1.	General Hospital, Puducherry.	698	11706
2.	JIPMER , Gorimedu, Puducherry	912	84015
3.	Vinayaga Mission's Medical College & Hospital, Karaikal.	500	1800
4.	Aravind Eye Hospitals, Abhishekapakkam, Puducherry	525	60
5.	Sri Manakula Vinayagar Medical College and hospital, Madagadipet, Puducherry	750	158
	Total	**3385**	**97799**

With 200 – 500 Beds (Total - 6 Nos. : 2 Govt. Hospitals & 5 Private Hospitals)

Sl. No.	Name of the Hospital	No. of Beds	Qty. of Waste in Kg/month
1.	Govt. Maternity Hospital, Puducherry	330	2000
2.	Govt. General Hospital, Karaikal.	351	500
3.	St. Joseph of Cluny Nursing Home, Puducherry	200	150
4.	Mahatma Gandhi Medical College and Research Institute, Pillaiyarkuppam	300	8340
5.	Aarupadai Veedu Medical College & Hospital, Puducherry	400	780
6.	Puducherry Institute of Medical Sciences, Puducherry	310	1800
	Total	**1,891**	**13,570**

3) With 50 – 200 Beds (Total - 7 Nos. : 5 Govt. Hospitals & 2 Private Hospitals)

Sl. No.	Name of the Hospital	No. of Beds	Qty. of Waste in Kg/month
1.	Govt. General hospital, Mahe.	171	100
2.	Chest Clinic, Puducherry	138	17
3.	Mahatma Gandhi Govt. Leprosy hospital, Puducherry	80	150
4.	Govt.General hospital, Yanam	50	75
5.	Nallam Clinic, Puducherry	75	20
6.	Sedhu Nursing Home, Puducherry.	65	30
7.	ESI Hospital, Gorimedu, Puducherry	75	10
	Total	**654**	**402**

4) Less than 50 Beds:- (Total 73 Nos. : Govt. 46 & 29 Private Hospitals)

Sl. No.	Name of the Hospital	No. of Beds	Qty. of Waste in Kg/month
1.	Physical Medicine rehabilitation Centre, Puducherry	30	20
2.	New Medical Centre, Puducherry	42	20
3.	Mahatma Gandhi Dental College & Hospital	30	565
4.	Sri mahalakshmi Nursing Home, Puducherry	20	25.5
5.	Government Chest Clinic, Ambour Salai	02	13
6.	Sri Krishna Nursing Home, Puducherry	30	130.5
7.	Arthur Eye nursing Home, Puducherry	05	2.2
8.	ESI Dispensary,Pallor, Mahe	02	10
9.	Community Health Centre, Palloor,Mahe	30	125
10.	Rani Hospital, Vazhudavur road, Puducherry	25	91
11.	A.G. Padmavati's Hospital,Puducherry	30	12
12.	Sridevi Nursing Home,Puducherry	12	2.5
13.	Care Clinic,Puducherry	--	1.0
14.	St. Rock's Dispensary, Karaikal	25	16
15.	Jagadesh Eye Clinic, Puducherry	03	6
16.	Sri Aurobindo Ashram Nursing Home,Puducherry	30	145.5
17.	Vector Control Research Centre,Puducherry	Nil	5.0
18.	Jothi Eye Care Centre,Puducherry	10	90
19.	V.K.N. Hiospital, Puducherry	17	66
20	Satya Nursing Home, Yanam	10	10
21.	Kamala Nursing, Puducherry	10	4.25
22.	Sri Veeraraju Nursing Home, Yanam	10	2
23.	Renuka Nursing Home, Yanam	05	10
24	Primary Health Centre, MahePandakkal, Mahe	02	0.25

25	Speciality Centre, Puducherry	30	10
26.	Kamaraj Uro Surgical Clinic, Puducherry.	05	05
27	Ashok Nursing Home, Puducherry.	20	10
28	Ashwini Meternity Hospital, Puducherry	08	15
29	Sri Arunachalam Hospital, Puducherry	12	21
Total		440	1417

Visit of Rajya Sabha Committee

Committee on Subordinate Legislation, Rajya Sabha, under the Chairpersonship of Dr. (Shrimati) Najma A. Heptulla, M.P., visited Puducherry during 14-19 September 2008 and reviewed the status of implementation of Bio-Medical Waste(Management and Handling) Rule, 1998 .

Common disposal / Incineration sites

As per the Rule 8 of the BMW(M&H) Rules as amended in 2000, the Municipal corporations, Municipal boards or Urban Local bodies as the case may be shall be responsible for providing suitable common disposal / incineration sites for the BMW generated in the area under their jurisdiction and in areas outside the jurisdiction of any municipal body, it shall be the responsibility of the occupier generating BMW / operator of a BMW treatment facility to arrange for suitable sites individually or in association, so as to comply with the provisions of the Rules.

At present there is no Common Bio-Medical waste Treatment Facility available in Puducherry. One private entrepreneur is establishing a Common Bio-Medical waste Treatment Facility at Thuthipet.

11. HAZARDOUS WASTE MANAGEMENT

As per the Hazardous Waste (Management & Handling) Rules, 1989, as amended in 2008, and guidelines on hazardous waste management published by Ministry of Environment & Forests (MOEF), it becomes essential to develop and implement effective Hazardous Waste Management System.

Responsibility of the occupier for Handling of Wastes:

- The occupier generating hazardous wastes shall take all practical steps to ensure that such wastes are properly handled and disposed of without any adverse effects which may result from such wastes
- the occupier shall also be responsible for proper collection, reception, treatment, storage and disposal of these wastes either himself or through the operator of a facility.
- Hazardous wastes shall be collected, treated stored and disposed of only in such facilities as may be authorized for this purpose.

Fig:33 Storage of spent acid

Every occupier generating hazardous wastes and having a facility for collection, reception, treatment, stored and disposal of such wastes shall make an application in Form – I along with a sum of Rs.7,500/- to the State Pollution Control Board for the grant of authorization for any of the above activities.

Records and returns:

- The occupier generating hazardous waste and operator of a facility for collection, reception, treatment, transport, storage and disposal of hazardous waste shall maintain records of such operations in Form-3.
- The occupier and operator of a facility shall submit annual returns to the State Pollution Control Board in Form-4.

Common Treatment, Storage and Disposal Facilities (TSDF)

It is the responsibilities of both the Government and industrial association to identify and establish common site for treatment and disposal facilities. With limited land resources in Puducherry, it is difficult to identify site for TSDF as per the CPCB guidelines.

Details on Hazardous waste generation were collected through a questionnaire from various industrial units. The industrial units are short listed as per the Schedule-I & II of Hazardous wastes (Management & Handling) Rules, 1989, as amended in 2003 as well as the secondary data available with Puducherry Pollution Control Committee. 90 units are covered under the Rules and authorisation have been issued to 86 units.

Out of which 10 units are handling hazardous waste as raw material for their process and among which two units are having Environmentally Sound management Facility, which are registered with the Central Pollution Control Board. 76 units are generating the hazardous wastes.

Out of 76 units, 30 units are generating only used oil as wastes.
The region wise authorization status is given below:

Table.27 Issue of Authorisation – Region Wise

Sl.No.	Region	Total No. of units
1.	Puducherry	76
2.	Karaikal	07
3.	Yanam	03
4.	Mahe	Nil
Total		86

Types of wastes

Based on the method of disposal hazardous wastes are classified into recyclable, incinerable and landfillable. The region wise details are given below:

Table 28: Region wise Break-up of Hazardous Waste based on Method of Disposal

Sl.No.	Region	Quantity of Hazardous waste in TPA			Total
		SLF*	RCL**	INC***	
1.	Puducherry	128.939	33,153.9005	22.9301	33,305.6866
2.	Karaikal	3.36	63.42	0.84	67.62
3.	Yanam	--	3017.8	1.2	3019
4.	Mahe	--	--	--	--
Total		132.299	36235.1205	24.9701	36392.3066

Note: SLF* - Secured land filling;RCL**- Recyclable;INC***-Incinerable

Fig:34 Storage of waste Dichromate solution

12. DIRECTIONS /CLOSURE ORDER ISSUED

PPCC is continuously keeps strict vigil on the activity of all the industrial unit in the U.T.of Puducherry. Any unit found to be violating the Consent to Establish or consent conditions, direction is being issued and ensured the compliance. List of direction issued during the reported period is as given below:

Table.29 Directions/Closure order Issued

Sl.No	Name of the Unit	Date of Issue	Nature of Violation
1	M/s. New India Palma Foods P.Ltd.,	09.03.2008	Non compliance with discharge standard
2	M/s. Marico Limited	25.03.2008	Contamination of drainage With oil
3	M/s. Sree Lakshmi Paper Cones, Mettupalayam, Pdy	17.03.2008	Non -compliance of effluent discharge standards
4	M/s. Nithya Packaging Pvt Ltd.,	16.04.2008	Discharge of effluent and burning of Plastics on open land
5	M/s. Flat Products	08.05.2008	Non-compliance of direction
6	M/s. Maruthi Mission, Thattanchavady,Pdy	23/05/2008	Directed to apply for Hazardous Waste Authorization for diposal of Used Oil
7	M/s. Pondy Devi Oil	01.07.2008	Sewage water letting into public canal
8	M/s. E.I.D Parry India Ltd	27.06.2008	Non-compliance with standards of SPM
9	M/s. Pondy Agro Chemicals, Pvt Ltd., Periyakalapet	14/07/2008	Directions was issued to operate the unit properly and to install flow meter and energy meter for ETP and maintain proper log books
10	M/s. Nithya Packaging Pvt Ltd.,	25.07.2008	Non-compliance with standards
11	Mr. Subramaniam No.38A, Ramanujar Nagar (Near mugambigar nagar EB Office) Nainarmandapam Puducherry	31.07.2008	Direction was issued for closure of Tapioca Chips manufacturing unit for operating without obtaining Air Consent of PPCC and for causing Air Pollution in residential area.
12	M/s. Sivabalan Steels, Karuvadikuppam	18.09.2008	To increase the height of the Stack to 11 mts. To apply for Water Consent in Form XII
13	M/s. Ace glass Container Ltd.	26.09.2008	Non-compliance of Ambient Air Quality Standard
14	M/s. Jothy Chlorate	27.09.2008	Chlorine emission above the prescribed standard limit in ambient air and stack emission.

15	M/s. Kanyaka Fine Weld Ltd.,	22.10.2008	Suspended Particulate Matter and Particulate Matter above the prescribed standard limit in ambient air and stack emission respectively.
16	M/s. N.S Flour Mill	23/10/2008	Directions issued to control noise pollution
17	M/s. Fine Automatives & Industrial Radiation	05.12.2008	Non-compliance with discharge standards
18	M/s. Suzlon Energy Ltd	13.12.2008	Fire accident at waste yard.
19	M/s. Aditya Ferro Alloys (P) Ltd.,	29.12.2008	Suspended Particulate Matter and Particulate Matter above the prescribed standard limit in ambient air and stack emission respectively.
20	M/s. Sree S.S. Industries	30.12.2008	Particulate Matter above the prescribed standard limit in stack emission.
21	M/s. East Coast Acetylene(P) Ltd.,	13.01.2009	Discharge of effluent on land directly
22	M/s. Manakula Vinayagar Agro Oils	02.02.2009	SPM level higher in ambient
23	M/s. R.J. Chemical	06.02.2009	Suspended Particulate Matter above the prescribed standard limit in ambient air.
24	M/s. Ganesh Restaurant, Mudaliarpet,Pdy	10/03/2009	Directions issued to control noise pollution
25	M/s. Kamakshi Chemicals (P) Ltd.,	20.04.2009	Suspended Particulate Matter above the prescribed standard limit in ambient air.
26	M/s. SuzlonEnergy Ltd	16.12.2008	Grave Injury to the environment due to burning of FRP waste. Closure direction issued.
27	M/s. Suzlon Energy Ltd	9.1.2009	Grave Injury to the envt. due to burning of FRP waste
28	M/s. Sunbeam Generators(P) Ltd.,	2.2.2009	Unauthorized phosphating operation

Major accident

A major fire accident occurred at FRP waste storage yard of M/s. Suzlon Energy Ltd. Thiruvandar Koil , Mannadipet Commune on 11.12.2008 during night time. Smoke emitted from the unit forms cloud like structure and enfolded nearby villages. It is reported around ten persons were hospitalized . Nearby schools declared holiday for one day. Ambient air quality monitoring was carried out on 12.12.2008 in the premises of Govt. School, Thiruvandarkoil. The analysis report revealed that the value of Suspended Particulate Matter (SPM) was 205 ug/m3 which is higher than the prescribed standard limit of 100 m3 and the value of Nitrogen di-oxide is 20 ug/m3 which is above the normal concentration level. The unit was directed under Section 5 of Environment (Protection) Act, 1986 to close down its operation.

Fig:35 Fire accident at M/s.Suzlon Energy Ltd.

M/s. Suzlon Energy Ltd have entered an agreement with M/s.ACC Cement Works, Coimbatore for Co processing of FRP waste in the cement kiln. A trial run was successfully conducted from 17.3.2008 to 19.3.2009 in presence of officials from the Central Pollution Control Board, Puducherry Pollution Control Committee and Tamil Nadu Pollution Control Board.

Fig.36 Dioxin and Furan monitoring

Cases filed before the Appellate Authority against PPCC directions

Two entrepreneurs have filed appeal against the PPCC direction before the Appellate Authority, Ministry of Environment and Forest, New Delhi under the provision of Section 31 of Air (Prevention and Control of Pollution) Act, 1981.

Table.30 Number of cases filed against PPCC in Appellate Authority: 2

Sl. No.	Name of the Industry	Reason	Status
1.	M/s. Lakshmi Calfusion (P) Ltd.,	For obtaining Consent to Operate	The Appeal filed by the Appellant is disposed of with the advice to the PPCC to give a reasonable opportunity of being heard to the Applicant.
2.	M/s.Athiyappa Chemicals (P) Ltd.	Against the closure order issued to the unit	Appeal was disposed with direction to PPCC to reconsider the closure order issued to the unit

13. CORPORATE RESPONSIBILITY

Industrial development is an important constituent in our pursuit for economic growth, employment generation and betterment in the quality of life. On the other hand, industrial activities without proper precautionary measures for environmental protection are known to cause environmental pollution and associated problems. Hence, it is necessary to comply with the regulatory norms for prevention and control of pollution. Alongside, it is also imperative to go beyond compliance through adoption of clean technologies and improvement in management practices. Commitment and voluntary initiatives of industry for responsible care of the environment will help in building a partnership and self accounting for pollution control. This Charter on Corporate Responsibility for Environmental Protection (CREP) emphasize on these aspects.

Within the purview of CREP, a series of industry -specific interaction meetings have been organised to formulate the Charter. Thus, the Charter is a commitment for partnership and participatory action of the concerned stakeholders. The Charter is also a road map for progressive improvement in environmental management systems. Thus, it is not necessarily limited to compliance of end-of-the-pipe effluent and emission standards.

Thus CREP is beyond the ambit of environmental legislation. The industry those adopt CREP are not only socially ranked on top but also in the marketing world also. PPCC sensitize the entrepreneur to adopt voluntarily the CREP principles like ISO Certification, energy and environment auditing and waste recycling etc. The following industries have come forward for CREP :

Table.31 Corporate Responsible Industries

Sl.No.	Name of the unit	New Initiatives
1	M/s.Hindustan Unilever Ltd.Vadamangalam	Reverse Osmosis and reuse of treated water to the process.
2	M/s.Chemplast Sanmar, Karaikal	Membrane cell technology is adopted while manufacturing Caustic Soda lye, Desalination plant has been setup to generate water needed for the process using Membrane
3	M/s.Chemfeb Alkalies	Shifted to non-mercury membrane process
4	M/s.Sikol Breweries	Installation of UASB and ISO certified

Fig:37 RO Plant installed in M/s Hindustan Unilever Ltd.

A cost /benefit analysis has been worked out for the unit assuming effluent discharge of 100 KLD

Cost of installation of RO system is Rs.50 lakhs

Treated effluent	: 100 KLD
Dilution water	: 75 KLD
Total input to RO	: 175 KLD
Recovery in 1st Stage RO	: 112 KLD
Reject generated in 1st stage RO	: 63 KLD
Recovery in 2nd stage RO	: 44 KLD
Total recovery in 1st and 2nd stage RO	: 156 KLD
Net recovery adjusted for dilution	: 156 -75 KLD =81 KLD
Procurement cost of Raw water	: @ Rs.6 KLD = Rs.1.75 lakhs/year

Thus the investment in RO plant could be recovered within 30 years besides conserving 80 KLD of precious ground water and reducing the load of disposing of 110 kg of suspended solids, 190 kg of BOD, 450 kg of COD and 30 kg of oil and grease per year (as otherwise it would be discharged on the land).

14. CLEAN DEVELOPMET MECHANISM (CDM)

1. M/s.Pulkit Steels, Eripakkam
2. M/s.Sarbathi Steels, Sedrapet

} - Installation of Bio gasifier

Biomass gasification is basically conversion of solid biomass into a combustible gas mixture. The process involves partial combustion of Biomass. Partial combustion produces a combustible gas mixture, known as producer gas typically contains Nitrogen (50 %), Carbon monoxide (25-27 %), Hydrogen (12-15 %), Carbon di-oxide (9-11 %) and Methane (2-3 %). This technology is eco-friendly helps in reduction of global warming and are CO2 neutral.

Both the units earlier had used furnace oil as fuel. It emits green house gases. Having shifted to biomass gasification, these units are entitled for "Carbon Credit".

Table.32 Solid fuel Vs FO

Calorific value of solid fuel (Kcal/Kg)	Quantity of solid fuel required for 1 litre of FO (Kg)
3000	4.6
3500	4
4000	3.5
4500	3.1
5000	2.7
5500	2.5

Fig.38 Bio Gasification plant installed at M/s. Pulkit Steel Ltd.

3. M/s.Chemplast Sanmar, Karaikal

CDM project is being implemented since 2005. The waste heat generated from the captive power plant is recovered by the Recovery boiler and used to produce steam for the plant operation

15. NEW INITIATIVE OF PPCC

PPCC has initiated the following to meet the Govt. endeavor of Clean and Green Puducherry.

(i) Ban on usage of plastic carry bags, disposal cups and plates

Usage of plastic carry bags , disposal cups and plates create havoc in environment and it is a growing disaster. Plastics are made from petroleum, a non-renewable resource extracted and processed using energy intensive techniques that destroy fragile ecosystem. It is non-biodegradable, choke drains and sewages and pollute soil, water and air. The polythene bags are

also being used to deliver food stuffs and may cause the toxic effect. Therefore, the Govt.of Puducherry in exercising the delegated powers under Section 5 of the Environmental (Protection) Act, 1986 read with the Rule 4 of the Environmental (Protection) Rule, has imposed ban on usage of plastic carry bags, cups and plates with effect from 1.7.2009.

(ii) Encouraging industry to get ISO certificate & Environmental Audit

Acquiring ISO certificate is road for self compliance with legal frame work. PPCC is encouraging all the Red and Orange category industry in U.T.of Puducherry to obtain ISO certification. A decision was taken in the 57th PPCC meeting to facilitate the Red category industry to get ISO certificate at the first instant.

(iii) Encouraging village to get ISO certificate

Villages are window of Indian society. Like other ecosystem, village ecosystem is also in the risk of poor sanitation, deforestation, depletion of natural resources and conflict on common property resources. Encouraging villages to get ISO certificate would self regulate in utilization of natural resources and pave way for sustainable development. In the 85th meeting of the PPCC , it has been decided to adopt one village as a model and pursue it to get ISO certificate. It was also decided to replicate this concept to other villages also.

(iv) Documentary film on Green and Clean Puducherry

Documentary film has been assessed as one of the efficient media to reach the unreached mass. PPCC released a eight minutes duration documentary film on "Clean and Green Puducherry" with a cost of Rs. Five lakhs. It high lightes various important issues like water conservation, resource recovery, afforestation, ill-effect of usage of plastics and vehicular pollution etc.

Fig.39 Former Chief Minister releasing documentary film on "Clean and Green Puducherry"

(v) Encouraging Battery operated vehicles in Puducherry Region

Research indicates pollution level is closely related to density of motor vehicles. Grid iron layout of the roads in the city centre, congested streets and high traffic density are factors for higher pollution load. Automobile exhaust contribute 60% of SPM, NOx, SO_2 and 75% Hydrocarbon and Lead pollution which are found to be carcinogenic, Higher density of vehicular movement are the main casual factor.

Vehicular exhaust emission test carried out by this Authority revealed that 85% of tempo were not meet the emission standard. Health hazards caused by the air pollution need not emphasized. It is need of hour to work out sustainable strategy to replace the existing, outdated and polluted diesel driven three wheelers (currently 80 vehicles are on th road) by state of the art environmentally friendly Battery Operated Three – Wheelers (BOTs).

It has been experimented in the recent years in different parts of the country as they provide an excellent alternative to the polluting fossil fuel based three-wheelers. These BOTs are well suited to the typical problems faced by Pondicherry cities like narrow and congested roads, short travel distances, slow traffic movement, high traffic-related environmental pollution (air and noise) etc.

The Government of Puducherry has already taken the first step by allowing central and local tax exemptions on battery operated two, three and four wheeled vehicles. The total cost of the BOTs is around Rs.3.4 lakhs. Renewable Energy agency of Puducherry (REAP) is giving financial subsidy upto to Rs.1.00 Lakh. Puducherry Pollution Control Committee decided to contribute 25 % of the recharging cost of the battery..

(vi) Constitution of Green Award

Puducherry Pollution Control Committee has instituted Green Award for industries in the Union Territory of Puducherry recognizing the contribution substantially made for improvement of environment and introducing innovative technologies to control pollution. This Award is presented in cash for Rs.25, 000/- with a fitting citation once in three years on the occasion of Independence Day 15th August.

Green Award for the year 2005-2006 was presented to M/s Chemplast Sanmar Ltd., Karaikal an industrial unit for their contribution towards the protection of Environment as per the recommendations of the Selection Committee.

(vii) Constitution of Environmental Award

Department of Science, Technology & Environment has constituted an Environment Award in order to create awareness and encourage environmental protection efforts by the institution, voluntary organization and public for the benefit of environmental protection and safety in the U.T.of Puducherry. This Award is presented in cash for Rs.25, 000/- with a fitting citation once in three years on the occasion of Independence Day 15th August.

'Environment Award for the year 2004-2006' was presented to Sempadukai Nanneeragam an organization at Muthirarpalayam, Puducherry as per the recommendations of the Selection Committee.

16. ENVIRONMENTAL AWARENESS CAMPAIGN

Public awareness on environmental degradation vis-à-vis environmental protection is vital factor for successful implementation of various green programmes. DSTE has been organizing various seminars/workshops/rally in order to create green conscious amoung the public. Following National and International days on Environmental protection are being conducted and various awareness programmes for Public, Students are being organized. NGOs are also involved.

Earth Day, 22nd April

World Environment Day on 5th June

International Ozone Day on 16th Sep

Conservation day on 25th Nov

National Environment Month from 19th Nov to 18th Dec

National Pollution Prevention day on 2nd Dec

Fig.40 Hon'ble Chief Minister Shri V.Vaithilingam planting a tree on the occasion of celebration of Earth Day

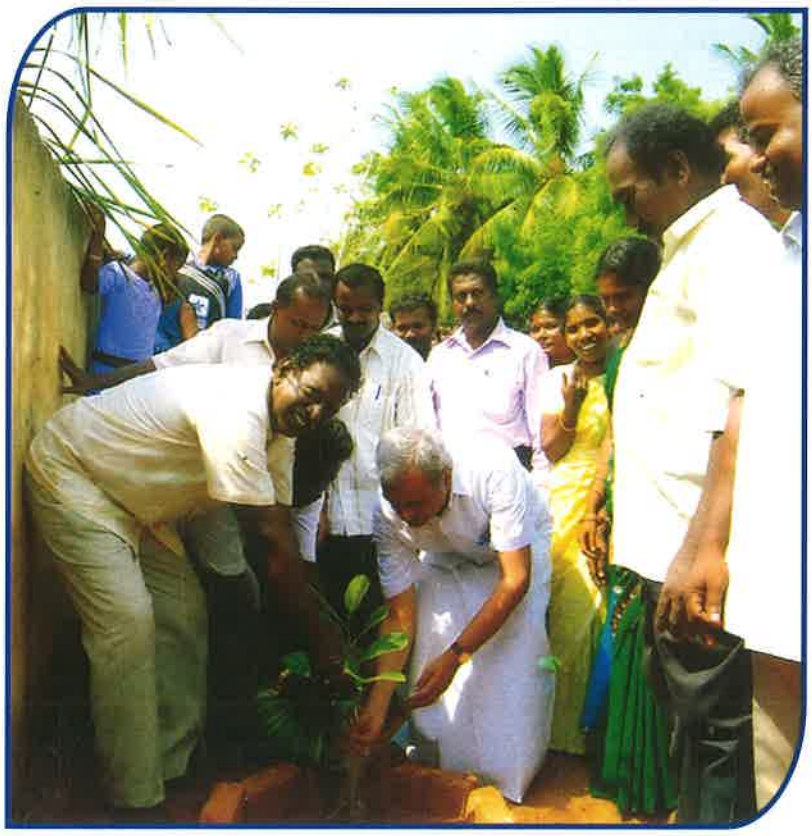


Fig.41 Dr.N. Ramesh, delivering special address on the celebration of the World Ozone day organized jointly by Friends of the Earth.

A massive public rally was organized on 26.1.2009 in order to create awareness amoung public about the ill effects of usage of plastic carry bags, cups and plates. Around 4000 people including Council of Ministers, Students, NGOs were participated which was inaugurated by the Hon'ble Chief Minister of Puducherry Shri.V.Vaithilingam. In the end of rally massive tree plantation was carried out. Caps having slogan "Clean and Green Puducherry" and pamphlets have been distributed.

Fig.42 Pledge on ban on usage of plastics taken by the NSS volunteers on 26.1.2008

Fig.43 Student rally on "Ban on plastics" flagged by Shri V.Vaithilingam, Hon'ble Chief Minister and Shri E. Valsaraj, Hon'ble Environment Minister

Fig.44 Shri.G.Raja Mohan, Director,DSTE inaugurating a student rally on Climate change on 28th February at Kannagi Govt. Girls Higher Secondary School, Villianur

17. ACTIVITY OF ENVIS CENTRE

PPCC has established an Environmental Information System (ENVIS) Centre to disseminate information on Solid waste management and also upload various data from different headers collected from line departments on ISBEID data base so that it could be easily viewed by various stakeholders.

As the first step towards dissemination of information electronically, the development of Home page of the ENVIS Centre was accomplished in October, 2005. With the establishment of a full INTERNET connectivity at ENVIS centre in January 2006 the information from the **ENVIS** Centre is available on line at Institute's Website.

Long-term objectives

- To build up a repository and dissemination Centre in Environment Science and Engineering;
- To gear up the modern technologies of information acquisition, processing, storage, retrieval and dissemination of environmental information;
- To support and promote research, development and innovation in environmental information technology.

Short-term objective

- To provide national environmental information service relevant to present needs and capable of development to meet the future needs of the users, originators, processors and disseminators of information;
- To build up storage, retrieval and dissemination capabilities, with the ultimate objectives of disseminating information speedily to the users;
- To promote national and international co-operation and liaison for exchange of environment related information;
- To promote, support and assist education and personal training programmes designed to enhance environmental information processing and utilization capabilities;
- To promote exchange of information amongst developing countries.

Function of ENVIS center

- Building up a good collection of books, reports and journals in the particular subjects area of environment;
- Establishment of linkages with all information sources in the particular subject area of environment;
- Responding to user queries;
- Establishment of a Data Bank on some selected parameters relating to the subjects area;
- Co-ordination with the Focal Point for supplying relevant, adequate and timely information to the users;
- Helping the Focal Point in gradually building up an inventory of information material available at the Centre;
- Identification of gaps in the specified subject area and action to fill these gaps;
- Bringing out newsletter /publications in their subjects area for wide dissemination.

In order to disseminate focused information on Solid waste management this Centre had brought out the first issue of ENVIS Newsletter on topics covering the basic idea on solid waste management in October 2005 to December 2005. The Newsletter was sent to all ENVIS centres in India and to the Ministry. Consequently we have published 9 more newsletters during the year 2006-2007 and 2007 – 2008 on a quarterly basis from the allotted subject under various heads like Municipal Solid Waste, Biomedical Solid Waste, Industrial Solid Waste and Agricultural Solid Waste.

The centre collects data from various sources like websites, newspapers, journals and from different bulletins and disseminate the material under different topics and in some case the material is made consolidated under one subject and released as quarterly newsletter, sometimes in the separate header given in the site or else as abstracts. In the short span, ENVIS Centre has developed various databases and also initiated innovative programmes to highlight environmental concerns to the public and to various institutions.

The centre also collects data from concerned line departments. to have a consolidated report of the activities that promote energy conserving activities efficiently. The centre has also sent a consolidated draft report to Ministry about initiatives taken by the Centre on National Action Plan on Climate Change.

The Centre collects data on water consumption of each and every unit and produce a quarterly report to Ministry. With that the centre is able to have details of hazardous waste generating industries and also the quantity of the sewage discharged by each unit.

The centre has conducted various competition to school children and to SHGs. The centre has developed a comprehensive photo gallery covering on the apportioned subject is ready to view on the website.

18. PUDUCHERRY COASTAL ZONE MANAGEMENT

Genesis of PCZMA:

Ministry of Environment & Forests, GOI brought a Notification on 19th February 1991 under the Environment Protection Act, 1986 known as 'Coastal Regulation Zone Notification, 1991' where in it is declared that the coastal stretches of seas, bays, estuaries, creeks and backwaters which is influenced by tidal action up to 500 meters from HTL and the land between LTL and HTL as Coastal Regulation Zone and imposed certain restrictions in the said Coastal Regulation Zone
Based on the Guidelines in the CRZ Notification the Coastlines of the Puducherry, Karaikal and Mahe regions in the U.T. of Puducherry were studied and a Coastal Zone Management Plan (CZMP) was prepared by the Town and Country Planning Department, Puducherry during 1992. The same was approved by MOEF and published in State Gazette vide G.O. Ms. No. 18/93/Hg dated 31st December 1993.

Till 1998, the provisions of CRZ Notifications were monitored and enforced by a High Power Committee of the Development Department, Govt. of Puducherry and the regulation of construction activities in CRZ was dealt by the Puducherry / Karaikal / Mahe / Planning Authorities in their respective regions.

In 1998, Puducherry Coastal Zone Management Authority (PCZMA) was constituted and published in Gazette of India on 26th November 1998 based on the Supreme Court Direction to the Central Government to consider setting up of State & National Coastal Zone Management

Authorities for ensuring effective implementation of CRZ Notification. PCZMA was subsequently reconstituted in 2002, 2005 and 2008.

Composition of PCZMA:

The present composition of PCZMA is as follows:

i. Chairman – Secretary , Environment
ii. Member Secretary – Director, DST&E
iii. Members –
   a) Director (Fisheries)
   b) Chief Town Planner
   c) Dr. Ramesh, Professor, Institute of Ocean Management, Anna University
   d) Dr. T. Sundararajan, Department of Civil Engineering, Puducherry Engineering College
   e) Thiru. Jurgen Putz, Director, Palmyra, Auroville

The Authority meets periodically to review the CZMP of Puducherry, discuss Environmental issues related to CRZ region and examine project proposals in CRZ region (all constructions / developments within 500 meters from High Tide Line). Till date 19 meetings of PCZMA has been conducted.

Nodal Agency:

Department of Science, Technology and Environment, Govt. of Puducherry is the Nodal Agency for the activities of PCZMA. There is no separate staff for PCZMA and the staff of Department of Science, Technology & Environment are attending the works of PCZMA

Functions:

PCZMA carries out the following activities for protecting and improving the quality of the coastal environment and preventing and abating coastal environmental pollution in the coastal areas of Puducherry U.T.

1. Examination of proposals for modifications in classification of CRZ areas and in the Coastal Zone Management Plans (CZMP) received from the Puducherry State Government and making specific recommendations to the National Coastal Zone Management Authority (NCZMA) thereof.

2. Enquire into cases of alleged violations of the provisions of the CRZ Notification and to take action.

3. Deal with environmental issues relating to CRZ which may be referred by Puducherry Government or NCZMA

4. Identify ecologically sensitive areas in CRZ and formulate area-specific management plans for the identified area

5. Identify coastal areas highly vulnerable to erosion or degradation and formulate area-specific management plans

6. Identify economically important stretches in the CRZ and prepare Integrated Coastal Zone Management Plan for the same

7. Obtaining NCZMA approval for plans prepared as per clause iv, v & vi above.

8. Examine all project proposals in CRZ areas and give their recommendations

9. Ensure compliance of all specific conditions that are stipulated in CZMP of Puducherry.

10. Furnish report of its activities to NCZMA once in six months

CRZ Classification in Puducherry U.T.:

As per CZMP of Puducherry the Coastal stretches of Puducherry U.T. is divided into three categories viz. CRZ I, II & III

CRZ-I: (Ecologically Sensitive Area)

Mangroves of Ariyankuppam Estuary in Ariyankuppam Revenue Village falls under this category

CRZ-II: (Area already developed upto or close to the shoreline)

Urban coastal areas of Muthialpet, Thengaithittu and Puducherry of Puducherry region and Mahe and Kallaye of Mahe region falls under this category.

CRZ-III: (Relatively undisturbed area and those which do not belong to either Category-I or II)

Kalapet, Pillaichavady, Ariyankuppam, Manaveli, Pooranankuppam, Kirumambakkam, Pillyarkuppam and Manapattu of Puducherry region and Keezhakasagudy, Thalatheru, Kovilpathu, Kizhaveli, Akkaravattam, Thiruvettakuddy, Keezhaiyur North / South and Vanjoor of Karaikal region falls under this category.

Fig.45 Director, DSTE receiving representation from stake holder on draft CRZ Notification.

Fig. 46 Public are actively participating in stake holder meeting on Draft Coastal Zone Management Notificaton,2008 held on 14.8.2008

19. STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY (SEIA)

In exercise of the powers conferred by sub-section (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) and in pursuance of the Government of India notification number S.O. 1533 (E), dated the 14th September, 2006, the Central Government constituted the State Level Environment Impact Assessment Authority (SEIAA), Puducherry comprising of three members namely, Chairman, Member and Member-Secretary nominated by the State Government of Puducherry as under:

1.	Prof. M.A. Sivasankaran, Head of the Department, Department of Civil Engineering, Puducherry Engineering College, Puducherry - 605 014.	..	Chairman, Environment Quality.
2.	Prof. Anisa Basheer Khan, Department of Environment and Ecology, Puducherry Central University, R.V. Nagar, Puducherry – 605 014.	..	Life Sciences
3.	Director, Department of Science, Technology and Environment, Puducherry Pollution Control Committee.	..	Member - Secretary

To assist the said Authority, the Central Government, in consultation with the State Government of Puducherry, constituted the State Level Expert Appraisal Committee, Puducherry (SEAC), which comprise the following Members:

1.	Prof. M.P. Ramanujam , Reader K.M. Centre for PG Studies, Puducherry.	-	Chairman, Life Science
2.	Dr. G. Poyyamoli, Reader Department of Environment and Ecology,Puducherry University.	-	Member, EIA Process

3. Dr. R. Saravanan, - Member, Risk Assessment
Asst. Professor,
Civil Engineering Department,
Puducherry Engineering College.
Puducherry-m 605 014.

4. Dr. T. Nambi Rajan , - Member, Management
Reader, Department of Management,
Studies, School Management,
Puducherry University
Puducherry – 605 014.

5. Dr. L. Nadarajan - Member, Life Sciences
Dean, Pandit jawahalral Nehru College
of Agriculture,
karaikal, Puducherry – 609 603.

6. Prof. Ganapathy Venkatasubramaniyan, - Member, EIA Process
Asst. Professor
Centre for Environment Studies
Anna University, Chennai

7. Dr.K.K.Sivadasan - Member, Life Science
Lecturer, Department of Botany,
Mahatma Gandhi Govt. Arts College,
Mahe, New Mahe – 673 311.

8. Dr. S. Bhyravamurthy, - Member, Environmental
Lecturer, Department of Economics, Economics
Dr. S.R.K. Government Arts College, Yanam

9. Dr. K. Sundravadivelu - Secretary
Senior Scientific Officer
Department of Science, Technology and Environment
Puducherry.

WORLD ENVIRONMENT DAY-05.06.2009

Your Planet needs you;

UNite to Combat Climate Change

Help stop Global Warming:

Reduce:

Reduce the amount of energy you consume and start using renewable energy sources, such as wind and solar power.

Reuse

Use products made with recycled materials - Make or buy a compost bin to use your organic waste as fertilizer for your trees, shrubs, and garden.

Recycle

Recycle all materials to your best ability in your local area

CHANGE YOUR CITY INTO GREEN, STOP CHANGING THE CLIMATE

PPCC

PPCC

PUDUCHERRY POLLUTION CONTROL COMMITTEE

III Floor, Housing Board Building
Anna Nagar,
Pondicherry - 605 005.