Sustainable Strategy of Solid waste management

What is the issue?

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Ghazipur garbage crisis must be seen as an opportunity to urgently implement a sustainable strategy of solid waste management.

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What are recent instances of land fill disasters?

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- East Delhi’s garbage dump at Ghazipur collapsed in September, It was a garbage slide from the steep mountain of mixed solid waste 50 metres high.
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- It was about the height of a 16 storey building and more than twice the permissible height for landfills.
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- As heaps of garbage full of slippery wet plastic slid into the canal, creating giant waves which hit the road, disrupted traffic and caused damage to life and property.
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- Barely a month after the garbage slide, just before Diwali, a massive fire broke out at the same place in Ghazipur from where the garbage had collapsed, adding to the air pollution woes of the city.
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- Indeed minor and major fires in these dumpsites are only to be expected every now and then given the methane trapped in the accumulated heaps and combustibles in the mixed waste.
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What are the issues with government mandates?

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- After the recent garbage slide in response to the orders on stop dumping

garbage at Ghazipur, East Delhi Municipal Corporation tried to start dumping at different place.
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- Policy makers are looking for more land to create a new “landfill”, which in India is a euphemism for a dumping site.
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- Since the Solid Waste Rules clearly mandate the use of high calorie non-recyclables for waste to energy plants, existing plants cannot use mixed waste without pre-sorting.
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How garbage management can be carried out productively?

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- **Reducing and Drying -**The first step is to reduce the volume of waste and to dry it out through bio-remediation using composting bio-cultures.
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- **Bio- mining -**This makes possible the second step of screening the waste, which is called bio-mining.
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- **Collection -**The different fractions obtained from the stabilised waste after it is screened, and the light thin plastics which are collected as a separator blows them out.
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- It include useful material for compost, road building, and refuse derived fuel (RDF).
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- **Segregation -**The fractions plastics between 16 mm and 80 mm which contain mostly inserts (stony and sandy material) are good for road building.
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- The finer fractions below 16 mm containing organics can be used as planting covers for grassy side slopes of the highway.
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- The fractions coarser than 80 mm consist mostly of combustibles like cloth and coconut shells and are useful for making RDF
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How plastic roads can act as sustainable solution?

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- A less-known and highly innovative application in building roads is that of soiled and torn thin plastics which are blown out from the bio-mining process.
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- Though not useful for recycling like clean plastics which are collected from dry waste separately at the doorstep.
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- These thin plastics can more than double or triple the life and quality of bitumen (tar) roads which are spread and compacted for road-making.
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What are the advantages of plastic roads?

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- The bitumen adheres so much more strongly to these coated stones that potholes do not form during rains and road edges remain straight and firm.
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- Such “plastic roads” withstand breakup in snowy regions and far outlast normal roads.
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- With their capacity to handle tanks and heavy vehicle traffic, such roads are ideal for border roads.
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- One km of single-lane tar road can consume one tonne of waste plastic, when added at 10 per cent of required bitumen quantity.
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What are positive signs on plastic roads?

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- **Announcements of Autonomous bodies -**The National Green Tribunal (NGT) issued an order to reduce the mound height by at least 10 feet and use the material for highway construction.
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- The NGT directed the NHAI (National Highway Authority of India) to lay a trial 2-km stretch of NH-24 using the Ghazipur waste for its widening.
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- The Central Pollution Control Board has put out guidelines for making such roads and the results of comparative testing after three years of laying.
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- The Central Road Research Institute mandated plastic roads for all National Highways up to 50 km from cities that have a population over five lakh.
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- **Action by states -** Tamil Nadu, Himachal Pradesh and some other states are regularly laying plastic roads.
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- In Tamil Nadu, 1,400 km of rural tar roads used plastic in 2003-2004 alone.
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- Bengaluru has resolved to spend Rs 2,220 crore for fixing rain-battered roads in the next four months.
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Source: Indian Express

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