

Making Cities More Sustainable - Questioning the “Waste” of Human Waste

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In contemporary times, be it in the global south or north, there is a shared concern about how to make urban centres ecologically sustainable for living. In this, the idea of waste management seems to be missing. There still remains less focus on the effective management of waste generated in urban centres, be it 'human waste' or other organic waste. It is important to note here that an ecologically sustainable future is impossible and out of sight without effective waste management. It is also critical to question our understanding of human or animal waste as "waste" and why its significance as a fertilizer has been reduced over the years.

The “civilized” society discards human waste by flushing it with clean water, which finally gets dumped in rivers and water bodies. There seems to be a complete lack of knowledge about the effective utilization of human digestive by-products. Sopan Joshi writes in his book *Jal Thal Mal* that human excreta contains elements that can cause various diseases, but this does not mean that we have to remove it from our bodies in some way. It is essential to find a way to properly manage this waste in which the nature-compatible and beneficial use of human faeces can be utilized.

Human digestive by-products have also been treated as a taboo in various cultures, and it remains so. However, many cultures have recognised the importance of human digestive by-products as fertilizing agents, like China and Vietnam, which have a history of using human faeces as an effective ingredient for fertilizing the soil. In the

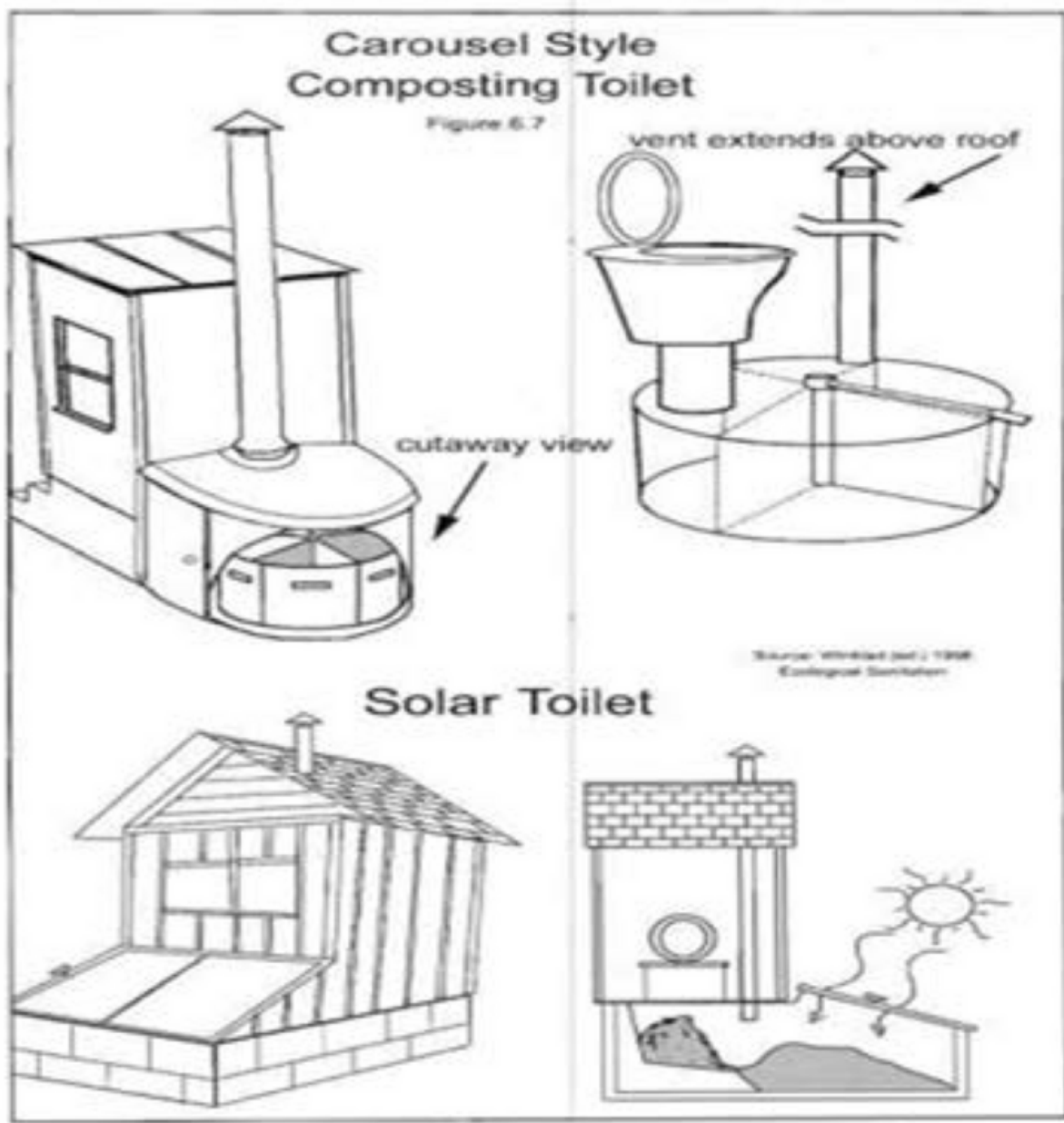
book *Farmers of the Forty Century*, Dr F.H. King writes a detailed account of the use of human excreta as an effective tool to increase the fertility of agricultural land in Asian countries like China, Japan, and Korea leading to organic farming practices without the use of chemical fertilizers. Using human excreta as a fertilizing agent enriches the soil, protecting it from any damage which is caused due to widespread use of fertilizers and in turn effectively help meet the health and food needs. Jenkins further emphasises the way Asian countries have developed an understanding of human excreta, where it is viewed as a natural resource instead of waste.

With the onset of the Sanitation Revolution in the 19th century in the West, sanitation was linked with water, and the idea of private closed toilet structures, which started using water to flush out human digestive by-products, was introduced. This slowly led to a decline in using human faeces as a soil fertilizing agent, which began in the west and was gradually adopted by almost every city globally. Flushing down human digestive by-products resulted in various problems, most critical among those being pollution of water bodies. Open sewers and flushing toilets led to the pollution of rivers and resulted in deadly diseases like cholera etc. It also resulted in a widespread shortage of drinking water which posed a major challenge with rapid globalization and increased urbanization.

In the contemporary world, there has been a continuous push for treating waste as useless, as devoid of any value. Marxist thinkers have argued that if one looks at the literal meaning of waste or the popular opinion about waste, then waste mostly means things with no use or value, which are simply worthless. Gidwani and Reddy, in their paper titled "The Afterlives of "Waste": Notes from India for a Minor History of Capitalism", argue that in the capitalist system, waste has been regarded as the political opposite of "value". It has been simply regarded as an antithesis of value and usefulness. Although the opposition to organic waste being considered "waste" has increased over the years, there is still this widespread notion of demeaning organic waste and simply discarding it.

In order to be sustainable and environmentally friendly, cities need to move towards organic waste management techniques. In the book "The Humanure Handbook", Joseph Jenkins provides us with different

ways human faeces and urine can be used in the soil. Jenkin suggests simple and effective methods through which toilets of urban homes can be used to prepare compost for farming and reduce reliance on drinking water to flush it down. He also suggests ways by which any individual can indulge in making a compost box by separating the organic waste from the general waste generated in households. Even in the context of urban farming, efforts to convert human faeces and urine into manure can help reduce dependence on chemical fertilisers.

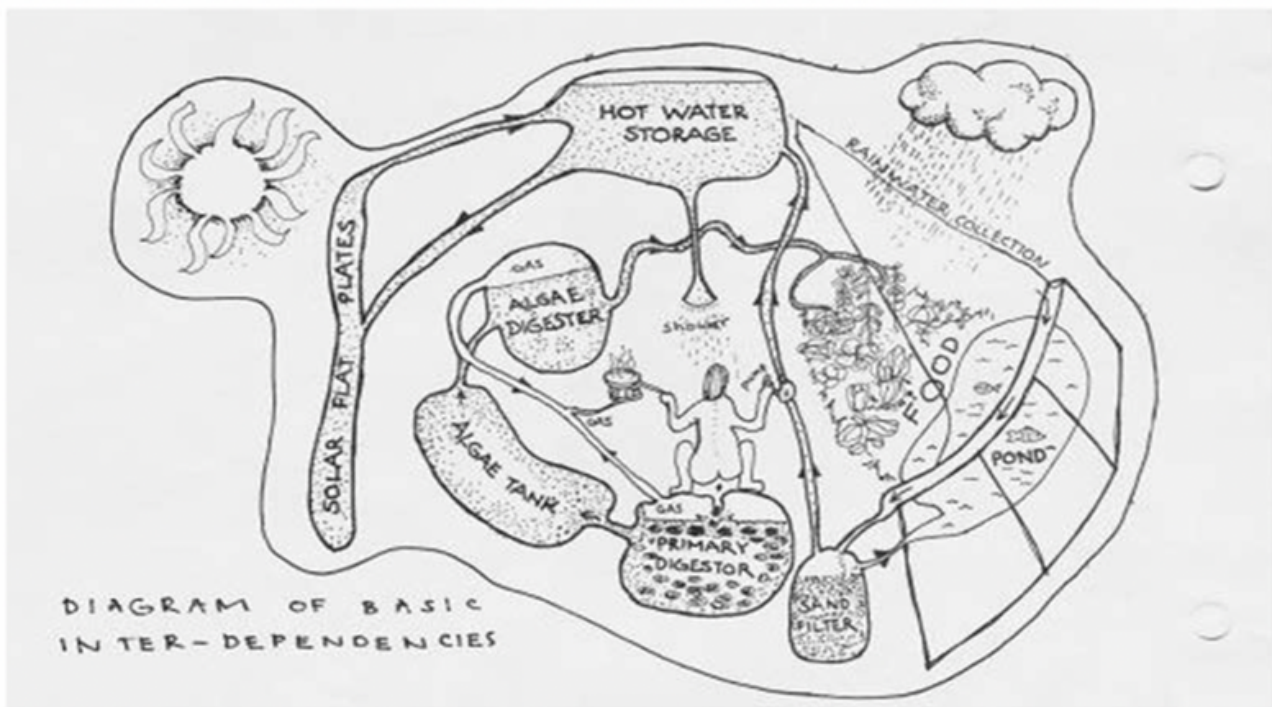


In his book, 'The Humanure Handbook', Joseph Jenkins has discussed various practical models of converting human waste into compost. One such model- 'Carousel Style Composting Toilet' Has been illustrated here. Source: 'The Humanure Handbook', page:1

Another effective way of utilising organic waste involves converting it into biogas which can further be used as a source of energy. Although this practice has been in place for centuries, it has gained momentum in recent years. Developing countries have been at the forefront of this initiative. Abbasi Tasneem, Tauseef S.M, Abbasi S.A in their book titled "Biogas Energy", have documented the use of biogas as a source of energy, arguing that India, China, Nepal, Vietnam, Bangladesh, Sri Lanka and other developing countries have used organic waste extensively to produce biogas. Particularly in China, It is widely used as an energy source, especially in villages. The Chinese government also provides subsidised biogas plants. In India, there have been various efforts by the government to promote the production of biogas. Recently, biogas plants have been linked to public toilets to collect human faeces and urine to convert into biogas. Still, this initiative hasn't been implemented yet as there is a complete lack of knowledge about biogas digesters among local government officials.

To find correct ways of using organic waste and bring various measures to make our cities' future much more secure and sustainable, we need to start working on an alternative to the capitalist world order. This capitalist world order has rendered us more artificial in our approach, and we seem to be imagining our cities as per the whims and wishes of the capitalist system. There is much need to start bringing the idea of changing the system through the power of the people rather than relying on the state power to initiate changes from the above. We need to start to rethink from the below how our cities should look like and how we can actively participate in planning our urban centres. Graham Caine built an "eco-house" in the city of London in 1972. This eco-house was fully functional where waste and sewage were converted into methane through tanks and digester and further used as a fuel for cooking. In this structure, waste was also used to generate energy/heat to increase soil capacity and produce electricity. Cain's project is an example of how small household projects use waste to generate energy which can be used for various purposes. Such initiatives of decentralised household-level management of human excreta are critical to satisfying the quintessentially human desire to live closer and in harmony with nature. Only with the revolutionary shift in how we think about 'waste'

and what we choose to do with it can we move closer to the more ecological urban habitat.



A sketch made by Cairn demonstrating the mutual dependence among different parts of his natural house

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