KPMG

GINDA CITY POLICY ON DECENTRALISED WASTE COMPOSTING - 2019

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Composting: Background

- Composting is the most sustainable option for managing organic waste (kitchen waste, yard clippings, leaves etc.) which are generally thrown to the landfill sites.
- Land fill sites has a limited life and space .
- Composting these waste at a licensed composting facility produces a beneficial product - Nutrient Rich Fertilizer.
- A composting plant or pit can continue to process waste indefinitely and will also add value to the soil.
- City composts contain all 17 required micro-nutrients, derived from the wastes and can counter the depletion of micro-nutrients in Indian soils.
- Since heavy chemical-fertiliser use began to be used for intensive cultivation, we are currently deficient in as many as 8 micro-nutrients in soils.
- Compost used with fertilizers makes crops more pest-resistant by strengthening their root-systems, reducing pollution by excessive and needless pesticide use.

Benefits of Composting

Turning waste into a value-added resource for the locality and the city.

Extending the life of the region's only landfill.

Preventing greenhouse emissions and leachate caused by decomposing organic landfill waste.

Producing valuable products, such as compost and fertilizer that enhance soil and aids in plant growth.

Saving Environment

- The greenhouse gas emissions related to fertilizer production are avoided.
- Less fuel consumption to carry the garbage to landfill sites
- There is significant reduction in the use of pesticides
- Improves health and workability of soils,
- Helps soils hold or sequester carbon dioxide.
- Compost replenishes and revitalizes exhausted farm soils by replacing trace minerals and organic material, reduces soil erosion and helps prevent storm water runoff.

Vision

All the division, institutions, hospitals, vegetables markets, fish/meat markers, industries, commercial areas, universities/colleges/schools, multistoried apartments, resident welfare associations, houses over 200 sq mts, hotel/restaurants/banquets/ other eateries etc. in GNIDA to achieve the decentralized composting of organic waste.

Goal

The City Decentralized Composting to ensure 100 percent processing of organic waste at the divisions, institutions, hospitals, vegetables markets, fish/meat markers, industries, commercial areas, universities/colleges/schools, multi apartments, resident welfare associations, houses over 200 sq mts, hotel/restaurants/banquets/ other eateries etc.

Core Principles of the Policy

1. To reduce the waste going to the landfill sites
2. Segregation of the waste at the primary level in organic, inorganic and hazardous
3. Further segregation of inorganic and hazardous waste
4. To protect the environment and the City valuable land resources
5. Treatment of organic waste at the local level and use of the compost at local level
6. Promoting segregation of the waste at the household level and recycle & reuse of the waste

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Core Principles of the Policy

7
- To make the decentralized composting at the commercial, residential, industrial and the institutional level economical and environmentally sustainable.

8
- Ensuring, protecting and proper use of the compost produced at local level.

9
- Exploring Public Private Partnership (PPP) at the commercial, residential, industrial and the institutional level for compost production and marketing.

10
- Public outreach for environmental and health related outcomes.

11
- Establishment of an efficient, effective, affordable and accountable system for managing the decentralized compost production and its uses

Objective of the Policy

To ensure 100% decentralized composting at all identified land-uses/ building-uses (as described in Vision)

To improve the environment and reduce the filth on the road, parks, markets, water bodies etc.

To reduce the burden of the landfill sites and to reduce the transportation of the waste.

To ensure that the compost produced is used for meaningful purpose in horticulture, gardening or cultivation

100 percent segregation of the waste into organic, inorganic and hazardous waste

To ensure only inorganic waste is collected at the local level and the dry waste to be further segregated and sold.

Hazardous waste to be handled separately as per the norms laid out in the rules

E-waste to be handed over or sold to only the recognized agency by the RWA/ associations/industries etc. on their own

Sanitary napkins, adult and baby diapers to be handled separately and to be incinerated locally

Composting Technologies and Applicability

Name of the Technology	Suitability			
	Individual Households, Small Communities, Apartments etc. up to 10 Households	Medium Sized Communities, Apartments, RWAs - for 11 – 300 Households; medium sized Offices, medium Hotels, Resorts, medium Schools, Canteens, Marriage Halls	Large Communities, Apartments, RWAs, high rise buildings for 301 – 1000 Households; Large Offices, Large Hotels, Large Schools	Decentralized plants for above 1000 Households operated by ULBs / Institutions / Outsourced agencies
Pit Composting	✓	×	×	×
Pot Composting	✓	×	×	×
Tri Pot Composting	✓	×	×	×
Ring Composting	✓	×	×	×
Kitchen Bin Composting	✓	×	×	×
Drum Composting System	✓	×	×	×
Rotary drum composting	✓	×	×	×
Vermi Composting	×	✓	×	×
Biomethanization	×	✓	✓	✓
Organic Waste Composting Machine (fully automatic)	×	✓	✓	✓
Windrow Composting	×	×	×	✓

Segregation of Waste at Source

All the waste generated will be segregated at the source by the User as per the 2016 SWM rules

The waste to be segregated into three major categories organic, inorganic and hazardous waste

Only inorganic waste is collected at the local level and the dry waste to be further segregated in Multiple Resource Facility (for GNIDA societies only) by the involvement of rag pickets/SHGs.

The dry waste collected will be further segregated at the MRF which will be setup in a decentralized manner for GNIDA societies . The segregation at these centers will be done by the Rag pickers or by the SHGs members. The dry waste only be to be sold to the empaneled kabari walas.

Hazardous waste to be handled separately as per the norms laid out in the rules

E-waste not to be mixed with the inorganic, organic or hazardous waste and to be kept separately. The e-waste is to be handed over or sold to only the recognized agency empaneled by GNIDA.

Sanitary napkins, adult and baby diapers to be handled separately and to be incinerated locally by all the stakeholders.

Plastic waste to be handled independently by the concerned bodies or to be handed over to the people as dry waste collectors only in case where the MRF is functional.

Saloons/ Beauty parlours to handle the hair waste on their own and dispose it to the empaneled kabari walas/agencies.

Segregation @ Source: Vegetable Market & Restaurants

The vegetable markets will form an association and they will process the waste in their area or collectively hand over the waste to the waste collector for further processing of waste and pay the user charges fixed by GNIDA.

A user fee will be charged on monthly basis for the collection of the waste. The user fee will be charged from the market association per vegetable/fruit vendors shop wise, as fixed by the GNIDA CEO, the user fee may be revised from time to time based on the prevailing circumstances.

All the restaurants presently working in GNIDA have to manage their own waste and for that they can either buy waste composters individually or collectively with other restaurants nearby and process the waste individually/collectively

Segregation @ Source: Bulk Waste Generators

As per the Solid waste Management rules 2016, all the establishments generating more than 100 kgs of waste per day basis will have to compulsory compost their waste in their premises.

In failing to do so after two months of the notification of the policy the authority will stop picking up the wet and the dry waste from their respective localities.

If the respective bulk waste generators don't start to process their wet waste even after two months a heavy penalty will be imposed upon them as decided by the CEO of GNIDA, or cancellation of the license.

No waste will be collected from the bulk generators after three months of the release of the policy.

Legislation & Institutional Arrangements

Legislation and institutional arrangements for the development and use of compost shall be periodically reviewed.

Gaps shall be filled, and updating of the institutional arrangements with parallel legislation shall be made periodically to cope with varying circumstances and for this GNIDA shall notify a department giving full power to take necessary action in this matter.

The role of the GNIDA shall be fine-tuned and its involvement reduced to be regulatory and supervisory. Involvement of the stakeholders in compost production and marketing shall be introduced and expanded.

All new construction either by the builders/cooperative or individual have to submit their organic waste composting plan to get their plan approved.

All new institutions/universities/colleges, hotels, restaurants, commercial areas, multi apartments, and houses over 200 sq mts, hotel/restaurants/banquets/ other eateries will have to get their plan passed after incorporating the organic waste composting option.

Public Awareness

The public shall be educated through various means about the advantage associated with the composting and segregation of the waste and the importance of compost being produced.

Programs on public awareness shall be designed and conducted to promote the compost production and segregation.

Public awareness campaigns shall also be carried out to educate the public on the importance of domestic compost use and its advantage to the overall environment.

A conscious campaign has to precede the implementation of the decentralized compost policy. City level officials and other stakeholders with the neighborhood committees/RWAs etc to be involved to give the process a thrust.

A large public participation process will be planned so that the potential consumers may be identified and the public education program is carried out.

The school children will be made aware about the importance of compost and segregation so the message is easily disseminated in the localities.

Human Resources Development

Capabilities of human resources in the management of composting shall be enhanced through training and continuous interaction.

Human resources performance will be continually appraised in order to upgrade capabilities and sustain excellence.

Applied research on relevant composting techniques with the help of institutions and other organisations working in this field will be carried out from time to time as per the need.

Transfer of appropriate technology suited for local conditions will be a primary target for the development activities and for adaptive research.

City-level Implementation Strategy

All the builders managed society, Group housing (cooperative society) will compost the waste in their own premisis. The societies developed by GNIDA will develop a plan in collaboration with GNIDA officials for the composting of the waste. All the three will develop a Compost Implementation Strategy within two months of the launching of the policy and get it approved by GNIDA.

The Implementation Strategy will cover aspects such as implementation targets, framework for engagement of the private sector, training and capacity building, behavior change and social communication, M&E framework, specific roles and responsibilities of various entities, guidelines to develop local level plans etc.

Monitoring & Evaluation

GNIDA will develop an M&E framework to measure stakeholder's performance, and also devise data collection and reporting systems using indicator framework developed for the same.

GNIDA will develop robust reporting format to track compliance of the various stakeholders with outcomes and process standards.

A cell will be created inside GNIDA to monitor and evaluate the composting being done.

A Management Information System (MIS) will be developed accordingly to monitor the progress.

Expected Outcomes

Safe collection and processing of the organic waste for production of compost

Continuous improvements in efficiency and effectiveness in the entire compost production by improved processing, its effective use, decrease in transportation charges and less land used for landfilling

Contamination of water bodies and groundwater from mixed waste reduced to zero levels in GNIDA

Nuisance from scattered and littered waste reduced to minimum levels, resulting in nuisance-free living space

Maximum reuse of organic waste at the city level and making wealth out of waste and paving the way for greening of the city.

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Thank you