

PPPs turn

TRASH *to* TREASURE

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Our modern world, with its convenience and consumption, creates a whole lot of trash that in turn suffocates cities and undermines economies. Managing trash is a municipal nightmare. But it should be a banker's dream, right? Demand will only grow, and the problem needs a solution—without it the entire economy suffers.

But if there's a simple solution, it has eluded us all. The management of solid waste would seem to lend benefit from the structuring, efficiencies, financing, and latest technology that can come with public-private partnerships (PPPs). Let's examine the options at our disposal.

OUT OF SIGHT, OUT OF MIND

Poorly managed waste spreads disease, contaminates water resources, increases the cost of potable water, increases flooding, pollutes the air, and repulses tourists. But municipalities have neither the money nor the skills to manage solid waste well. In Sub-Saharan Africa, for example, municipal waste management can amount to 30 to 50 percent of a municipality's total annual budget.

The developing world tends to rely on informal waste pickers, who comprise 5 percent of urban jobs in developing economies. But these small scale solutions are inefficient and difficult to

regulate. Global experience points to the benefits of integrated management and PPPs.

AT YOUR DISPOSAL

But the solid waste sector isn't a natural fit for partnerships, as some other sectors are. From a commercial or financial perspective, cost recovery from households in the form of fees paid for trash collection is generally very poor. Industrial waste collection can be more lucrative, but rarely covers costs. Sanitary landfills are expensive, and rare. But there is hope where the disposal of solid waste is carefully planned. Here are some successful routes:

Recycling: Recycling of scrap metal, paper, glass, plastics, cardboard, and composting is a large industry in many developed countries, but use of recycled materials is often not well developed. In Tanzania, as in many countries, ships carry containers full of used plastics back to China for recycling since the local market is insufficient.

Composting: Organic waste can be used to create compost to defray methane gas production and be used as inputs for fertilizer.

Energy: Properly dried and sorted waste can provide a potent (and green) source of fuel for some industrial processes, in particular power generation and cement kilns, allowing their

parent companies to fulfill their international obligation to reduce their carbon footprint. These energy sources may also qualify as renewable energy, and therefore may provide access to carbon credits, preferential tariffs for electricity generated, or other subsidies designed to encourage green activities.

Sanitary landfill: Where the above do not achieve full disposal of waste, the balance needs to be delivered to a sanitary landfill, to limit its impact on people and the environment.

Some developing economies might also be able to replicate the approach in India, which has succeeded in issuing a few “no gate fee” PPPs for solid waste. Here, the private sector is required to provide integrated solid waste management services with no fees for disposal, maintaining a clear incentive on the private sector to avoid dumping and monetize waste to the extent possible.

TURNING TRASH INTO TREASURE

It's possible to turn trash to treasure with the revenue opportunities available in solid waste.

User fees for collection of solid waste are usually kept artificially low. Collection can be facilitated by combining waste management bills with electricity bills (as in Mombasa) or water bills (as in Addis Ababa). Municipal taxes can provide a solid revenue stream, but are usually spread over a small part of the total population.

Taxes on importers and producers of waste. For examples, see the tax being proposed in Kenya on imported tires, or in Togo, where a tax on industries, hotels, and other large enterprises shifts the tax burden to large producers of waste.

Carbon finance can be accessed through the reduction of methane gas, generation of renewable electricity, and the reduction of carbon footprint by offsetting other thermal heat generation. Potential annual carbon finance in Sub-Saharan Africa may amount to around \$2.6 million per million people for landfill gas recovery, \$1.3 million for composting, and \$3.5 million for recycling. But even these amounts are less than 10 percent of waste management costs.

Energy fees from power generated, or calorific value provided to kilns or other high energy (and high temperature) activities, create value while also breaking down the chemical composition of the waste.

Recycling fees, including the value of recycled plastics and compost, for purchase by local firms to transform into saleable goods, or to export the materials where they can be used effectively.

Gate fees for dumping of waste are usually constrained by municipal budgets and low user fees. High gate fees can result in diversion of waste to informal dump sites. The municipality may also be a poor credit risk, leading investors to ask for government guarantees or other security rights.

It is tempting to pick up the trash one piece at a time. But by approaching the issue in an integrated manner, revenue generation can get close to cost recovery, or even provide a profit. So while the solution is seldom simple, especially when it comes to matters of finance, PPPs do provide benefits when applied to solid waste management. **■**