

# Flushed with success: how an innovative sanitation product is proving a hit in low-income countries

**With billions of people around the world still lacking access to safely managed sanitation facilities, a simple yet creative product – the Sato toilet pan – is providing a solution for the communities that need them the most**

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*The innovative Sato Pan is simple and affordable*

The human cost of the global sanitation crisis is devastating: more than [1,000 children under five die every day \[pdf\]](#) from diseases linked to dirty water and poor sanitation, while the educational gender gap deepens as [menstruating girls often miss classes](#) due to a lack of products as well as toilets and privacy at schools. While many of us have the privilege of not having to give it too much thought, the reality is that hygiene is the foundation of how individuals, communities and whole societies function. Inadequate sanitation and hygiene is multifaceted, costing billions for local communities and economies, while crippling opportunities for growth and development across entire regions.

### **‘People must be at the core of the solution’**

When a small team of engineers including Daigo Ishiyama arrived at a remote village in rural Bangladesh in 2012, these were among some of the challenges they were hoping to solve. How could Ishiyama and his colleagues use their expertise in water and housing products to address the sanitation needs of disadvantaged consumers in one of the most densely populated countries in the world?

“The existing facilities we came across were wholly inadequate. Open-pit-style latrines that remained exposed to the air at all times meant that not only was the smell free to travel but flies could enter and exit the pit, carrying a host of diseases with them,” says Ishiyama, who now leads innovation at Sato, a social business and brand of Lixil, a multinational Japanese company that specialises in housing technologies and owns brands such as American Standard and Grohe.

The engineers designed a simple yet innovative concept: the [Sato pan](#), the first product in the Sato portfolio. It’s a plastic pan with a trapdoor that’s fitted over a latrine hole, creating a seal between the pit and the open air to keep out insects and odours. This seal prevents the spread of disease and improves latrine safety, since the trapdoor helps prevent insects, harmful gas, or snakes and rodents coming up the toilet from the pit. “Whether innovating for those at the base of the economic pyramid or those right at the top, there’s one principle we always follow at Lixil: if we’re innovating for people, people must be at the core of the solution,” says Ishiyama.

The core concept around which the pan is based is the unique counterweighted trapdoor itself, which is designed to remain closed until the additional force of water and waste are excreted into the pan, using less than [one litre per flush](#); 80% less than conventional toilet pans.

The toilets are made from polypropylene, which is comparatively cheaper than ceramic and offers “sanitation for a lifetime”; the trapdoor mechanism has been tested to last the equivalent of decades of use by a five-member household.

Sufia Begum, a Sato consumer who lives in Bangladesh, exemplifies the importance of these solutions. After losing one of her five sons to diarrhoea, she started using the Sato pan “for the sake of her remaining sons and grandchildren”.

“Before, we had many insects and odours, but I don’t think such things will happen any more,” Begum says. “Since purchasing it, we have been able to live healthily, and I want others to use it and live healthily too.”

### **Developing a social business**

The concept was an instant hit among Bangladeshis, who appreciated the simplicity of the product and its immediate benefits and affordability. In its first year, more than 800,000 Sato toilets were installed; the signature blue pan could be found in some of the greener, most remote corners of the country.



*Sato now offers a range of products, and partners with local businesses for manufacturing, distribution, and installation - a business model known as “make-sell-use”*

When Jin Montesano, Lixil’s chief people officer, joined Lixil in 2014, she took on the task of turning Sato into a social business within Lixil. Today, she sits on the board of directors at Lixil. “To truly have an impact at a global scale, we knew we had to be more ambitious,” she says. “To do that, we took the Sato from a nice idea to establishing it as its own business unit and applying a commercial approach.”

Sato started collaborating with local manufacturers and NGOs to bolster regional production and distribution capacities, amplifying the reach and impact of its products. In 2019, Sato demonstrated [profitability in Bangladesh \[pdf\]](#) – a huge milestone and proof that the model worked. To date, the company has established manufacturing capabilities in eight countries across Asia and Africa and has shipped approximately [8.6m units of Sato products to 45 countries](#). “So far, our products have improved the lives of more than [68 million people](#) around the world,” says Montesano.

### **Stimulating local economies**

A critical component of Sato’s business model is partnering with local businesses for manufacturing, distribution, and installation. “We work with our partners to provide opportunities for masons and entrepreneurs to grow their business and local economy under our make-sell-use business model,” Montesano says. “This allows them to drive impact in their own communities, while unlocking immeasurable health, social and economic value.”

Since launching in 2013 with just a single product, Sato has expanded its portfolio to a wide range of toilet and hand hygiene solutions applicable in a range of situations. The [Sato Slab](#), for instance, is an easy-to-transport platform designed to facilitate the rapid

construction of strong, sturdy toilets and to which Sato toilets and connection systems can be mounted in various combinations for direct or off-set pit applications.

Sato's products come in varieties that suit customers' requirements and preferences, depending on the country, location and individual needs. "We recognise the importance of accessibility and launched the Sato Stool to improve the experience of children, elderly people, pregnant women, and those with disabilities," Montesano says.

Sato's success is not just down to its solutions being affordable and effective, but due to its passion of building markets that tackle the barriers facing local communities. In Africa, for example, Sato has partnered with Financial Inclusion Improves Sanitation and Health (Finish) Mondial, the NGO that works globally on safely managed sanitation, using microfinance solutions, among others, to reach out to more people, reduce costs and ensure proper waste disposal with preferably safe reuse.

Finish Mondial has an extensive network across Africa and the ability to reach and engage potential customers in rural communities. In Kenya, more than 100 sanitation entrepreneurs have received loans worth \$60,000 (£47,000) to stock Sato products.

By providing small loans to those without access to traditional banking services, Sato and Finish Mondial are enabling people to set up one-stop shops and mini rural hardware stores – creating a ripple effect that can transform whole communities. Combining the strengths of microfinance and innovative sanitation solutions means they are not only improving health outcomes in Africa, but fostering economic empowerment among rural populations.



*The Sato Stool is designed to be used by children, the elderly, pregnant women and people with disabilities.*

## **Making a splash with Unicef**

While its innovative capabilities are commendable, Sato maintains its focus and strategy on the long term. “To unlock real change, we know we have to work with other stakeholders and leverage each other’s expertise to drive sustainable impact,” says Montesano.

In 2018, the company joined forces with Unicef, the United Nations agency for children, to launch [Make A Splash!](#), a bold, shared-value partnership that combines Lixil’s global expertise in toilet design and innovation with Unicef’s aim to bring clean water and sanitation to the world’s children and accelerate progress towards the sustainable development goal on adequate and equitable sanitation and hygiene for all.

This shared-value partnership is demonstrating how, by working together, the private sector and Unicef can strengthen systems to create sustainable sanitation and hygiene economies. Most household sanitation improvements around the world are the result of people buying a toilet of their choice from a supplier, but some communities still face barriers to do this, such as a lack of affordable products, an absence of skilled labourers to install toilets, and family cashflow constraints.

The Lixil-Unicef partnership has a multifaceted approach to help families invest in better sanitation and help protect children and the most vulnerable. This includes training labourers to install toilets, supporting government health workers to boost community awareness on safe sanitation practices, increasing the availability of affordable products on the market and enabling opportunities for affordable finance.

Starting out in Ethiopia, Kenya and Tanzania, the initiative has expanded to Nigeria, India and Indonesia – [reaching more than 12.7 million people](#) in just five years.

Now extended until 2027, Lixil and Unicef hope their continued collaboration will create new opportunities to further expand safe sanitation and hygiene access across Asia and Africa. But despite their encouraging progress and contribution towards improved sanitation, large disparities in access remain – about 3.5 billion people are still living without safe toilets that protect human and environmental health.

“The world is currently not on track to achieve universal access to basic water, sanitation and hygiene by 2030,” warns Montesano. “There is a lot of work to be done. Next year marks our ambition of improving the lives of 100 million people through our sanitation and hygiene initiatives. We are committed to achieving this goal and we know we can make it happen,” she says.

### **Find out more**

To find out more about Lixil and improving sanitation and hygiene access in developing countries, visit [lixil.com](http://lixil.com)

