SOLID WASTE MANAGEMENT

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MBA

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BACKGROUND

Solid Waste Management (SWM) is one of the most expensive municipal services that a local body has to provide as its obligatory municipal function and absorbs about 1% of GNP in the urban areas. About three to six persons per 1000 population are required to cater to this important civic amenity, which is about 1% to 2% of the total National Work Force. It is, therefore, imperative to optimize this huge civic expenditure and evolve an indigenous low cost technology which is technically sound, financially viable, aesthetically beautiful and socially acceptable to public.

Regional Plan-2001 proposed that solid waste disposal and management should be planned for a minimum period of 20 years and at least controlled tipping should be adopted in the disposal of the solid waste. Areas should be identified in all the towns for sanitary landfill and, all the towns above one lakh population should have arrangements to properly manage the waste disposal.

In the review of Regional Plan-2001 it was observed that large quantities of solid waste (garbage) were generated daily, out of which very little was collected. NCT-Delhi, however had comparatively better collection (70% of the waste) than rest of NCR towns. Most landfill sites are brimming to the full and vacant sites for landfill are not available in Delhi. No specific sites have been identified in any Sub regions for disposal of solid wastes and landfill.

2. EXISTING SITUATION AND ISSUES

Studies have revealed that none of the towns in the region are disposing off solid waste in environmental friendly manner. The landfill sites are not lined to protect the ground water from leachate percolating into it. No other disposal system has been adopted by the local bodies.

As per estimates, at present 13,499 MT/day of garbage was being generated in the year 2001 in the NCR region, out of which 9,488 MT/day was being generated from the NCT Delhi sub region. Total garbage generation in the NCT Delhi sub-region is likely to be about 15,413 MT/day by the year 2021 and handling of this kind of waste will need special efforts and funds. Sub-region wise details have been given in under.

Sub-region	Garbage Generation (in MT/day)	
	2001	2021
1	2	3
NCT-Delhi	9,488	15,413
Haryana	1,540	4,569
Rajasthan	201	1,116
Uttar Pradesh	2,270	6,138
Total	**13,499**	**27,236**

Source : Regional Plan 2021 National Capital Region

Since land is a resource, the disposal methodologies for solid waste cannot remain only sanitary landfill. We have to examine other environmental friendly and financially viable options also.

Some of the major issues in this sector include:

2.1 Lack of Knowledge of the Local Bodies

Local bodies adopt casual approach for the management of solid waste. Most of the municipalities are not aware of the ways and means to dispose off solid waste that is generated in their respective towns. Even the collection and transportation system of solid waste is not up to the mark. Major chunk of the revenue generation from the city is eaten away in managing the solid waste, which is done inefficiently.

2.2 Non-availability of suitable Land for Solid Waste Disposal in Environmental Friendly Manner

In most of the towns, no land is earmarked for the disposal of solid waste, neither as landfill site nor for disposal through other techniques. The Master/Development Plans, prepared by the Town Planning Department, do not reflect this aspect. Many a times, land is earmarked for sanitation purpose, which includes the disposal of solid waste as well as a site for sewage treatment plant, which is insufficient for either use. Since location of the land plays an important role, therefore, it should be located in such a way that solid waste is disposed of in decentralized manner so that the transportation cost for the solid waste is optimized.

2.3 Lack of Public Awareness

People are not aware of the harmful effects of solid waste that litters around in towns and cities in the region. There is need for arranging awareness campaign in this regard.

2.4 Non-Availability of Funds

Local bodies do not have funds to handle this kind of waste and in future, as discussed above, the quantities are likely to increase manifolds. In case the waste is not handled and disposed of in a scientific manner, it will reach unmanageable proportions in future. In view of this, the local bodies should improve their financial condition through better management and improve their revenue generation capacity. It should also examine the alternative options for optimization of transportation costs of solid waste.

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2.5 *Piecemeal Approach for Handling of Solid Waste*

Local bodies do not have any Waste Management Plan for their towns/cities. The state of affairs is such that when the NCR Cells contacted the local bodies for data on solid waste to create database for solid waste management, some of the local bodies were not even aware of the quantum of solid waste generated in their town. Local bodies/municipalities are adopting piecemeal approach in this regard.

2.6 *Dependence on Departmental Staff causing Labor Related Problems*

Most of the local bodies are dependent upon their own staff for handling of solid waste, which has resulted in labour related problems. Major chunk of revenue is eaten away by way of paying wages, upholding transportation fleet, operation and maintenance etc. There is need for the local bodies to adopt a comprehensive approach to manage solid waste in terms of collection, transportation, treatment and disposal of waste factoring in various components like labour, equipment, vehicles, institutional arrangements etc.

3. OTHER DEFICIENCIES

- Lack of coverage
- Poor collection system specially in the narrow and circuitous lanes, making the collection more difficult
- Mixed variety of organic and inorganic solid waste
- Non-involvement of NGOs/informal sector and private agencies.
- Unsanitary conditions in and around community bins.
- Handling of specialized wastes
- Shortage of vehicles
- Shortcomings at landfill sites
- Organizational inadequacies
- Shortage of equipment and committed supervisory staff
- Financial stringency

4. POLICIES AND PROPOSALS

In order to improve the overall situation in the NCT Delhi for the harmonized and balanced development for the perspective 2021, following policies and strategies are proposed:

4.1 *Identification of Land for Treatment /Disposal of Waste*

While preparing the Master/Development Plan for various towns/cities, Town Planning Department of respective Sub-regions should earmark the land for treatment/disposal of solid waste. The acquisition of these sites, by the development authorities and municipalities, should form a compulsory element of the development programme and properly budgeted for in their Plan documents.

In NCT-Delhi, the land is scarce and it should plan for future development considering the availability of land for various aspects because the solid waste generation in NCT-Delhi alone by the year 2021 has been projected as 15,000 MT/day, which requires about 28sq kms of land for disposal of solid waste through sanitary land filling assuming that the depths of landfill will be 10 metres (partly below ground and partly above ground), density of solid waste is 0.85 MT per cubic metre, life cycle of landfill site is 20 years and there are three landfill sites. Details of various options examined are in Annexure 4/II. Land area of about 28sq kms required for solid waste disposal through sanitary land fill, should be identified in the MPD-2021, which is under preparation. Another 85sq kms of land area should also be kept reserved for solid waste disposal in future beyond year 2021.

Sanitary landfill sites should be designed and engineered properly to collect and treat leachate and biogas should be collected and utilized in a planned manner. Constituents States of NCR should also earmark land for solid waste disposal by sanitary landfill and other means appropriately.

4.2 *Waste Minimization-Recycling/Recovery of Resources*

In view of the limited availability of land for use as landfill sites, there is an urgent need to find other mechanical means of minimizing waste requiring disposal. In fact, we should aim at zero waste output. Fly-ash from proposed/existing thermal power plants should be utilized in environmental friendly manner by using it in the construction industry. The prevalent system of recycling/recovery of plastic, glass, metal, paper, etc. from the domestic waste is completely informal/unorganized. This should be done in more organized, scientific, cost effective and environmental friendly manner. The segregation of biodegradable waste from non-biodegradable waste such as plastics, glass, metal, paper etc. at the source should be made compulsory in all towns/cities. Not more than 50% of the total solid waste generated should be disposed of through sanitary landfill.

4.3 *Public Awareness and Training*

Public awareness need to be created through mass media including T.V. and newspapers regarding the harmful effects of littering around and how the places can be kept clean. The informal training along with broad-based formal awareness through schools educational curriculum is also recommended. NGO's and Resident Welfare Association (RWA) should be actively involved in the public awareness campaign.

4.4 *Institutional Improvements*

Institutional capacity building measures are required to be taken in order to improve the efficiency and effectiveness of solid waste management at each stage such as waste collection, transfer/transportation, treatment and disposal. There is a need to associate NGOs/private sector also in this regard. The combination of private sector and public sector in proportionate ratios will be the right option.

In the rural areas, there is no mechanism for collection and disposal of solid waste. This should be developed by associating local Panchayats.

4.5 *Resource Mobilization*

Local bodies and Panchayats should improve their financial conditions through better financial management and should also improve the revenue generation capacities.

5. OTHER RECOMMENDATIONS

Other suggested measures, which are required to be taken, are as follows:

- Adoption of closed bins and covered transportation vehicles
- Modification of building bye-laws to ensure provisions of refuse storage
- Safe and separate storage as well as doorstep collection of biomedical waste, hotel and yard waste etc. on full cost recovery basis.
- Community participation

6. PLAN OF ACTION AND PHASING OF IMPLEMENTATION OF STRATEGIES/ POLICIES/PROPOSALS

In order to implement the policies of solid waste disposal in the region, it is imperative to have a phase wise plan of action so that the implementation of policies and proposals in the Regional Plan can be dovetailed with the five-year plans. In view of this, each recommendation has been phased plan-wise where certain activities are to be completed within first five-year of the implementation of the Region Plan whereas some activities will span over to all the four five-year plans. Some of the activities which need to be implemented in the first five years of the Regional Plan include preparation of the Solid Waste Management Plans for all the towns, creation of mass awareness, allocation of land, waste minimization through recycling of solid waste. Construction of solid waste disposal sites and treatment plants in the region, as recommended above, have been proposed to be carried out in a phased manner in all the five-year plans.

Phased programme and plan of action have been worked out to give effect to the proposal and implementation thereof, which is at Annexure 9/II.

PLAN WISE INVESTMENT REQUIRED FOR SWM

Plan Period	Percentage (%)	Amount (Rs. in Crores)
1	2	3
2002-2007	40.0	544.73
2007-2012	25.0	340.45
2012-2017	20.0	272.36
2017-2021	15.0	204.27

Source : Regional Plan 2021 AD National Capital Region

The investment for solid waste management in the 10th Plan is estimated to be Rs.544.73crores, for 11th Plan Rs.340.45crores, while for 12th Plan it is projected to be Rs.272.36crores and for 13th Plan the estimate is Rs.204.27crores.

7. SOLID WASTE MANAGEMENT

In most localities of Delhi garbage/solid waste dumps are over flowing and the number of open garbage dumps in the by lanes, parks, drains and roadsides are on the increase. It contributes to the pollution of entire environment - air, water and soil. During 1999, estimated quantity of waste generated was 8,203 MT based on 0.61 kg per

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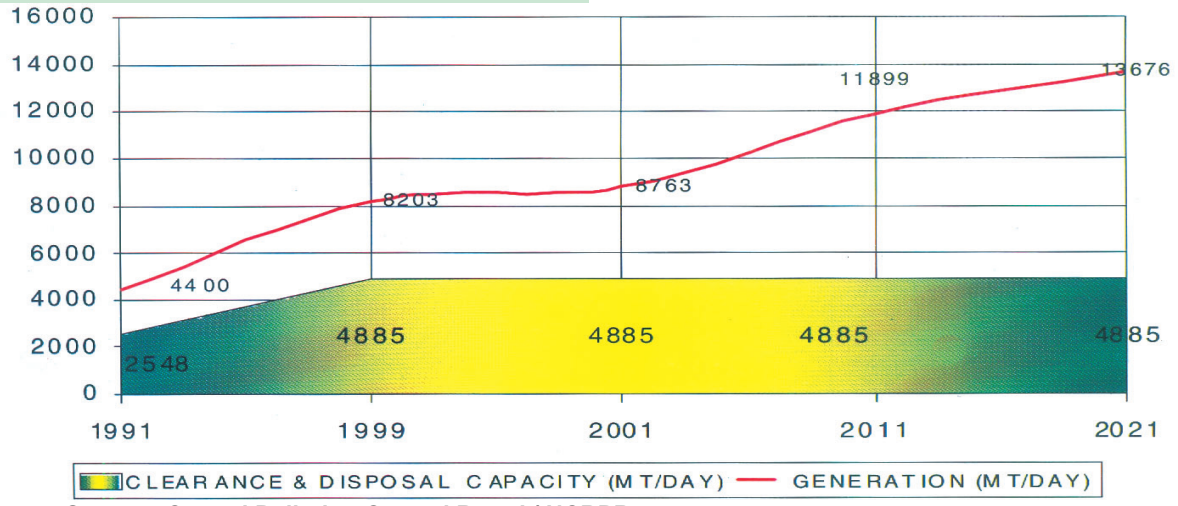
capita per day (average of NEERI norms for NDMC area - 0.67 kg/c/d and MCD 0.60 kg/c/d) and despite High Court's intervention and regular monitoring, the clearance/disposal was limited to 4,885 MT. The civic agencies MCD, NDMC, Delhi Cantt. Board are hard pressed and have failed to provide clean and healthy environment. It is estimated that with present growth of population and changing life styles quantity of waste generation would increase to 8,763 MT in 2001 and further to 11,899 MT and 13,676 MT by 2011 & 2021AD respectively. With the present capacity of the civic bodies limited to handling the above quantum of solid waste, the present gap of 40% is likely to increase to 44% in 2001, 59% in 2011 and 64% in 2021 AD.



Source **: Central Pollution Control Board / NCRPB**

PROPOSED FACILITIES FOR WASTE TREATMENT AND DISPOSAL DURING THE MASTER PLAN PERIOD (2005-2024)

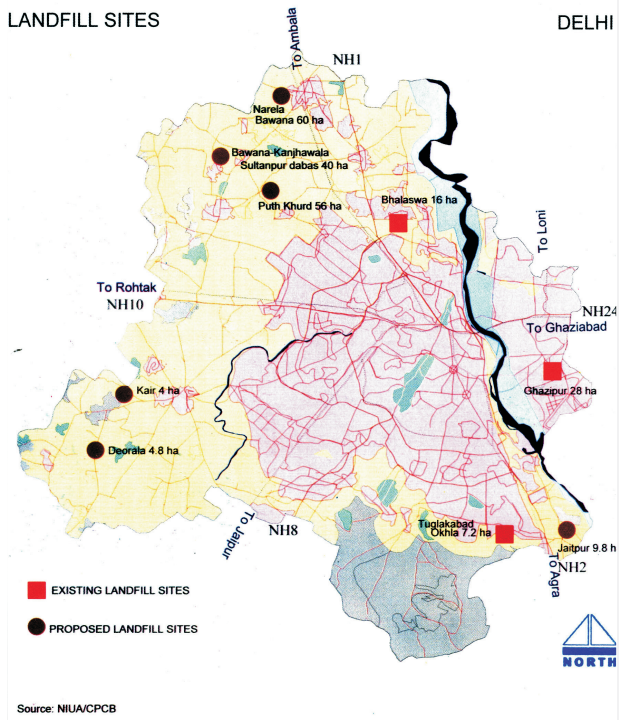
S. No	Facility	Proposed Location	Waste Treatment capacity (tpd)	Area Required (HA)	Area Available (ha)	Start Year of Operation	Project cost (INR)	Remarks
1	Land fill	Jaitpur	-	10	10	2005	24,00,00,000	Project underway to be speeded up
2	Compost (Upgrade)	Okhla, MCD	200	3.2	3.2	2006	14,02,50,000	Work to start next year
3	Compost (Upgrade)	Okhla, NDMC	200	3.4	3.4	2006	14,02,50,000	Discussion required with NDMC
4	Land fill	NarelaBawana Road		112	62	2007	168,00,00,000	Work to be speeded up urgently, add land requirement to be addressed.
5	C & D	BurariJahangirpuri	500	3.92	20.98	2007	15,00,00,000	Project to commence next year
6	C & D	Bakarwala	500	3.92	2.1	2007	15,00,00,000	Project to commence next year
7	Methanisation (Pilot)	NarelaBawana Road	50	2.5	2	2007	16,00,00,000	Project to commence next year
8	RDF (Pilot)	BurariJahangirpuri	100	5	5	2007	15,00,00,000	Project to commence next year
9	Land fill	Bhatti Mines	-	73	0	2008	224,00,00,000	Work to be speeded up land acquisition is priority.
10	0. Compost	To be identified	600	12		2010	30,60,00,000	Land identification to being in 2004
11	1. Methanisation (upgrade)	NarelaBawana Road	250			2011	72,00,00,000	Project to commence in 2009
12	2. Methanisation	To be identified	250	2.5		2011	72,00,00,000	Land identification to being in 2004
13	3. RDF (upgrade)	BurariJahangirpuri	500			2011	60,00,00,000	Project to commence in 2011
14	4. Compost	Bhalswa, Private	500	4.9	4.9	2013	0	Assuming 25% investment by MCD
15	5. C & D	Bhatti Mines	1000	7.85	2.5	2014	15,00,00,000	Project to commence in 2013
16	6. Compost	To be identified	600	12		2015	30,60,00,000	Land identification by 2010, Project to commence in 2013
17	7. Methanisation	To be identified	250	2.5		2015	80,00,00,000	Land identification by 2010, Project to commence in 2013
18	8. RDF	To be identified	500	5		2015	75,00,00,000	Land identification by 2010, Project to commence in

Source : Master Plan for Delhi 2021

8. LANDFILL SITES

All the collected solid waste in Delhi is disposed of in low lying areas at the landfill sites following conventional ways of dumping. Since 1950's over 12 large landfill sites have been packed with all sorts of non-biodegradable and toxic wastes of Delhi.

At present there are three landfill sites - Bhalaswa, Gazipur and Okhla. The base of none of these landfill sites are lined due to which continuous ground water contamination takes place. Neither the sites are prepared before using them for disposal-dumping of waste nor environment impact assessment has been carried out while selecting these sites.



Source: NIUA/CPCB

NAMES OF THE ZONES AND NUMBER OF SUB-ZONES

Zone	*Name of Zone*	*Area (Ha.)*	*No. of Sub Zones*
A	Old City	1159	26
B	City Extn. (Karol Bagh)	2304	7
C	Civil Line	3959	21
D	New Delhi	3959	19
E	Trans Yammuna Area	8797	21
F	South Delhi-I	11958	19
G	West Delhi-I	11865	7
H	NW-I Wazirpur, Rohini	5677	9
J	South Delhi-II Exterme South Delhi	15178	10
K-I	West Delhi-II Mundka, Baprola	5782	20
K-II	Dwarka	6408	19
L	West Delhi-III Najafgarh-Ujwa	22840	20
M	North West Delhi-II (Rohini)	5073	23
N	North West Delhi-III (Khanjwala)	13975	18
O	River Yammuna/River Front	8070	06
P-I	Narela	9866	19
P-II	North Delhi-Burari Complex	9866	13
	Total	**148300**	**277**

Source : Delhi Master Plan 2021 AD

TYPES OF SOLID WASTE

(a) Household waste is generally classified as municipal waste,
(b) Industrial waste as hazardous waste, and
(c) Biomedical waste or hospital waste as infectious waste.

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9. DIMENSIONS OF SWM AS GIVEN IN ALL THE ZONAL PLANS OF DELHI

Data taken from various Zonal plans :

1. **Zone-A**
   The projected average garbage generation up to the year 2021 is @ 0.68 kg per capita per day and total quantum for the zone would be of the order of maximum 13.31 MGD and minimum 9.96 MGD per day.
   (Walled city, Jama Masjid, New Delhi Railway station, Pahar Ganj, Jhande Wallan, Sadar bazar; Qadam Sharif; Idgah; Kasmere gate etc).
2. **Zone – B**
   The solid waste, disposal requirement based on the existing norms could be disposed of outside the zone by the local body, and the sites identified for the purpose.
   (Kishan ganj, Sarai Rohilla, Anand Parvat, Rajendra Nagar, Pusa Institute, Todapur, Karol bagh; Patel nagar; Nariana)
3. **Zone-C**
   A large sanitary landfill site in Timarpur along the Outer Ring Road (Road No.50) has been filled up. This zone is saturated in terms of land. It is difficult to provide additional land for physical infrastructure at Zonal Development Plan level. Thus optimum utilization of existing lands shall be done. Any additional request shall be seen by DJB/GNCTD who own land-pockets in this zone.
   (Hindu Rao Hospital, Kamla Nagar, Timarpur, Dr. Mukherji Nagar, Civil lines; Delhi University Area; Shakti nagar, Ashoka Vihar, Modal town, GTK industrial area; Kings way camp; Jahagir puri;)
4. **Zone D**
   (Cannought Place, Rajpat, Rashtriya Bhavan, Budha Jayanti Park, Lodhi Colony, Sarojini Nagar, NetaJi Nagar, Dohla Kua)
5. **Zone E**
   (Karaval Nagar, Soniya Vihar, Mustafabad, Gokulpuri, Bhajanpura, Bhrampuri, Seelampur, AShok Nagar, Nand Nagri, Dilshad Garden, Gandhi Nagar, Vishwas Nagar, Vivek Vihar, Anand Vihar, Krishna Nagar, Jagatpuri, Gagan Vihar, Geeta Colony, Laxmi Nagar, Pandav Nagar, Preet Vihar, Kalyan Puri, Trilok puri, Mayur Vihar, Himatpuri, Kondli)
6. **Zone-F**
   This zone has large sanitary landfill sites; on Maa Anand Mai Marg (Okhla Industrial Area Phase-I). However, for disposal of garbage, modern technology and methods which are environmentally more safe, need to be adopted.
   (R.K. Puram, Mahipalpur, Masudpur, Mehrauli, Lado Sarai, Qutub Institutional Area, Munirika, Vasant Vihar, Malviya Nagar, Sheikh Sarai, Pushp Vihar, Panchshila Park, Safdarjang Enclave, Green Park, Hauz Khas, Saket, East of Kailash, Greater Kailash-1, East of Kailash, Greater Kailash-2, Dr. Ambedkar Nagar, Govindpuri, Okhla Industrial Estate, Madanpur Khadar, Maharani Bagh, New Friends Colony)
7. **Zone-G**
   Keeping in view the norm of 0.68 per kg. Per capital per day, the total solid waste disposal of the entire zone works out to around 2500 Tones per day. A large part of this solid waste could be accommodated in the sanitary land-fill sites identified as per MPD-2021. No site has been proposed in the zone.
   (Kirti Nagar, Moti Nagar, Punjabi Bagh, Paschim Vihar, Pira Garhi, Nangloi, Vikaspuri, Janakpuri, Uttam Nagar, Mohan Garden, Rajouri Garden, Subhash Nagar)
8. **Zone H**
   (Rohini, Prem Nagar, Sultanpur, Mangolpuri, Shakurpur, Shakurbasti, TriNagar, Krishna Nagar, Rithla)
9. **Zone J**
   (Extreme South Delhi, Krishan Nagar, Aya Nagar, Gadaipur, Ansal Villa, Zaunapur, Fatehpur Beri, Chattarpur, Neb Sarai, Sainik Farm, Khanpur, Sangam Vihar)
10. **Zone-K-I and K2.**
    Considering the resident and floating population of Dwarka sub-city, the daily waste works out to be about 800 MT. Zone K-II, being adjacent to the international airport and its flight path, requires a modern and sophisticated technology to handle the huge quantity of waste disposal. Identification of suitable land in and around Dwarka for treatment of solid waste into Bio-degradable and non-bio-degradable requires due consideration.
    (Sagarpur, Dabri, Uttam Nagar, Bindapur, Mahadev Enclave, Sadh Nagar, Palam, Raj Nagar, Dwarka, Bamnauli, Bijwasan, Matiyla, Kakrola)
11. **Zone-L**
    It is proposed to set up the mechanized plant / compost plant for solid waste which is projected to be 1360 tonnes per day. This plant shall be located based on the requirements in the green belt or at location in village Tikri Kalan, Jhuljhuli and Kanganheri.
    (Najafgarh, Shyam Enclave, Qutab Vihar, Chhawla, Kangan heri)
12. **Zone –M ----------**
13. **Zone-N ----------**
14. **Zone- O ----------**
15. **Zone-P-I**
    Total Solid Waste 840 Tonnes / day. The process of disposal is to be through sanitary landfills, composting and incineration depending upon the quality of the refuse. In future emphasis is to be laid on solid waste disposal by more scientific method, where the land requirement gets reduced to minimum, in consultation with the concerned agencies.
16. **Zone-P-II ----------**

Source : Master Plan for Delhi 2021

10. PLAN OF ACTION AND PHASING OF SOLID WASTE MANAGEMENT

SOLID WASTE MANAGEMENT					
1.	All the towns in NCR should prepare detailed Solid Waste Management Plan as per directions of the Ministry of Environment & Forests and Norms & Standards given in the Manual of CPHEEO, MOUD&PA.	Should be prepared immediately compliance by the respective State Governments.	Respective State governments to ensure the implementation of the Plan.	Respective State governments to ensure the implementation of the Plan.	Respective State governments to ensure the implementation of the Plan.
2.	Land for treatment/disposal of solid waste should be earmarked while preparing the Master/Development Plan for various towns/cities. The acquisition of these sites by the Development Authorities and Municipalities should form a compulsory element of the development programme and properly budgeted for in their Plan documents.	To be done immediately compliance by the respective State Governments.	To ensure the compliance by the respective State Governments.	To ensure the compliance by the respective State Governments.	To ensure the compliance by the respective State Governments.
3.	The policy of waste minimization through recycling /recovery of resources should be adopted- at least 50% of the Solid Waste generated should be disposed off through other treatment technologies like composting and the balance through sanitary landfill.	To be done immediately compliance by the respective State Governments.	To ensure the compliance by the respective State Governments.	To ensure the compliance by the respective State Governments.	To ensure the compliance by the respective State Governments.
4.	Institutional capacity building measures should be taken including involvement of NGO's/Private Sector to improve the efficiency and effectiveness of Solid waste management at each stage such as waste collection, transfer/transportation, treatment and disposal. Local bodies and Panchayats should improve their financial conditions through better financial management and should also improve the revenue generation capacities	Capacity building is a continuous process and is required to be taken up immediately by the respective State governments. The Board should help the State governments in conducting the courses for capacity building. States should improve water tariff by the end of 11th Plan. Training courses for capacity building to continue. Tariff to be reviewed.			
5.	In the rural areas, there is no mechanism for collection and disposal of solid waste. This should be developed by associating local Panchayats.	All the urban villages to be covered in Tenth Plan.	Other villages to be covered by the end of Eleventh Plan.	To ensure the compliance by the respective State Governments.	To ensure the compliance by the respective State Governments.
6.	Total solid waste generation in the urban areas of the region would be about 27,236 MT/day by the year 2021 and accordingly there will be need to develop appropriate system for collection, transportation and disposal of solid waste in environmental friendly manner either through properly designed sanitary land filling or through other treatment methods. Total investment required for this would be about Rs.1,361.81croresupto the year 2021.	Investment for solid waste management is estimated to be Rs. 544.73 crores.	Investment for solid waste management is estimated to be Rs. 340.45 crores.	Investment for solid waste management is estimated to be Rs. 272.36 crores.	Investment for solid waste management is estimated to be Rs. 204.27 crores.

Source : Regional Plan 2001 National Capital Region

11. NEWS PAPER CUTTING

- Ghazipur garbage dump worries MCD MCD workers stay away, garbage piles up
- मास्टर प्लान की सर्विस लेन डलाव घर में तब्दील
- MCD workers stay away, garbage piles up
- बदहाल सफाई व्यवस्था से लोग परेशान
- जैतपुर माइंस में समाएगा कूड़े का पहाड़
- सफाई कर्मियों की हड़ताल खत्म पर भरे पड़े हैं डलाव व कूड़ेदान
  - सफाई कर्मियों की हड़ताल खत्म पर भरे पड़े हैं डलाव व कूड़ेदान
- Ban on manual scavenging soon?
- राजधानी के लिए गंभीर चुनौति है कचरा निस्तारण
- Delhi govt firm on energy plants despite protests
- सड़क पर पड़ी है नाले की गाद

  लापरवाही
  - जीटी रोड पर सीलमपुर के पास कई सप्ताह से तंग है सड़क
  - शिकायत के बावजूद निगम कर्मियों ने नहीं हटाई गंदगी
- मंदिर के पास से नहीं हटाया कूडाघर
- मौजपुर में होती है दूषित पानी की आपूर्ति
- सड़क पर डाला जा रहा मलबा बना सिरदर्द
- अधिकारी लापरवाह तो कैसे साफ हो दिल्ली
- अनारकली गार्डन में सफाई व्यवस्था बदहाल
- Construction waste clogs Barapullah Nullah
- कूड़े की दुर्गंध ने किया जीना मुहाल
- यमुना खादर से मलबा हटाने के निर्देश
- टूटी सड़क व गंदगी बनी मुसीबत
- कचरे से बिजली बनाने से जुड़े मुद्दों पर बैठक
- ई-कचरे के निपटान की तैयारी नाकाफी
  - कानून लागू करने से पहले जमीनी तैयारियां पूरी नहीं : टॉक्सिक लिंक
- एक लाख लोग बुनियादी सुविधाओं से वंचित

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