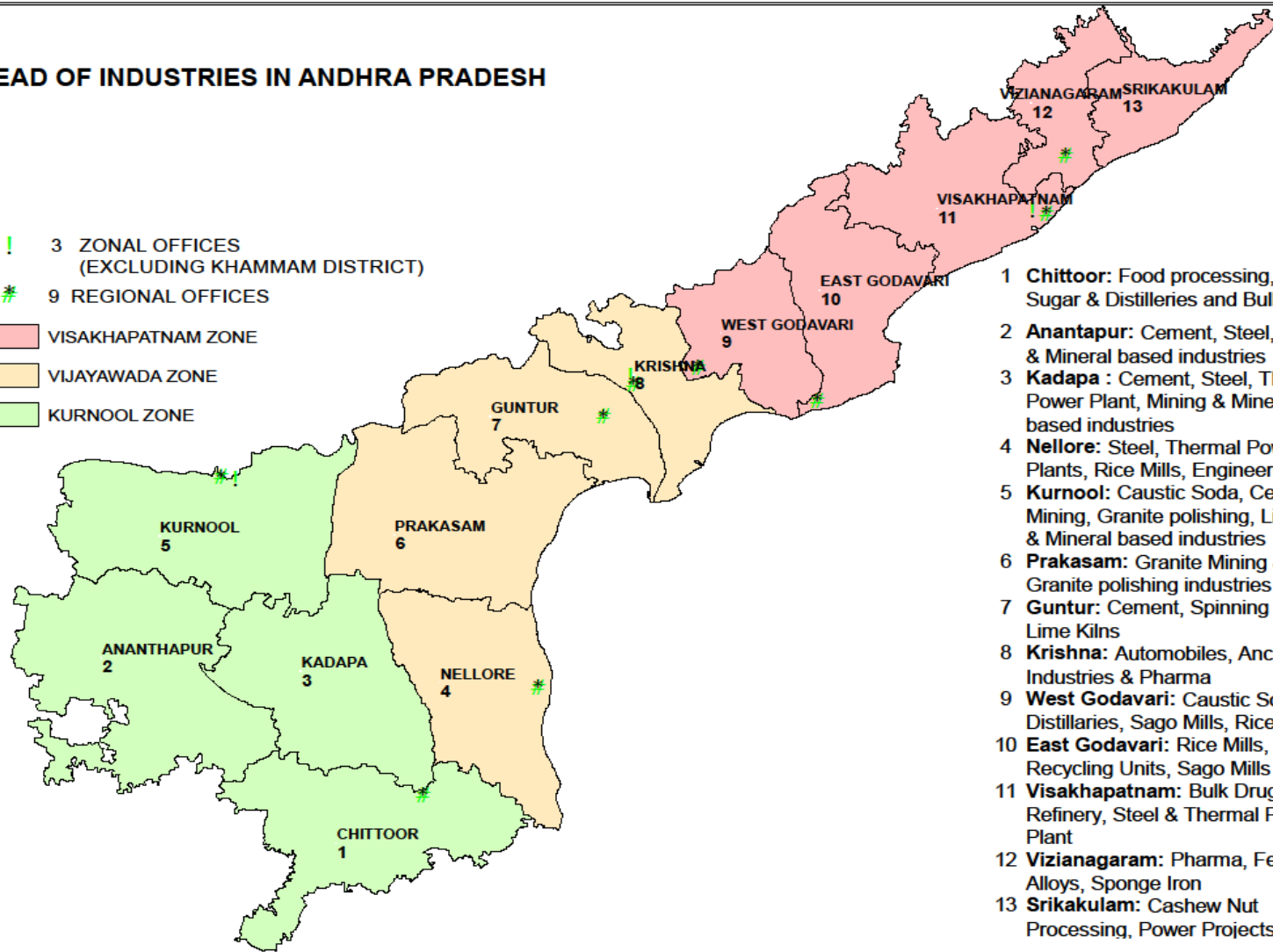


# Environmental Pollution and Control Status in Andhra Pradesh



## SPREAD OF INDUSTRIES IN ANDHRA PRADESH

- ! 3 ZONAL OFFICES  
(EXCLUDING KHAMMAM DISTRICT)
- # 9 REGIONAL OFFICES
- VISAKHAPATNAM ZONE
- VIJAYAWADA ZONE
- KURNOOL ZONE



- 1 **Chittoor:** Food processing, Steel, Sugar & Distilleries and Bulk Drugs
- 2 **Anantapur:** Cement, Steel, Mining & Mineral based industries
- 3 **Kadapa :** Cement, Steel, Thermal Power Plant, Mining & Mineral based industries
- 4 **Nellore:** Steel, Thermal Power Plants, Rice Mills, Engineering
- 5 **Kurnool:** Caustic Soda, Cement, Mining, Granite polishing, Lime Kilns & Mineral based industries
- 6 **Prakasam:** Granite Mining & Granite polishing industries
- 7 **Guntur:** Cement, Spinning Mills, Lime Kilns
- 8 **Krishna:** Automobiles, Ancillary Industries & Pharma
- 9 **West Godavari:** Caustic Soda, Distilleries, Sago Mills, Rice Mills
- 10 **East Godavari:** Rice Mills, Paper Recycling Units, Sago Mills
- 11 **Visakhapatnam:** Bulk Drugs, Refinery, Steel & Thermal Power Plant
- 12 **Vizianagaram:** Pharma, Ferrous Alloys, Sponge Iron
- 13 **Srikakulam:** Cashew Nut Processing, Power Projects



# ACTS & RULES IMPLEMENTED BY APPCB

1. Water (Prevention and Control of Pollution) Act, 1974 amended in 1978 again amended in 1988.
2. Water (Prevention and Control of Pollution) Cess Act, 1977, amended in 1991
3. Air (Prevention & Control of Pollution) Act, 1981, amended in 1987
4. Environment (Protection) Act, 1986
5. Hazardous Wastes (Management, Handling & Transboundary Movement) Rules, 1989 amended in 2008
6. Public Liability Insurance Act, 1991 amended in 1992.
7. Bio-Medical Wastes (Management & Handling) Rules, 1998, amended in 2003.
8. Plastic Waste (Management & Handling) Rules, 2011.
9. Municipal Solid Wastes (Management & Handling) Rules, 2000
10. e-Waste (Management and Handling) Rules, 2011



# General Activities of the Board

- ❖ Inventorisation of polluting industries in the state and ensuring their compliance to the pollution control norms
- ❖ Monitoring of highly polluting industries
- ❖ Monitoring of water quality and ambient air quality within the state
- ❖ Management of Hazardous, Biomedical, Plastic and Municipal Waste
- ❖ Monitoring and Management of Environmental quality in critically polluted areas
- ❖ Issuance of various environmental permits like:
  - Consent for Establishment.
  - Consent for Operation
  - Authorization for hazardous waste management.
  - Authorization for Biomedical waste management.
  - Authorization for Municipal solid waste management.
  - Authorization for e-waste management.
  - Registration of units under plastic waste management.
  - Permission for import of Non ferrous metal scrap.
  - The Registration for the industries recycling hazardous wastes implementing Environmentally Sound Technology.



## General Activities of the Board

- ❖ Generation and dissemination of data related to environmental quality through regular monitoring and surveillance;
- ❖ Encouraging and promoting environmental research by academicians and institutions;
- ❖ Building environmental awareness for the community; and
- ❖ Addressing public grievances through re-addressal of environmental problems.



# CATEGORY OF INDUSTRIES

## Industries categorised based on pollution potential

- Red** : High pollution potential (i.e., Bulk drugs, Cement industries, Thermal Power etc.,)
- Orange** : Medium Pollution potential (i.e., Cotton spinning & weaving, Engineering units, Formulations etc.,)
- Green** : Less pollution potential (i.e., Bakery, DG Sets, Medical Oxygen, Rubber goods, Ready mix cement concrete etc.,)

**66 Categories:** Some industries are categorised as 66 category of polluting industries in SSI sector and other than 66 category are considered as non polluting industries.



# CATEGORY OF INDUSTRIES

- ❖ Industries identified under various categories:

Category	No. of industries
Red Category	3507
Orange Category	1147
Green Category	507
Total	5161

- ❖ Total No. of SSI registered with Ind. Dept. other than 66 categories monitored by PCB : 1 lakh (approx.)



# MUNICIPAL SOLID WASTE MANAGEMENT

- MoEF, Govt. of India has notified Municipal Solid Waste (Management and Handling) Rules on 25, September 2000 under Environmental (Protection) Act, 1986.
- The Rules consist of 9 Rules and 4 schedules.





# MUNICIPAL SOLID WASTE MANAGEMENT IN STATE OF ANDHRA PRADESH

No. of Municipal Corporations	13
No. of Municipalities	98
Total Urban Population	1,46,29,179
Total Municipal Solid Waste generation	7033 TPD
Total waste vermi compost / compost	398 TPD
Total dry recyclables	119 TPD
Unscientifically disposed waste	5925 TPD



# STATUS OF SEWAGE MANAGEMENT IN STATE OF ANDHRA PRADESH

Sewage Generation	1580 MLD
No. of Sewage Treatment Plants existing	11
No. of sewage treatment plants under construction	5
Capacity of existing STPs	237 MLD
Capacity of STPs under construction	178 MLD
Un treated Sewage	1343 MLD
Amount required for construction of STPs to treat the 1343 MLD at Rs.1 Crore / MLD.	= Rs.1343 Cr.



# ISSUES FOR SEWAGE MANAGEMENT

- Centralised treatment systems to be planned for next 100 years for the coming up capital of the State.
- Decentralised Treatment Systems to be adopted to reduce load and functional problems.
- Advanced treatment Systems i.e., extended aeration, tertiary treatment etc., to be adopted
- Conservation of water to be adopted by recycling the treated water for flushing, gardening, irrigation and industrial usages.



# PLASTIC WASTE MANAGEMENT IN STATE OF ANDHRA PRADESH

- ❖ Plastic Waste (Management & Handling) Rules, 2011
- ❖ Less than 40 microns plastic carry bags prohibited.
- ❖ Food stuff in recycled plastic carry bags/containers prohibited.
- ❖ As per G.O. Ms. No.46, Dated:20.06.2013 issued by EFS&T Department the APPCB and Municipal authorities shall levy penalties as following :
  - Manufacturing Unit – Rs.50,000/- first offence
  - Manufacturing Unit- Confiscation of machinery and cancellation of licence/consent in subsequent offences
  - The retailers, vendors and other establishments- Rs.2,500/- to 5,000/-
  - littering public places- Rs.250/- to 500/
- ❖ No. of Plastic Units identified - 86
- ❖ No. of Plastic units registered - 64
- ❖ Non functional units - 22



# ISSUES FOR PLASTIC WASTE MANAGEMENT

- ❖ Strict enforcement of Plastic Waste (Management & Handling) Amendment Rules,2011
- ❖ Strategic planning for plastic free towns and cities.
- ❖ Prohibiting entry of plastic carry bags (less than 40 microns) into the state.
- ❖ Total prohibition of Plastic Carry Bags in Pilgrim/Historical Centers
- ❖ Using plastic waste in laying of roads, conversion of plastic waste into fuel, Using in Cement Kilns
- ❖ Encouraging usage of cloth / jute bags instead of plastic carry bags



# BIO-MEDICAL WASTE MANAGEMENT IN STATE OF ANDHRA PRADESH

- Bio-medical Waste (Management and Handling) Rules 1998 were formed to deal with Bio Medical Waste generated in HCEs during the diagnosis, treatment or immunisation of human beings or in research activities.
- Bio Medical waste generation – About 100 gms/bed per day.
- APPCB issuing authorisations to HCEs under these rules (HO - more than 50 beds, ZO – 10 – 50 beds, RO – less than 10 beds).
- The Bio Medical waste shall have to be transported to Common Bio Medical Waste Treatment Facility for incineration.
- Charges collected by CBMWTF – Rs. 3.5 – 4.5 per bed.



# BIO-MEDICAL WASTE MANAGEMENT IN STATE OF ANDHRA PRADESH

- ❖ No. of Hospitals : 4271
- ❖ No. of Authorizations issued : 4139
- ❖ No. of Common Bio Medical Waste Treatment Facilities (CBMWTFs) : 8
- ❖ Quantity of Bio Medical Waste generated : 7.7 TPD
- ❖ Quantity of Bio Medical Waste sent to Common Facilities : 7.5 TPD



# ISSUES FOR BIO MEDICAL WASTE MANAGEMENT

- Segregation shall be done as per BMW Rules
- Tie-up of PHCs with Common Treatment Facilities
- Automization of Operations.
- Installation of GPS Monitoring Systems for Transport Vehicles





# e-WASTE MANAGEMENT

- ❖ e-Waste (Management & Handling) Rules, 2011 came into effect from 1st May, 2012.
- ❖ The CPCB issued guidelines for implementation of the e-Waste Rules, 2011 on 21.06.2012.
- ❖ The Board is implementing the e-waste Rules.
- ❖ Initiatives for e-waste management in the state of AP:
  - ✓ Notices issued to all the major e-waste generators / producers, major consumers / bulk consumers to send their e-waste to the authorised recyclers only.
  - ✓ The Board issued public notice on 12.07.2012 in leading daily news papers.



# COMMON EFFLUENT TREATMENT PLANTS

There is one Common Effluent Treatment Plant operating in the State at Parawada, Visakhapatnam:

- ❖ **M/s. JN Pharmacy Ltd,(M/s.JNPL) Parawada, Visakhapatnam :**  
The CETP was established in 2006. The designed treatment capacity of Industrial effluents is 5000 KLD ( LTDS effluents -3500KLD & HTDS effluents -1500 KLD).

- ❖ **CETP under construction:**

Another CETP at IDA, Kondapalli, Krishna District is under construction with an investment of Rs.6.5 Crores under financial assistance from APIIC and MoEF, GoI to cater to small scale bulk drug units in IDA, Kondapalli. Industries are contributing Rs.4.17 Crores.



# HAZARDOUS WASTE MANAGEMENT

- Government of India notified the Hazardous Wastes (Management & Handling) Rules, 1989 under the Environment (Protection) Act, 1986 and amended in the year 2008.
- Any chemical waste exhibits characteristics like Ignitability, Corrosivity, Reactivity and Toxicity is termed as Hazardous Waste.
- APPCB grants authorisations to the occupier, operator of a facility for collection, reception, treatment, transport, storage and disposal of HW. The HW authorisation is being issued along with CFO order.



# HAZARDOUS WASTE MANAGEMENT

- As per the Hazardous Waste inventory carried out in 2014, the generation of hazardous waste from 1924 industries is as follows (Per annum)
  - Land fillable:1,37,271.20 TPA
  - Recyclable:3,46,574.86 TPA
  - Incinerable:75,088.06 TPA
- **SCIENTIFIC DISPOSAL OF HAZARDOUS WASTE**
  - Reuse / recycling
  - Recovery of by products
  - Co-Processing in cement plants
  - Land filling
  - Incineration



# HAZARDOUS WASTE DISPOSAL

- ❖ M/s. Coastal Waste Management Project, Pharmacy, Parawada, Visakhapatnam established, TSDF at Pharmacy in the year 2006. Generation of secondary leachate was observed in the year 2008, which indicated the failure of the landfill. Hence, it was stopped.
- ❖ M/s. CWMP established a new landfill in an area of 9.11 acres at Sy.No. 183, 53/P, Pharmacy and is in operation.
- ❖ The TSDF has received 3,20,266.225 tons of landfill waste from the industries located in Visakhapatnam Zone upto December,2014.
- ❖ A common Hazardous Waste Incinerator was installed at Pharma City with a capacity of 1.5 TPH for incineration of hazardous waste.
- ❖ The incinerator is under operation since July '08. It has received 16,947.747 tons of incinerable waste up to December,2014.
- ❖ Another TSDF is necessary for Vijayawada and Kurnool Zones due to logistics



# CO-PROCESSING OF HAZARDOUS WASTE

- Earlier, organic residues generated from Bulk Drugs & Pharmaceuticals units were incinerated wasting the heat value of the Hazardous waste.
- By opting Cleaner Production technologies the high calorific value of HW are co-process in cement kilns and the fossil fuels being burnt are saved.
- APPCB is encouraging co- processing in cement plants where the waste is used as alternate fuel / energy source in cement plant.
- ❖ Quantity Of Hazardous Waste co-processed in 6 No. of Cement Plants— 15,474 Tons (upto December, 2014).



# Ambient Air Quality Management Programmes

Project	Total no. of stations
National ambient air quality monitoring programme (sponsored by CPCB - 50% of financial assistance)	25
State ambient air quality monitoring (State funds)	8
Continuous ambient air quality monitoring stations at Visakhapatnam – 02, Vijayawada –01 & Tirupathi - 01 (Procured under 13 <sup>th</sup> finance commission)	4
Continuous realtime noise monitoring stations (sponsored by CPCB)	4

The air polluting industries provided online stack monitoring equipment for the stacks (338 Nos.) and Continuous Ambient Air Quality Monitoring stations (126 Nos.) and connected to the web site of the Pollution Control Board. This would help the Board to keep a watch on the status of air pollution of the units.



# Water Quality Management Programmes

<b>Project</b>	<b>Total no. of stations</b>
National water monitoring programme (sponsored by CPCB (70% of financial assistance))	50
Bio monitoring of lakes and rivers under NWMP	26
Coastal Water Quality Monitoring along the coast of Andhra Pradesh under COMAPS project	39
Monitoring of Kolleru lake	20
Monitoring of lakes, rivers and canals during Ganesh idol immersion every year as per Hon'ble High Court directions	10 Towns and cities



# Critically Polluted area

- Visakhapatnam Bowl area.
  - The area between Yarada hill range in the south to Simhachalam hill range in the north and sea on the east and the present NH-5 in the west direction.
  - A spoon shaped basin (bowl area) surrounded by hills and sea.
  - The bowl area is a major influencing factor in impacting of environment of the city.
  - Bowl shape is responsible for inversion conditions especially in winter



# Action plan submitted by the Board

- Draft Action plan of APPCB submitted in July'2010.
- The Steering Committee of CPCB, New Delhi on CEPI reviewed the draft Action Plan and gave certain suggestions / comments.
- APPCB prepared comprehensive action plan for improvement of Environment of Visakhapatnam and submitted in the Month of November-2010



# Local area committee

- As per the suggestion of CPCB, the Board constituted a local committee with the experts and stake holders for monitoring the implementation of action plan under CEPI programme vide Proceedings dated 16/04/2011.
- The committee is regularly inspecting the industries, and regularly reviewing the progress. A.P. Pollution Control Board is stipulating stringent standards to the industries located in bowl area.



# Online monitoring by APPCB

- A.P. Pollution control board has installed 2 continuous Ambient Air Quality Monitoring (CAAQM) stations at GVMC and at APPIC, Industrial estate, Kancharlapalem within the bowl area.
- A.P. Pollution control board has installed 2 continuous online noise monitoring station at Siripuram Junction in bowl area and the other one at Zoo park.



# COMPREHENSIVE ENVIRONMENTAL POLLUTION INDEX (CEPI) - 2012

- Visakhapatnam is placed in 40th place among 88 studied industrial clusters with a score of 70.82.
- The CEPI is based on many parameters such as presence of large scale industries, density of population, symptoms of exposure, pollution potential etc.,
- Action plan prepared to improve the environmental status of Visakhapatnam by the Board in consultation with stake holders.



# INVESTMENTS MADE UNDER CEPI ACTION PLAN

Sl. No.	Name of the industry	Investment made for treatment systems from 1999 – 2008 (in Crores)	Investment made for up-gradation of treatment systems during 2009-2014 (in Crores)
1	M/s. Visakhapatnam Port Trust	134.00	1569.50
2	M/s. Essar Steels (India) Ltd.,	26.50	19.20
3	M/s. Rain CII (Vizag) Ltd.,	6.50	3.50
4	M/s. Andhra Petro Chemicals Ltd.,	6.00	4.17
5	M/s. HPCL, Refinery	175.00	178.70
6	M/s. Coromandel International Ltd.,	87.50	55.30
7	M/s. Hindustan Zinc Ltd.,	16.00	14.66
	<b>TOTAL</b>	<b>Rs.451.5 Cr</b>	<b>1845.03</b>

Visakhapatnam has been lifted from the critically polluted areas as per the office memorandum dt.17<sup>th</sup> September, 2013 of MoEF. The above industries have investing about 1845.03 Crores during the period from 2009 to 2014 towards implementation of various control measures and modernization & mechanization.



# GREEN VISAKHA – PLANTATION PROGRAMME

- Initiative by the Parliamentary Standing Committee to plant 40 lakh saplings in 5 years in Visakhapatnam to combat the pollution.
- First meeting held on Green Visakha on 08.11.2011.
- Stake holders are District Administration, APPCB, VUDA, GVMC, Forest Department & Industries.
- Planting of 1,00,00 saplings by four public sector units in the 1<sup>st</sup> phase (31.03.2012 ) was completed.
- Under Green Visakha plantation programme 40 major industries are taking up plantation of which 9 industries are playing major role covering about 80% of total plantation programme.
- So far, about 10 Lakhs nos. of saplings were planted in Visakhapatnam.



# Green Visakha - Plantation Programme

- Most of the plantation was damaged during recent Hudhud Cyclone.
- The industries were directed to plant saplings afresh so as to bring back green Visakha.
- About 2.6 Lakh plantations were planted by the industries after Hudhud.





# OUTCOME OF CEPI ACTION PLAN

- CEPI score came down from 70.82 to 52.31 by 2013 due to intervention of Board and implementation of pollution control measures by all major industries.
- MoE&F lifted moratorium vide memorandum dated 17th September,2013.





# Thank you

Reduce, Reuse and Recycle

