

ANNUAL REPORT: 2011-2012

on

Implementation

of

PLASTIC WASTE MANAGEMENT



CENTRAL POLLUTION CONTROL BOARD

(PCP DIVISION)
June, 2012

IMPLEMENTATION STATUS OF PLASTIC WASTE (MANAGEMENT AND HANDLING) AMENDMENT RULES, 2011

1.0 Description of Plastic Waste

Plastic products have become an integral part in our daily life as a basic need. It produced on a massive scale worldwide and its production crosses the 150 million tonnes per year globally. In India approximately 8 Million tonnes plastic products are consumed every year (2008) which is expected to rise 12 million tones by 2012. Its broad range of application is in packaging films, wrapping materials, shopping and garbage bags, fluid containers, clothing, toys, household and industrial products, and building materials. It is a fact that plastics will never degrade and remains on landscape for several years. The recycled plastics are more harmful to the environment than the virgin products due to mixing of colour, additives, stabilizers, flame retardents etc. Further, the recycling of a virgin plastic material can be done 2-3 time only, because, after every recycling, the strength of plastic material is reduced due to thermal degradation. It is to mention that no authentic estimation is available on total generation of plastic waste in the country however, considering 70% of total plastic consumption is discarded as waste, thus approximately 5.6 million tons per annum (TPA) of plastic waste is generated in country, which is about 15342 tons per day (TPD).

2.0 Environmental issues on disposal of Plastic Waste :

Indiscriminate littering of unskilled recycling/reprocessing and non-biodegradability of plastic waste raises the following environmental issues:

- During polymerization process fugitive emissions are released.
- During product manufacturing various types of gases are released.
- Indiscriminate dumping of plastic waste on land makes the land infertile due to its barrier properties.
- Burning of plastics generates toxic emissions such as Carbon Monoxide, Chlorine, Hydrochloric Acid, Dioxin, Furans, Amines, Nitrides, Styrene, Benzene, 1, 3- butadiene, CCl₄, and Acetaldehyde.
- Lead and Cadmium pigments, commonly used in LDPE, HDPE and PP as additives are toxic and are known to leach out.
- Non-recyclable plastic wastes such as multilayer, metalised pouches and other thermoset plastic poses disposal problems.

- Sub-standard plastic carry bags, packaging films (<40µ) etc. pose problem in collection and recycling.
- Littered plastics give unaesthetic look in the city, choke the drain and may cause flood during monsoon .
- Garbage mixed with plastics interferes in waste processing facilities and also cause problems in landfill operations.
- Recycling industries operating in non-conforming areas are posing threat to environment to unsound recycling practices.

3.0 Salient Features of the PWM Rules, 2011:

- (i) The plastic carry bags used for the purpose of carrying or dispensing commodities but don't include these bags which are integral part of packaged products. The thickness of bag shall not be <40µ;
- (ii) Carry bags can also be made from compostable plastics conforming IS/ISO:17088:2008;
- (iii) Prescribed Authority for registration, manufacture & recycling shall be State Pollution Control Board (SPCB) or Pollution Control Committee (PCC). And for enforcement of Rules relating to use, collection, segregation, transportation & disposal of plastic waste, shall be concerned Municipal Authority;
- (iv) Multilayered pouches or sachets used for packaging of gutkha etc. shall not use plastic material in any form;
- (v) Every carry bags made from plastic shall bear a label or mark "recycled" as per IS:14534:1998. Each carry bag made from "Compostable Material" shall bear a label "Compostable" & shall conform to IS/ISO:17088:2008;
- (vi) No carry bag shall be made available free of cost by retailers to consumers. The concerned Municipal Authority may be notification determine the minimum price for carry bags in order to encourage re-use so as to minimize plastic waste generation;
- (vii) Each State Government shall for constitute a State Level Advisory (SLA) Body to monitor implementation of Rules. This body shall meet once in a year and may invite experts, if it considers necessary.

- (viii) **The Plastic Waste Management (PWM) shall be as under;**
- a) recycling, recovery or disposal of plastic waste shall be carried out as per the rules, regulations and standards stipulated by the central government from time to time;
- (b) recycling of plastics shall be carried out in accordance with the Indian Standard IS 14534:1998 titled as Guidelines for Recycling of Plastics, as amended from time to time;
- (c) the Municipal Authority shall be responsible for setting up, operationalisation and co-ordination of the waste management system, and for performing the associated functions, namely:- (i) to ensure safe collection, storage, segregation, transportation, processing and disposal of plastic waste; (ii) to ensure that no damage is caused to the environment during this process; (iii) to ensure setting up of collection centres for plastic waste involving manufacturers; (iv) to ensure its channelisation to recyclers; (v) to create awareness among all stakeholders about their responsibilities; (vi) to engage agencies or groups working in waste management including waste pickers, and (vii) to ensure that open burning of plastic waste is not permitted;
- (d) for setting up plastic waste collection centres, the Municipal Authority may ask the manufacturers, either collectively or individually in line with the principle of Extended Producer's Responsibility (EPR) to provide the required finance to establish such collection centre;
- (e) recyclers shall ensure that recycling facilities are in accordance with the Indian Standard: IS 14534:194 titled as Guidelines for Recycling of Plastics and in compliance with the rules under the Environment (Protection) Act, 1986, as amended from time to time;
- (f) the concerned Municipal Authority shall ensure that the residues generated from recycling processes are disposed of in compliance with Schedule II (Management of Municipal Solid Wastes) and Schedule III (Specifications for Landfill Sites) of the Municipal Solid Wastes (Management and Handling) Rules, 2000 made under the Environment (Protection) Act, 1986, as amended from time to time;

- (g) the Municipal Authority shall incorporate the said rules in the Municipal Bye- laws of the Urban Local Bodies; 34
- (h) the Municipal Authority shall encourage the use of plastic waste by adopting suitable technology such as in Road Construction, Co-incineration etc. The Municipal Authority or the operator intending to use such technology shall ensure the compliance with the prescribed standards including pollution norms prescribed by the Competent Authority in this regard.
- (ix) Each SPCB or PCC shall prepare and submit Annual Report to CPCB by **30th day of September** each year. The Central Pollution Control Board (CPCB) shall consolidate the report on use of plastic carry bags, sachets/pouches etc. and management of plastic waste. The consolidated report alongwith recommendations on implementation of the Plastic Waste (Management & Handling) (Amendment) Rules, 2011 will be submitted to MoEF by **30th Day of December**.

4.0 Observations:

There is no prescribed format in the PWM (Amendment) Rules, 2011 for preparation of Annual Report, hence, a format was developed and sent to all SPCBs/PCCs, asking them to provide requisite information in the prescribed format for preparation of Annual Report. Out of 34 SPCB/PCCs, only 20 SPCBs/PCCs have provided the requisite information, however, the remaining 14 SPCBs/PCC have not yet submitted any such information on implementation of the PWM Rules, 2011 for unknown regions. However, out of 20 SPCBs/PCCs, some States/UTs have not given complete information as per the provisions of the Rules, therefore, the implementation status of these Boards namely Andhra Pradesh, Chhattisgarh, Goa, Gujarat, Himachal Pradesh, Karnataka, U.P., Delhi, Puducherry etc. is incomplete. Further, based on available information as well as random inspections carried by CPCB team in reference of Hon'ble Supreme Court Compliance and matter for 'Committee of Assurance'. The State-wise implementation status of the PWM (Amendment) Rules, 2011 have been prepared and shown at **Annexure-I**. It has been further observed that most of the States & Union Territories have certain doubts about following points which may be one of the cause for not submitting the reports on time.

1. Definition of "Conventional Plastic" and Compostable Plastic or Material;
2. There is no logo or mark given in the Rules for Compostable material/film;

3. Under Rule 4 (a) which agency will execute the Enforcement on 'stock, distribute, use and sale of plastic carry bag or sachets or pouches'; (35)
4. The SPCB/PCCs are not enforcing regulations on "stock, distribute, use and sale of plastic carry bag or sachets or pouches";
5. Under Rule 4 (b), the implementation on use of plastic waste (excluding use of plastic carry bag or sachets or pouches) is being implemented by Municipal Authority;
6. Some States like Punjab, Kerala, M.P. etc. are still maintaining thickness of carry bags $<40\mu$, however, as per PWM Rules, 2011, the thickness of carry bags shall not less than 40μ . Also some States like Maharashtra and Tamil Nadu has increased thickness 50μ & 60μ respectively.

5.0 Recommendations :

Disposal of plastic waste is a serious concern in India and such no technology has been validated, however, several experiments have been conducted on reuse of plastic waste in road construction, co-processing of plastic waste in cement kilns. Currently, Worldwide accepted technology used for the plastic disposal is incineration, however, due to poor maintenance of incinerators, it releases several harmful gases including dioxins and furans in case of chlorinated and brominated plastic waste therefore, raising several environmental issues. In India, for safer disposal of plastic waste, various technologies have been experimented such as Utilization of plastic waste in road construction, Co-processing of Plastic waste in Cement Kilns. The key issues relating to non-implementation of PWM Rules, 2011 are mainly emerged as indiscriminate use of sub-standard plastic carry bags and littering in cities and towns and use of plastic sachets or pouches in packaging of gutkha, tobacco and pan masala .

Listing of key points based on interaction with representative of SPCBs/PCCs and other agencies may be considered for making suitable amendments in the Rule or issue an Office Memorandum for better PWM Rules, 2011 ;

- (i) Definition of Plastic (Petro-based) and Compostable Plastic or Material (Renewable) may be looked in the existing PWM Rules.
- (ii) The monitoring mechanism shall be strengthened so that sub-standard carry bags ($<40\mu$) are not available in the market.
- (iii) Prescribed Authority for enforcement on use of plastic carry bags and sachets & pouches may be mentioned in the existing PWM Rules, 2011.

- (iv) The recommendations of **Biodegradable Committee** (under Director-Gen. CIPET) may be examined by MoEF in the light of thickness and use of compostable plastic or material for food packagings.
- (v) Municipal Authority may be directed to submit Annual Report to SPCBs/PCCs on implementation of PWM Rules, 2011, as the same is not given in the Rules. Accordingly, suitable amendments be made in the Rules.
- (vi) SPCBs/PCCs may be asked to utilize plastic waste in road construction as well as in co-processing of plastic waste in cement kilns.
- (vii) SPCBs/PCCs should develop laboratory facility for testing of thickness of plastic carry bags and plastic material in the sachets/pouches.
- (viii) The thickness of plastic carry bags shall be uniform, as some States are still allowing to manufacture carry bags 40μ such as Madhya Pradesh, Kerala etc.
- (ix) All Municipalities may be directed to submit Annual Report to concerned SPCBs/PCCs by **31st August of the year**. Subsequently SPCBs/PCCs may also be directed to submit Annual Report for 2012 by **September, 2012**.

This being the 1st year for submission of Annual Report on implementation of PWM Rules, 2011 therefore, the performance of SPCBs/PCCs in submission of Annual Report for the year 2011-12 is not very satisfactorily. Also it has been reported that, the implementation of various provisions of the Rules during 2011-12 is not adequate because a number of public complaints and RTIs have been received in CPCB in respect of use and sale of sub- standard (thin) plastic carry bags (40μ) in the cities/towns. Besides, it is also been observed that thin carry bags are available with all hawkers, vendors, shopkeepers, open markets etc. in Delhi. Further, violations of Rule 5 (d) and (g) have also been reported from different States and Union Territories including Delhi during random inspections carried out by CPCB team.

**Consolidated Annual Report for the year 2011 on Implementation of Plastic Waste
(Management & Handling) (Amendment) Rules, 2011**

Name of SPCB/PCC	Estimated Plastic Waste generation in Tons	No. of registered Plastic Manufacturing/Recycling (including multilayer, compostable) units.			No. of unregistered Plastic Manufacturing units.	States/UTs Issued Separated Ac/Notification (regarding thickness of carry bags etc)	Action Plan for Plastic Waste Management (PWM) e.g. Collection, segregation, disposal (co-processing & road construction etc). (Rule 6)	Partial Ban on usage of Plastic Bags (Through Executive Order)	Complete Ban on use of plastics including multilayer sachets on Gutkha etc.	Recommendation of Status of State Level Advisory Body (Gasteer 14) (Rule 11)	No. of violations and action taken against manufacturing, stock and use of thin (<40µ) carry bags and sachets etc. (10)	Compliance Status of Rules 5 (d) & 5 (g) of the PWM Rules 2011 (As per Assurance)
		Plastic units	Comp Postable Plastic units	Multilayer Plastic units								
(1)	(2)				(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Andhra Pradesh	28,888	51	NIL	09	232	Not Avl.	Not Avl.	Not Avl.	Not Avl.	Not Avl.	06	Complying
A & N Island	Information not provided											
Arunachal Pradesh	Information not provided.											
Assam	Information not provided											
Bihar	Information not provided											
Chhattisgarh	Not Avl.	Not Avl.	Not Avl.	Not Avl.	23	NIL	Commissioner, Urban Admn. & Local Bodies asked to implement	NIL	NIL	Not Avl.	Not Avl.	Complying

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
Goa	Approx 415.00	25	NIL	NIL	25	Goa Non-Biodegradable Act	Plastic waste will be sent to Wadi co-processing according to Act	NIL	NIL	Not Avl.	Not Avl.	18 show-cause notices issued & 6 Directions	One unit is violating the provisions of Rule 5 (d) & e (g).
Gujarat	Not Available	76	NIL	4	14	NIL	Not Avl.	In two district such as Kutch & Junagarh	Not Avl.	Not Avl.	Not Avl.	18 show-cause notices issued & 6 Directions	One unit is violating the provisions of Rule 5 (d) & e (g).
Haryana	Information not provided												
Himachal Pradesh	202.67	03	NIL	NIL		Plastic waste is utilized in road construction & co-incineration	Not Avl.	Not Avl.	Not Avl.	Not Avl.	Not Avl.		Complying
J & K	Information not provided												
Jharkhand	16691.05	08	NIL	07	01	Yes	Under preparation	Yes	Yes	Yes	21	Board has not received any complaint in this regard	Complying
Karnataka	Not Avl.	198	NIL	NIL	Not Avl.	Not Avl.	Not Avl.	Not Avl.	Not Avl.	NIL	NIL	Complying	Complying
Kerala	109500.0	698	NIL	03	145	NIL	Possibilities explored for	Ban on sale &	Not Avl.	SLA Body is	NIL	Not Avl	Not Avl

Maharashtra	1045.24	491	NIL	33	NIL	Issued separate notification for increasing carry bags thicknesses to 50µ	MPCB issued directions to 233 local bodies, 23 MCs, 14 A class cities & 202 B&C class cities for preparation of Action Plan	NIL	Use of carry bag banned in Gwalior	NIL	SLA Body by formulation	Direction issued to the defaulting industries	23	23 directions issued for violating PWM Rules	Usage of plastic pouches & sachet is banned in the State.				
M.P.	16887	59	NIL	04	58	Yes	Plastic waste is partially sent to cement industries for co-processing in cement kilns.	Use of carry bag banned in Gwalior	NIL	SLA Body by formulation	Direction issued to the defaulting industries	Complying							
Manipur	Information not provided																		
Meghalaya	Not Avl.	Not Avl.	NIL	01	3	Yes	Not Avl.	NIL	Use of plastic carry bags completely banned	Not yet formed	Action taken against one unit which is violating the Rules	Not applicable							

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
Mizoram	Not Avl.	NIL	NIL	NIL	NIL	NIL	NIL	SLA Body formed	NIL	Complying		
Nagaland	Not Avl.	04	NIL	NIL	01	Yes	NPCB made a road using plastic waste. Also, exploring possibilities for co-processing in cement kilns.	NIL	Use of carry bags banned w.e.f 1.01.2011	Not Avl.	Complying	
Odisha	Not Avl.	18	NIL	NIL	17	NIL	Few Urban Local Bodies are sending their plastic waste to M/s ACC Ltd., Bargarh	In pilgrimage centres of carry bags have been banned	No such ban imposed except use of plastic material in gutkha, pouch or sachets	SLA Body not constituted	One industry has been found manufacturing carry bags <40µ	Not Avl.

								(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Punjab	31000	29	NIL	NIL	NIL	291	Yes (For carry bags <30 µ)	NIL	No	No	No	No	No	No	No	No	38 Traders, 195 users found violating PWM Rules. Action under the Rules has been initiated against 90 units	Complying
Rajasthan	Information not provided																	
Sikkim	Information not provided																	
Tamil Nadu	Information not provided																	
Tripura	182.50	NIL	NIL	NIL	Not Avl.	No	State Government Director directed all concerned Departments to implement PWM Rules in their jurisdiction	Yes	Government of UP issued notification on complete ban on use of plastic carry bags within 02 km distance from mid-stream of Ganga River	Complete ban on use of plastic carry bags	SLA Body is being constituted	NIL	No carry bags unit violating. However, closure direction issued to 02 gutkha packaging units for violating the Rules	02 units are not complying the provisions of the Rule 5 (d) & 5 (g).				
U.P.	Not Avl.	13	NIL	52	46	No	Not Avl.	Government of UP issued notification on complete ban on use of plastic carry bags within 02 km distance from mid-stream of Ganga River	No	Complete ban on use of plastic carry bags	No SLA Body constituted	NIL	No carry bags unit violating. However, closure direction issued to 02 gutkha packaging units for violating the Rules	02 units are not complying the provisions of the Rule 5 (d) & 5 (g).				

(5)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
Delhi	Not Avl.	Not Avl.	Not Avl.	Not Avl.	Yes	Not Avl.	NIL	Not Avl.	Not Avl.	Not Avl.	Complying	
Lakshadweep	Information not provided											
Puducherry	Not Avl.	129	NIL	NIL	NIL	Yes. Carry bags < 51 μ not allowed	Plastic waste is being utilized in road construction	Not Avl.	Not Avl.	Not Avl.	No unit is manufacturing or packing of Par Masala and Tobacco.	
Uttarakhand	Information not provided											
West Bengal	Information not provided											
Chandigarh	5548.0	NIL	NIL	NIL	Manufacturing of carry bags banned	Yes	Not Avl.	Use, sale and manufacturing of plastic carry bags banned	Use, sale and manufacturing of plastic carry bags banned	No SLA constituted	No violations reported	Not Avl.
Daman, Diu & Dadra Nagar Haveli	Information : not provided											

Abbreviations : i) SLA = State Level Advisory
 ii) Not Avl. = SPCBs/PCCs not submitted information
 jif) NIL = Information is Zero