This project aims to transform the lives of informal waste workers by creating a new market for a stream of plastic waste that currently has no commercial value.

Project overview

Title: Increasing employment by creating value from plastic waste in Bangladesh
Dates: July 2021 – Dec. 2025
Location: Faridpur, Bangladesh
Our role: Leading an innovative partnership with our technical partners, and liaising between local government representatives, local NGOs, suppliers and waste worker cooperatives to improve conditions and raise awareness.
Participants: Waste workers, households, local government representatives and value chain actors
Value:£1,206,397
Aim: Cities Fit For People
Donor: DANIDA (Danish International Development Agency)

Context

As plastic waste flows downstream towards the ocean, this innovative project ensures its removal from the waterways, while creating local employment and better incomes at each stage of the recycling process.

Bangladesh is facing a serious waste management issue. The population generates around 800,000 tons of plastic waste per year, along with rubbish shipped to its shores from wealthier countries. With frequent rural to urban migration and ever-growing informal settlements, the mountains of rubbish in urban areas look set to increase. Local authorities lack the necessary funds to provide adequate waste services, while informal waste workers

are poorly paid, unrecognised within society and subject to unhygienic, dangerous conditions and discrimination.

Without suitable disposal means, flimsy plastic waste blocks up drainage systems, polluting neighbourhoods and creating a health risk. Since plastic doesn't biodegrade, it finds its ways into the river and eventually the Indian Ocean where it poses a significant threat to marine life.

Our approach

Using a circular economy approach, new technology and strong local partnerships, we are transforming previously unprofitable waste into a valuable commodity, while creating employment opportunities in Faridpur.

We are working in partnerhip with two technical, environmental clean-up companies, River Recycle and Lamor Foundation, and a local community organisation based in Faridpur, – the Society Development Committee. With support from Danish Department for international development, Danida, this innovative project is establishing dignified, well-functioning waste collection and processing systems for low-grade plastic, gathered from the most polluted parts of the Padma River, landfill sites, market places and households. Functioning as a pilot, the project is presenting and trialling a social, technical and business model for reducing the amount of plastic waste pollution in the local environment and oceans, that will simultaneously improve the lives and livelihoods of waste workers.

Floating waste in the Padma River is first concentrated to facilitate removal. After sorting, any rescued rubbish that can be recycling mechanically or composted is sent to its respective processing plants. The remaining low-value plastic waste, usually dumped in landfill sites, can now be treated using a process called pyrolysis. By burning the plastic at very high temperatures in a vacuum, pyrolysis transforms it into clean high-grade oil, which can be used for transportation (in ships for example), and black carbon (used in print cartridges). We

will be combining the waste from the river with flimsy plastics collected from within the town itself, and in doing so cleaning up the local communities too. At Practical Action we bring solid expertise in supporting existing informal waste workers to improve their incomes, working conditions, and the services they offer to local residents and businesses.

Our goals

- Establish a scalable, sustainable, and inclusive green business model which generates revenue through single use plastic waste treatment.
- Test financially viable, end-of-life treatment for low-value, non-recyclable waste (i.e. by pyrolysis) to sustain and increase corresponding job opportunities in waste management.
- Improve the local environment by reducing the disposal of single-use plastic waste into dumps and rivers by 70%.
- Reduce carbon emissions by 3000 tons / year from the treatment of 10 tons of plastic waste per day.