Addressing Solid Waste Management Constrains in India

What is the issue?

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- India is facing a serious solid waste management problem due to unregulated landfills and incineration.
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- Recycling, composting and Bio-methanation will address the solid waste management constrains.
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What are the issues with solid waste management in India?

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- **Landfills -** In India Landfills are neither scientifically engineered nor scientifically closed, they serve as open dumpsites.
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- The discarded plastics in the mixed waste are a major contributor to dumpsite fires.
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- Disposal of mixed waste including biodegradable matter in this landfills under anaerobic conditions generate methane and leachate.
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- Methane and leachate causes global warming and unhealthy living conditions respectively.
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- **Incineration -** Incineration of solid waste generate (GHGs) is not carried under out with state of the art features.
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- Which generates carbon dioxide, methane, and small amounts of nitrous oxide leading to global warming.
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- **Collection and segregation -** The biodegradable waste is being mixed with other waste at the point where waste is generated.
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- This increases the volume that has to be transported as the waste is hauled all the way to the landfill sites.
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- The increased fuel usage in transportation results in more emissions.
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What are the alternative measures?

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- **Composting -** The volume of waste sent to the landfill sites can be reduced if biodegradable waste is processed locally through aerobic decomposition with the help of microbes or earthworms (vermicomposting) to produce compost or organic fertiliser.
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- Compost helps store carbon back in the soil, improves moisture retention in the soil usage, it also reduces the need for chemical fertilisers.
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- **Bio-Methanation -** An alternative to composting for biodegradable waste is bio methanation or anaerobic decomposition.
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- Bio methanation generates biogas which is a substitute for fossil fuel and produces slurry which is an excellent organic fertiliser, both helping to mitigate global warming.
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- Local processing also means that bio methanation saves on transportation.
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- **Recycling** - Recycling of waste reduces GHG emissions because the energy required to manufacture a product using virgin materials is higher than when using recycled materials.
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- Recycling requires up to 50 per cent less energy compared to production of paper based on wood pulp, and it also saves trees from being cut.
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- **Controlled Incineration -** Waste-to-Energy technologies can be implemented with the help of controlled incineration or gasification from

segregated waste.
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- Already established Indian incineration plants can install appropriate filters in incineration plants.
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Source: Indian Express

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