FROM KITCHEN TO THE DUMPYARD

Effective segregation at source, in transit and during disposal will mean only 20% of refuse needs to be sent to the landfills. Currently almost all the waste is dumped at the landfills that are already full to the brim

HOW YOUR WASTE TRAVELS

Private sweepers, who snap up the most sought-after refuse, or residents take waste to bins. Ragpickers sift through muck to hunt for recyclable material

The 2,500-odd filthy and unhealthy community bins (dhalaos) serve as secondary collection centres for the three municipal bodies in colonies

After civic bodies take waste to landfills, another set of trash-pickers collect what their street counterparts miss, completing a cycle of "unorganised" segregation

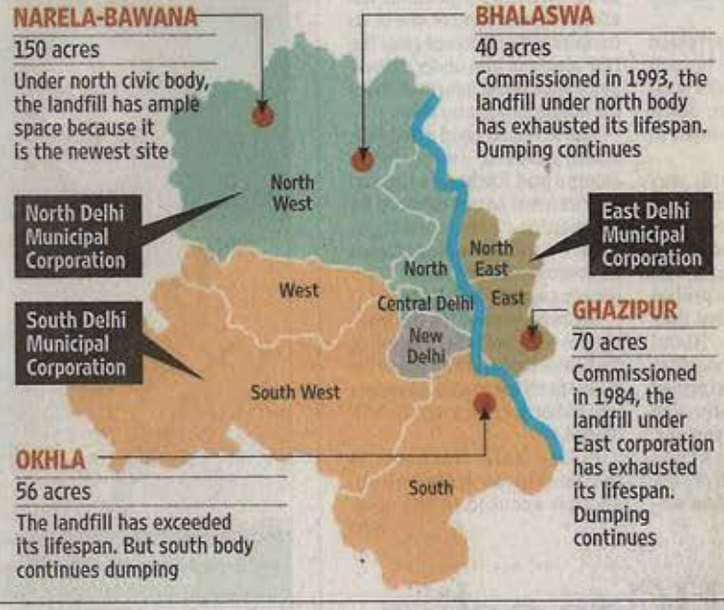
Waste is taken to one of the four dumping grounds, based on the area's proximity —Ghazipur, Bhalaswa, Okhla, and Narela-Bawana (newest site)

At the dumping ground, there are many rag-pickers groups that have their workers segregating the garbage to separate dry and wet waste

EQUIPMENT WITH MCD

	Dumpers	Tractors	Auto tippers	JCB	Manual rickshaws	Wheel barrows
South MCD	164	34	256	30	1154	2823
North MCD	40	0	258	12	1500	5000
East MCD	122	0	302	10	500	3000

THE FOUR LANDFILLS



NARELA-BAWANA
150 acres
Under north civic body, the landfill has ample space because it is the newest site

BHALASWA
40 acres
Commissioned in 1993, the landfill under north body has exhausted its lifespan. Dumping continues

GHAZIPUR
70 acres
Commissioned in 1984, the landfill under East corporation has exhausted its lifespan. Dumping continues

OKHLA
56 acres
The landfill has exceeded its lifespan. But south body continues dumping

What needs to be done

- New sites equipped with waste management sites need to be immediately introduced
- Decentralised and smaller sites also need to be introduced to reduce transport cost and improve plant efficiency.
- Ensure that garbage is not burned
- Landfill sites need to be checked constantly for land pollution.
- Green waste needs to be tackled skilfully to make sure that it doesn't reach landfill sites
- Compost plants need to be set up
- More emphasis needs to be given to recycling
- Stricter recycling laws

What people can do

- Begin recycling at home
- Solid items related to plastic or metal need to be kept in separate bins from other household garbage
- Ensure that garbage is not mixed by those collecting it

CASE STUDY, Ghazipur landfill

TOXIC METHANE GAS IGNITING FLAMES AT LANDFILL SITE, POLLUTING AIR

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NEW DELHI: Ragpickers say they often see flames in the reeking heaps of garbage at the Ghazipur landfill site. "Flames erupting without any reason have become a common phenomenon at Ghazipur," says 21-year-old Amar, a ragpicker.

The flames Amar refers to, corporation officials say, are caused by methane gas released at the landfill. "The garbage at these sites is around 25 years old. As it decomposes, various greenhouse gases come out," said a municipal official.

The landfill, which became operational in 1984, is crammed with about 50 lakh tonnes of garbage. The mess stands as a mountain at least 25 metres tall — roughly the size of a 10-storey building.

Officials say the actual capacity was meant to be 15 metres. But it surpassed that limit 10 years ago.

And this mountain is at risk of catching fire as methane that is released is a highly combustible and toxic gas.

Experts say if the methane catches fire amidst the garbage, it releases pollutants which don't degrade with time and enter the food chain. This can lead to cancer, disorders of the heart and reproductive system, and skin diseases.

Meanwhile, officials claim to have begun measures to trap this methane and use it for power generation through a waste-to-energy plant.

"We have already got 10 acres for a landfill enclosure and a gas capturing project on trial basis with GAIL. This (Ghazipur) area has been covered with a green layer and 20-odd pipes are sucking out the gas trapped inside at the rate of 150-200 cubic metres per hour. Out of the gases sucked out, 25% is methane," said a municipal official.

He said attempts were on to replicate the move in other landfills as well. Currently, NCR has three other such sites at Bhalaswa, Okhla and Narela-Bawana. And all of them pose equal threat to the environment, say experts.

face to face

MICHAEL GREENSTONE, UNIVERSITY OF CHICAGO

'Pollution problem acute in Delhi'

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NEW DELHI: Chicago Urban Labs and the Delhi Dialogue Commission is all set to launch a competition focused on improving air and water quality in Delhi by soliciting grassroots ideas from across the country. The Urban Labs Innovation Challenge: Delhi will award up to ₹2 crore in funding to the most promising solutions.

Michael Greenstone, director of the Energy Policy Institute and Urban Labs Energy & Environment Lab at the University of Chicago, who is in Delhi for the launch, spoke to HT about how the competition will help spark change.

Is this the first time you have stepped out of Chicago with this kind of an initiative?
This is the first time we are stepping outside US with this innovation challenge. In Chicago, we just completed a similar project on how to help low-income households conserve energy.

Why was Delhi chosen?
Energy and environment problems, when one looks across the globe, is especially acute in Delhi. We found a very progressive government partner and it seemed like a perfect match.

How bad is pollution in Delhi?
It is a great challenge. It is causing elevated rates of morbidity and likely reducing people's life expectancies.

What can be a possible solution?
Air pollution problems in Delhi are not dissimilar to the problems in the US in 60s and 70s and Japan in 60s and 70s. They can't be solved overnight. There is carousel of solutions that go around and come in and out of favour. Unless, ideas and potential solutions are tested, we will never know.

A tale of contaminated water, diseases & stink

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NEW DELHI: Health and environment impact assessment of landfill sites suggests that creating more landfill sites may not be the solution for the garbage mess ailing the city.

A recent petition filed by the Centre for Wildlife and Environmental Litigation, an NGO, before the National Green Tribunal claims that continuous indiscriminate dumping at three landfill sites of the Capital has not only led to the deterioration of groundwater quality in the neighbourhood areas but also raised the fear of explosion of the accumulated methane gas.

"The three main landfill sites of Delhi ... However, these are not proper landfill sites as waste is dumped crudely here. The squeezing of waste itself poses a threat to the surrounding solid structure of the landfill," Gaurav Bansal, who has submitted the petition on behalf of the NGO, said.

Another key environmental problem is groundwater pollution from leachates (the liquid that drains from a landfill). The major problem caused by landfill leachates is the leakage of a large number of toxins into fresh water waterways.

A 2012 report by Hazard Centre, a Delhi-based NGO, and Bhalswa Lok Shakti Manch, shows Total Dissolved Solids way above permissible limits in water from hand pumps near the landfill.

... from various illnesses, especially gastro-intestinal diseases, musculoskeletal pain, skin and eye irritation, and respiratory problems," the study notes.

The Achan landfill at Srinagar in Jammu and Kashmir can show Delhi the way. The local civic body is working towards converting this dumpyard into a completely scientific landfill. "The existing site is being improved and modernised with efficient drainage systems, and leachate collection and treatment facilities. All the environmental and other related issues are being redressed under the modernisation plan. Twenty wastepickers at the site segregate recyclable and non-recyclable wastes," Chitra Mukherjee of ... NGO, said.

Waste is dumped crudely and burnt.