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Leveraging Natural Process to Recycle Waste

Treating organic wastes at home is a sure way to divert the daily household waste away from landfills. Garden and food waste that sits in the landfill decomposes and releases methane, a potent greenhouse gas, that adds to the carbon footprint and has to be eliminated

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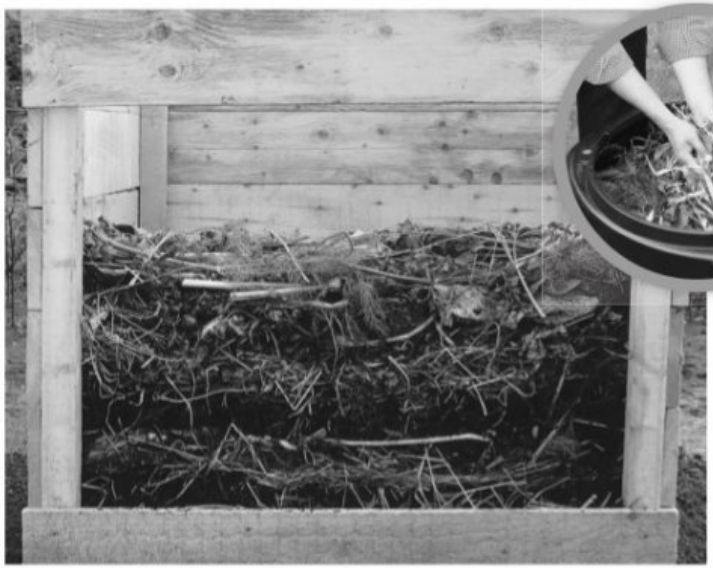
Composting is a display of nature's recycling at its very best! In lay man terms it is the process of 'rotting' or decomposition of organic matter by microorganisms – the difference being that under controlled conditions, we can harvest the end result of this process and use it for purposes that serve to our advantage.

Treating these organic wastes at home is a sure shot way to divert 25-50% of people's average daily household waste away from landfills. Garden waste and food waste that sits in the landfill decomposes and releases methane, a potent greenhouse gas. While more advanced landfills capture and re-use this methane, eliminating the gas at its source is an even better route to adopt. Composting that can be practised at home can be broadly classified as aerobic composting and worm composting (vermicomposting). Aerobic composting is the most natural method of recycling wherein the waste is broken down through exposure to air. This is particularly useful in the case of garden waste such as fallen leaves, hedge trimmings etc. Aerobic composting takes place in the presence of ample oxygen. In this process, aerobic microorganisms break down organic matter and produce carbon dioxide (CO_2), ammonia, water, heat and humus — the organic end product. A large compost pit can be dug in the yard, lined with some coir and filled with garden waste. Lime is added as a starter as it is thought to weaken the lignin structure of the plant materials and enhance the microbial population.



Aerobic composting is the most natural method of recycling wherein the waste is broken down through exposure to air. This is useful in the case of garden waste like dry leaves

It also helps to downsize or chop up larger segments. It increases the surface area available and provides better aeration. This technique is particularly effective and necessary for harder materials such as wood. Worm composting is achieved through the enzymatic degradation of organic materials as they pass through the digestive system of earthworms. This method transforms waste into very high quality compost. Many systems are available for these controlled and aerated 'worm farms'. The commercial models are usually made of materials that allow the system to "breathe" like wood or terracotta.

Apart from improving an individual's carbon footprint, there are many savings that are possible in water, energy and money! Using a layer of compost in a planting bed helps soak up water, slowly releasing it to plants. With enough compost in your soil, you will find that you are watering the plants less. When applied as a thick top dressing, it behaves like mulch keeping water from evaporating from deeper levels. When you produce compost at home, you don't need to buy as much manure or other "rich food" for the plants from the nursery, thereby saving money as well. Not too shabby!

(The writer is an architect, urban designer, dancer and chief designer at Shilpa Architects)