

Eco-friendly composting toilets already bring relief to big cities – just ask London's canal boaters

May 10 2018, by Eve Mackinnon



Credit: Dagmara Dombrowska from Pexels

Every day in central London, some 5,000 people manage without access to basic amenities such as piped water, sewerage or electricity. They are

London's boaters; the people who call the city's network of canals and waterways home. Living on a canal boat is often cheaper than renting a flat, and [a growing number of people](#) are being won over by the beauty of the waterways, and the promise of a slower pace of life.

But with no access to the central sewage system, boaters face a question which London's other residents need never contemplate: what to do with their poo. One option is to use a "pump out" [toilet](#), which stores [waste](#) in holding tanks until it can be pumped out into specific sewerage facilities. Otherwise, boaters can use a "cassette" type toilet, which temporarily stores waste in smaller, portable containers.

These containers can then be taken and emptied manually at Elsan facilities along the canal. This isn't always an easy task: some boaters report having to ride public transport carrying full toilet containers, in order to reach a functioning facility. And the prospect of waste dumping is a serious environmental and public health concern.

A greener option

The canal community gets involved with a number of environmentally friendly and sustainable initiatives, including organic vegetable delivery schemes, bike repair shops and [floating community barges](#). Now, a growing number of boaters have been switching to "composting toilets", whereby urine and poo are separated and transformed into compost. As yet, there's no formal service to collect and treat the waste – although [there are plans](#) for a pilot service as part of a start-up green waste collective (of which I am a member). This means the storage, treatment and disposal or reuse of the poo is managed entirely by the boater.

Composting toilets resemble [EcoSan sanitation systems](#), which are designed to recycle the waste materials. EcoSan is currently being implemented in small scale urban pilots in the [Philippines](#), Haiti, India

and Kenya as a cost effective alternative to water-based sewage infrastructure. But some think the technology is outdated, or only relevant in rural areas where the compost can be used on the land.

Beyond these schemes, there are few examples of alternative sanitation systems working at scale in cities – aside from London, that is. So, as part of my Ph.D. research I hosted two workshops, where I interviewed the people who use and manufacture composting toilets, to find out the challenges and benefits of using this type of system in the city. I also analysed threads from relevant [online forums](#).

Toilet talk

During the workshops, users told of their experiments with different cover materials, composting, temperature regulation, and the challenges of teaching themselves and visitors how to use the toilet properly. From my results, I estimate that around 500 individuals, or 10% of the canal boat community, currently use some type of composting toilet.

Practically speaking, lower costs and the ability to store and dispose of the waste themselves encouraged many boaters to make the switch. The main challenges of using compost toilets are occasional blockages of the urine diversion system, and spillages when emptying the toilet.

Having certain design features, such as anti-microbial coatings, and learning how to use and manage the toilet properly both helped to minimise accidents. Remembering to cover composting waste with wood shavings or coconut coir is essential to keep odours at bay, and to ensure the poo can eventually be used as a compost material.

Because of the lack of a specialised collection service, some boaters keep their compost on board the vessel, while others "bag and bin" their poo, double sealing it in a plastic bag and disposing of it in municipal

waste bins. Although boaters recognised the latter option was less environmentally friendly, they still preferred it to their experiences with chemical cassette and pump-out toilets.



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The unregulated disposal of urine onto green spaces was a source of shame for several of my respondents, who found it challenging to find alternative facilities for urine disposal along the canal side.

Despite these issues, I found that the boaters had an overwhelmingly positive attitude towards their compost toilets. One went so far as to say

that their toilet "smells like a woodland walk in autumn", hinting at the strong connection with nature, which many boaters hold dear. Another interviewee stated, "I think ... [poo] should be going back to the soil. That seems to be the right motivation for it. If you're talking about a full cycle, it makes more sense to me that it goes back and nourishes the soil." It's a view widely shared by other boaters.

The boaters' confidence and ability to cope with challenges are promising signs that compost toilets could work on an even larger scale. But regulatory bodies, such as the Canal and River Trust, need to be on board. If boaters and authorities can work together to safely manage and promote composting toilets, it could have major consequences for [the 5.4m people](#) around the world who don't currently have access to proper sanitation.

Despite the fact that underground sewers require huge capital investments to be built, governments often seem unwilling to try alternative sanitation solutions, which are seen as backward, unsafe or undesirable for residents. Of course, there are lots of differences between cities such as London, and places where the sanitation challenge is greatest. But our case study shows that composting toilets can offer a safe, effective and even desirable way to dispose of human waste.

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