

## HIGHLIGHTS AND SUMMARY OF RECOMMENDATIONS

### 1. Assessment of quantum of waste being generated in the country and identification of the risks to environment and health posed by waste.

- Neither MoEF nor the states had completely assessed the quantity of various kinds of waste like municipal solid waste, bio-medical waste, hazardous waste, e-waste etc., being generated in the country.

*[Paragraph 2.1.1 & 2.1.2]*

- MoEF was unable to make any projections about the amounts of waste that might be produced in future. Only 25 per cent of the sampled states had made projections about the growth in waste. Adequacy of capacity to handle waste currently and in the future was assessed only by 29 per cent of the states.

*[Paragraph 2.2.1, 2.2.2 & 2.3.2]*

- MoEF/CPCB had not completely assessed the risks to environment and public health posed by waste. Only 25 per cent of the sampled states had assessed the risks to public health.

*[Paragraph 2.4.1, 2.4.2, 2.5.1 & 2.5.2]*

### **Recommendations**

- *CPCB, as the nodal agency for pollution related issues should carry out, periodically, a comprehensive assessment of the amounts of waste being generated, according to the major waste types. All the states in India should be involved in this exercise so that a comprehensive database on waste is generated for aiding policy-making and intervention.*
- *MoEF, with involvement of all the states, may collect data about growth of the various kinds of waste, analyse the factors contributing to its growth and the increase in waste quantities to arrive at strategies for waste management.*
- *MoEF/CPCB, in conjunction with the states, may estimate the current capacity to handle all kinds of waste all over the country and ensure that additional capacity of waste infrastructure, if required, is created for safe disposal.*
- *MoEF may carry out waste related pollution impact monitoring, on a regular basis, to study the effects of improper disposal of waste on the environment. MoEF along with the states may also carry out regular surveillance including epidemiological surveillance of waste related impacts on public health.*

**2. Existence of policies and strategies for management of wastes and reflection of priority to waste reduction and waste minimization as against waste disposal.**

- Waste management efforts were not directed by a separate policy. MoEF has not adopted a hierarchical approach to waste management, in the order of environmental priority. No effective strategies have been introduced to implement the ‘3 Rs’ (reduce, reuse and recycle), the current focus being only on disposal of waste. Only eight *per cent* of the sampled states had implemented the ‘3 Rs’.

*[Paragraph 3.1.1, 3.1.2, 3.2.1 & 3.2.2]*

- MoEF/CPCB as well as 79 *per cent* of the sampled states did not set any targets/timelines for reduction of municipal solid waste, bio-medical waste, plastic waste, hazardous waste etc,. In the absence of clear targets/timelines, efforts made by the government to reduce waste were not measurable.

*[Paragraph 3.3]*

- MoEF had not appropriately addressed the role of informal sector in handling waste. Only 17 *per cent* of the sampled states had recognised the role of ragpickers.

*[Paragraph 3.5.1 & 3.5.2]*

- MoEF and the states have not taken effective action to promote the use of recycled and environmentally friendly products. The implementation of MoEF’s environment labeling programme called “ECOMARK” was tardy as “ECOMARK” was granted to only three product categories ever since the programme was introduced in 1991.

*[Paragraph 3.6.1, 3.6.2, & 3.8.1]*

***Recommendations***

- *MoEF may consider framing a specific policy for the management of wastes in India, incorporating the internationally accepted hierarchy for management of wastes.*
- *MoEF and the states may consider introducing effective strategies for the reduction and recycling of household waste like deposit refund schemes, promoting the use of jute bags rather than plastic bags, waste exchanges, etc., for reduction of waste at source.*
- *MoEF, in consultation with the states, should prepare an action plan for the reduction, reuse and recycling of waste with clearly defined numerical targets as well as timelines for the achievement of targets.*
- *MoEF should consider the introduction of Environmentally Preferred Purchases and lay down guidelines for the purchase of recycled products to promote the purchase of eco- friendly goods by the government and the agencies controlled by it.*
- *MoEF should include more products under the “ECOMARK” scheme and monitor adherence to environmental standards of these products. It should also prescribe*

*standards for classifying products as environmentally friendly and carry out environmental impact studies of such products.*

**3. Existence of legislations specifically dealing with disposal of each kind of waste, incorporating penalty for violation.**

- Laws have not been framed for all kinds of waste, leaving the safe disposal of many kinds of waste like construction and demolition waste, agricultural waste, e-waste etc., unmonitored.

*[Paragraph 4.1.1]*

- The polluters were not being effectively held responsible for unsafe disposal, thereby creating no deterrence for non-implementation of the rules. In only 25 per cent of the sampled states, some token action had been taken by PCBs/state governments against defaulters for illegal dumping of waste.

*[Paragraph 4.2.1 & 4.2.2]*

**Recommendations**

- *MoEF should consider framing laws/rules for the management of all major kinds of waste like construction & demolition waste, end of life vehicles, packaging waste, mining waste, agriculture waste and e-waste being generated in the country.*
- *Considering the fact that the provisions of Environment Protection Act are seldom used, both at the central and the state level for punishing the polluter, there is a need to incorporate the Polluter Pays Principle (PPP) in the waste rules/legislations itself. This would act as a deterrent against open dumping of waste.*

**4. Allocation of clear responsibility and accountability to various agencies involved in the process of waste management.**

- There was no single body taking ownership of waste issues both at the central level and at the state level, leading to diffusion of responsibility and weak accountability.

*[Paragraph 5.1.1 & 5.1.2]*

- Only 15 per cent of states constituted the Solid Waste Missions for implementation of municipal solid waste rules, despite directives of CPCB in 2004-05 that all states should set up such missions.

*[Paragraph 5.2.2]*

- There was no clear identification of bodies for monitoring of waste rules at the centre as none of the four central ministries, i.e., MoEF, Ministry of Urban Development, Ministry of Health and Family Welfare and Department of Petrochemicals took responsibility for monitoring of municipal solid waste, bio-medical waste rules and plastic waste rules.

*[Paragraph 5.3.1]*

- In the states, only 33 per cent of the sampled states had allocated responsibility to PCBs for monitoring of municipal solid waste rules; 46 per cent of the states had allocated responsibility for monitoring of bio-medical waste rules and only 37 per

cent of the sampled states were monitoring the implementation of the plastic waste rules.

[Paragraph 5.3.2]

### **Recommendations**

- *Since waste causes pollution and pollution issues are necessarily the responsibility of MoEF, the Central Government should consider appointing MoEF as the nodal body for managing all kinds of waste.*
- *MoEF should clearly identify, at the central level, bodies which would be responsible for the implementation of the waste management rules relating to municipal solid waste, biomedical waste and plastic waste. The states should also clearly identify the agency responsible for implementation of the waste rules.*
- *Solid Waste Missions for dealing with overall issues relating to implementation of municipal solid waste rules should be set up in all the states.*
- *The government should assign clear responsibility to MoEF or any central body/agency for monitoring the implementation of all waste management rules throughout the country.*

## **5. Compliance to rules regulating municipal solid waste, bio-medical waste and plastic waste.**

### **5.1 Compliance to Municipal Solid Waste rules**

- **Collection:** Waste was regularly collected only in 22 per cent of the sampled municipalities.
- **Segregation:** Segregation of waste took place only in 10 per cent of the sampled municipalities.
- **Storage:** Only 17 per cent municipalities were able to ensure proper storage of waste.
- **Transportation:** Covered trucks for transportation of municipal solid waste were being used only in 18 per cent of sampled municipalities.
- **Processing:** Only 11 per cent municipalities had waste processing capabilities.
- **Disposal:** Only six municipalities out of the sampled 56 municipalities had established a landfill, leading to dumping of waste in open dumpsites in the states. The activity outlined in the Implementation Schedule for the development of landfills was carried out only in 14 per cent of the sampled municipalities.

[Paragraph 6.2.1b, c, d, e, f, g]

### **5.2 Compliance to bio-medical waste rules**

- **Authorisation:** Waste disposal facilities were set up after getting authorisation from prescribed authority only in 29 per cent of the sampled hospitals.

- **Segregation:** Segregation as envisaged in the bio-medical waste rules was taking place in only 29 *per cent* of the sampled hospitals. Bio-medical waste, like effluents, needle sharps etc., were mixed with other wastes in 34 *per cent* of the sampled hospitals.
- **Labeling and storage:** Labeling took place only in 19 *per cent* of sampled hospitals and 17 *per cent* of sampled hospitals kept untreated waste beyond 48 hours.
- **Treatment /disposal:** Only 17 *per cent* of sampled hospitals were treating/disposing bio-medical waste as per the compliance criteria in the rules. More than 50 *per cent* of the hospitals sampled had inadequate waste processing/disposal infrastructure.

[Paragraph 6.2.2 b,c,d,e]

### 5.3 Compliance to plastic waste rules

- Actions were not being taken by District Collectors/District Magistrates for the enforcement of the rules and it was difficult to verify whether vendors were using carry bags or containers made of recycled plastic for storing, carrying, dispensing or packaging of foodstuffs.
- It was difficult to verify in audit whether recycling was being done according to specifications of Bureau of Indian Standards.
- None of the sampled states had complete database on the number of manufacturers of plastic carry bags/containers; thus, it was difficult to verify whether all manufactures had sought authorisation from PCBs for the manufacture of plastic carry bags/containers.

[Paragraph 6.2.3 (a) (i), (ii), (iii)& (iv)]

### **Recommendations**

- *Segregation should be given greater emphasis by means of publicity and awareness campaigns and holding regular meetings with housing associations and NGOs. State governments could make waste segregation mandatory and the municipalities could be authorised to levy fines if segregated waste is not made available to the municipalities for collection.*
- *Waste processing should be made mandatory in each municipality. CPCB could help each municipality in identifying the waste processing technology best suited to the needs of the municipality. Sufficient funding should be provided by MoEF/MoUD to set up waste processing infrastructure in each municipality.*
- *All municipalities should take steps to improve the existing dumpsites to make them more sanitary and aesthetic. Dumpsites in residential areas and near water sources/water bodies should be closed down and periodic monitoring of dumpsites for contamination of environment should take place.*

- *Identification of land for setting up landfills should be done on a priority basis and each municipality, according to a time bound programme, should develop landfills. Landfilling should be restricted to non-biodegradable/inorganic waste.*
- *Registrations of those hospitals that do not set up treatment/disposal facility or join a common facility could be cancelled. New hospitals should not be allowed to commence treatment without making sure that it has a facility for treatment/disposal of bio-medical waste.*
- *Segregation of bio-medical waste according to its type should be ensured in each hospital. Measures should be taken to achieve 100 per cent segregation by each hospital.*
- *Hospitals could join a common facility for treatment/disposal of bio-medical waste and PCBs should ensure that each common facility has the requisite and complete infrastructure to handle waste safely.*
- *The plastic waste rules should clearly specify actions to be taken by the DCs/DMs for the enforcement of the plastic rules, relating to use, collection, segregation, transportation and disposal.*
- *Surprise checks should be conducted to verify whether vendors were following the provisions of the plastic waste rules. Database of manufacturers of plastic carry bags/containers should be built to ensure that all manufacturers seek authorization of PCB before they take up manufacture of such items.*

## **6. Effectiveness of monitoring in checking non-compliance.**

- Monitoring of the municipal solid waste rules, bio-medical waste rules and plastic rules, at the central level, was not effective. Systems were also not in place to check non-compliance of rules by municipalities, hospitals and district authorities.  
[Paragraph 7.1]
- State PCBs were not monitoring regularly whether municipal solid waste was being disposed in an environmentally safe manner and in a manner not to pose health risks.  
[Paragraph 7.2(a) (i)]
- Monitoring by state governments was taking place only in 11 per cent of the sampled municipalities and as such, no effective check was being exercised to see that waste processing and disposal facilities meet the compliance criteria outlined in the municipal solid waste rules.  
[Paragraph 7.2(a)(ii)]
- Only 13 per cent of sampled hospitals were being monitored for compliance to bio-medical waste rules.  
[Paragraph 7.2(b) (v)]
- Only in 35 per cent of the sampled states, the District Collectors of the district were monitoring the implementation of plastic rules.

[Paragraph 7.2 (c) (i)]

- In **Delhi**, analysis report of Bhalaswa open landfill showed that Total Dissolved Solids (TDS) and hardness content of the ground water was 800 *per cent* and 633 *per cent* respectively in excess of the desirable limits. TDS at Okhla open landfill site was also in excess of the desirable limit which showed that the ground water of both the open landfills sites has been critically contaminated with leachate generated from the landfill site.

[Paragraph 7.2 (a) (iv)]

- In **Punjab**, samples of ground water from hand pumps at four places had been collected from the municipal solid waste open dumpsite in Amritsar. It revealed that none of the collected samples met the acceptable limit for drinking water and were thus, not fit for drinking purposes.

[Paragraph 7.2(a) (iv)]

- In **Tamil Nadu**, two water samples collected from the dumpsite at Pallikaranai swamp area revealed that dissolved solids, chlorides and cadmium was far above the prescribed desirable limits.

[Paragraph 7.2 (a) (iv)]

### **Recommendations**

- *At the central level, MoEF/CPCB/MoH&FW and at the level of the states, the PCBs should draw up comprehensive schedules for sustained monitoring of municipalities and hospitals.*
- *Regular monitoring of waste disposal facilities like compost plants, incinerators etc., should be done by CPCB/PCBs.*

## **7. Adequacy of funding and manpower for the implementation of rules on waste management.**

- The states did not make enough provision for creating infrastructure for the management of waste. Only 30 *per cent* and 27 *per cent* of the sampled states made some provisions in the budget for management of municipal solid waste and bio-medical waste respectively.

[Paragraph 8.1]

- **Chhatisgarh** diverted Rs.60 lakh for the construction of drainage and mini stadium, though funds were released for management of municipal solid waste. Similarly, **Karnataka** diverted Rs.17.44 crore for purposes such as street lighting, road work etc., Instead of utilizing money for upgrading two dumpsites, Chennai Corporation in **Tamil Nadu** kept Rs.18 crore, released during 2003-05, in fixed deposits.

[Paragraph 8.1 (c)]

- There was a shortage of staff/technically qualified manpower in municipalities/PCBs. 55 *per cent* of the sampled states reported shortage of

manpower in the municipalities hampering municipal solid waste management, while, PCBs in 54 *per cent* of the sampled states had cited shortages hampering their work.

*[Paragraph 8.2]*

### ***Recommendations***

- *States should make provisions in the budget for waste management activities relating to municipal solid waste and bio-medical waste and ensure that municipalities and hospitals have adequate funds for waste management.*
- *State governments and PCBs may assess their manpower requirement and accordingly, raise a staff dedicated to the implementation and monitoring of waste management activities.*