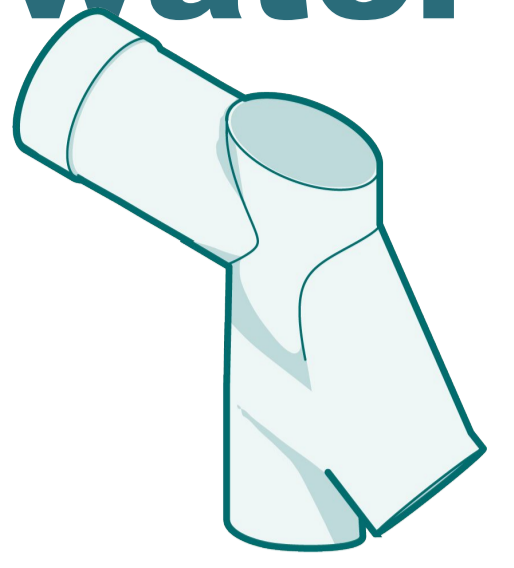


AKYAS EDU - A Game-Changing Off-the-Shelf Product Enabling a Market-Based Total Wastewater Management



AKYAS Sanitation Team (Bara Wahbeh, Mandy Mui, Sophia Tan, Samuel Tell, Md Ragib Hasan)

Background

With support from Aqua for All through the VIA Water Programme, AKYAS provided 1:1 match funding to execute a two-year market-based sanitation (MBS) initiative in Bangladesh. The programme was carried out in two phases, with activities implemented intensively.

Phase	Key activities	Key partners
Phase 1: Inception phase	<ul style="list-style-type: none"> Needs & market assessment Product co-creation 	<ul style="list-style-type: none"> BRAC Cranfield University (UK)
Phase 2: Testing phase	<ul style="list-style-type: none"> Technical performance tests of AKYAS system in households Demand generation & business model testing 	<ul style="list-style-type: none"> iDE NGO Forum WaterAid & Basa Foundation

Methodology

A key aspect of the project is evidence-based implementation. In other words, we derive insights from real market dynamics and data gathered during field activities.

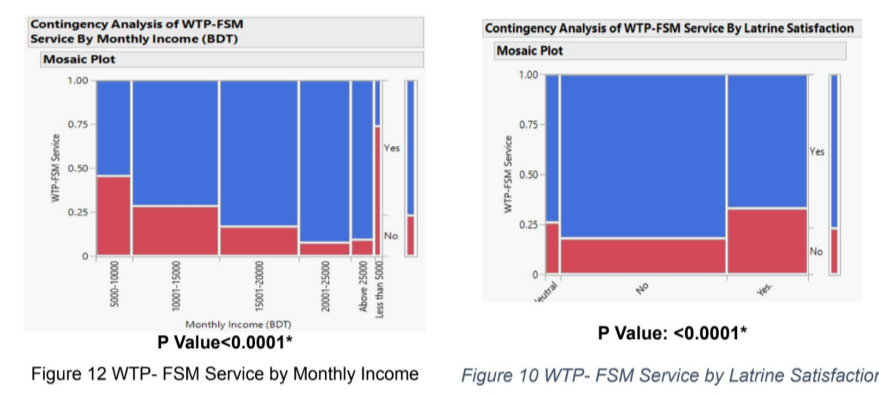
Assess Willingness to Pay through survey	<input type="checkbox"/> Defining the price
Create a product with "product-market-fit" through co-creation, interviews and actual sales	
Determine system performance through lab tests, co-creation & customer satisfaction interviews	<input type="checkbox"/> Defining the benefits
<input type="checkbox"/> Provide recommendations for market-based sanitation business approach & future application	

Willingness to pay from survey (Phase 1)

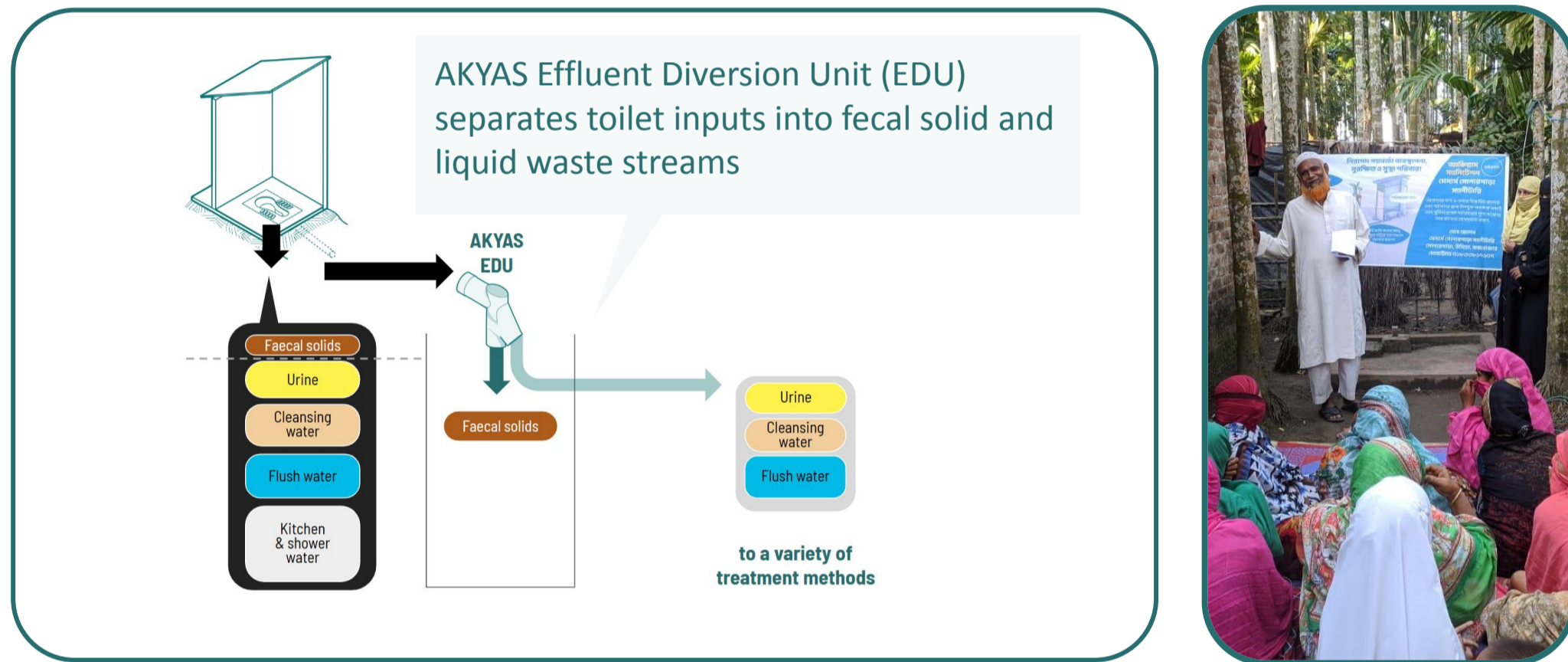
Some critical parameters affecting household willingness to pay:

- Latrine satisfaction
- Income level
- Sanitation awareness
- Location

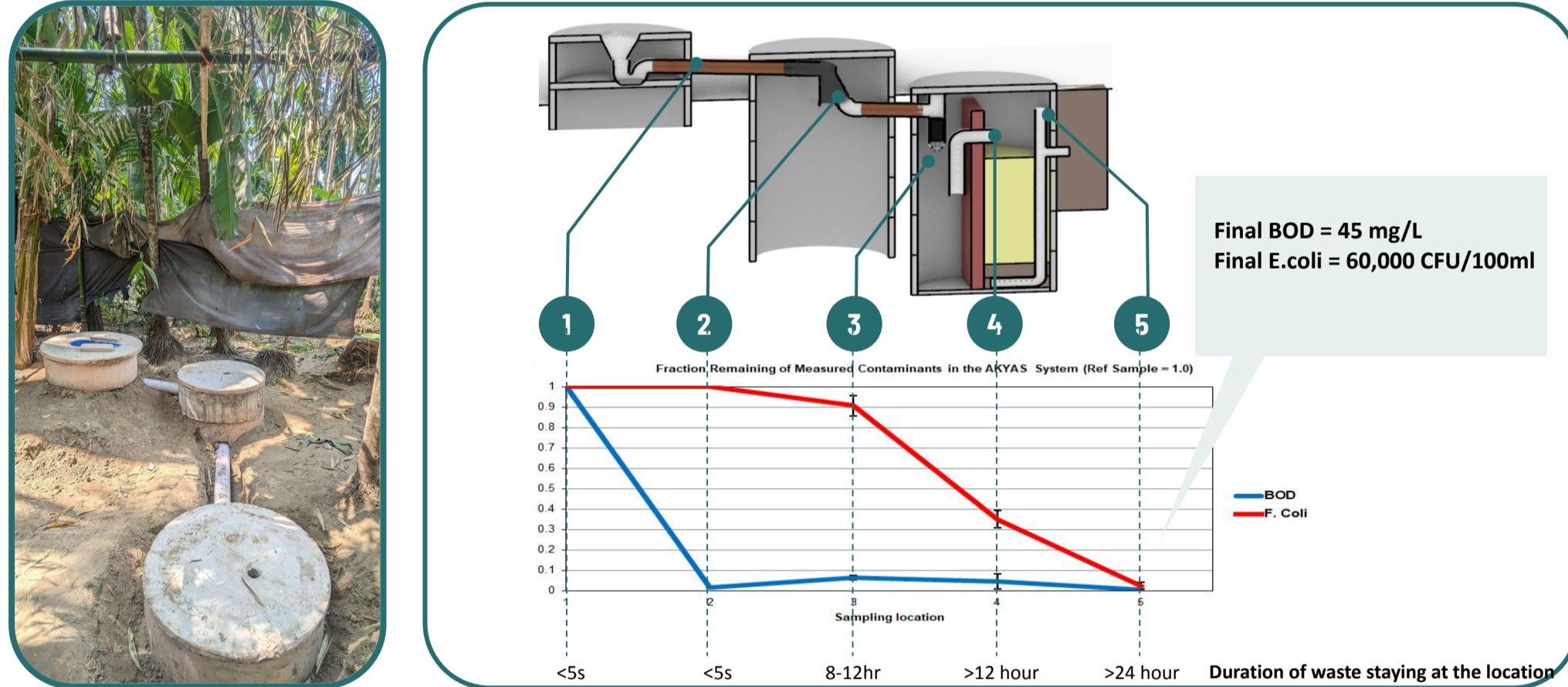
Study conducted in collaboration with Mutinta N. Munkombwe from Cranfield University



Basic schematic of system after co-creation (Phase 1) & iterations during field tests (Phase 2)



Lab results at different locations of the system during field deployment (Phase 2)



The Price

Research process	Details
Survey to identify initial locations for implementation	An analysis of "Willingness to Pay," based on data from approximately 900 households, was conducted by Mutinta N. Munkombwe from Cranfield University. This study helped us identify additional suitable locations for expanding our MBS initiative. The retail price of our EDU was determined based on actual quotations from local manufacturers for mass-scale production.
Interviews with sanitation entrepreneurs	We collected interview results from both our partner, BRAC, and our own team to understand reference points for off-the-shelf sanitation products, as well as the sanitary items typically sold alongside the AKYAS EDU.
Actual sales	Through actual sales with sanitation entrepreneurs, we gathered data on actual willingness to pay and identified the gap between this willingness and the actual cost of a safely managed sanitation system.
Findings:	<ul style="list-style-type: none"> The EDU price point was set at \$8, which is also the projected retail price at scale. A complete installation, including the EDU—whether as a retrofit or new construction—ranges from \$60 to \$130. Actual willingness to pay for a full system primarily falls between \$20 and \$40, with the highest recorded one-time payment at \$60. Lower-income households can typically afford \$5 to \$15. The main cost driver is the concrete pit rings, which are sold by sanitation entrepreneurs.

The Benefits

Research Process	Key partners	Values we offer
Co-creation workshops	Government officials, WASH practitioners	<ul style="list-style-type: none"> Easy-to-install off-the-shelf product Cheaper than any other "safe" system
Customer satisfaction interviews	Households, Sanitation entrepreneurs	<ul style="list-style-type: none"> Much slower pit filling time (10-20 times longer than normal pit) No issues during cyclone/ flood Smell
Laboratory tests	Government officials, Households	<ul style="list-style-type: none"> Much cleaner effluent discharge Compatible with much down-scaled and simple existing treatment methods.

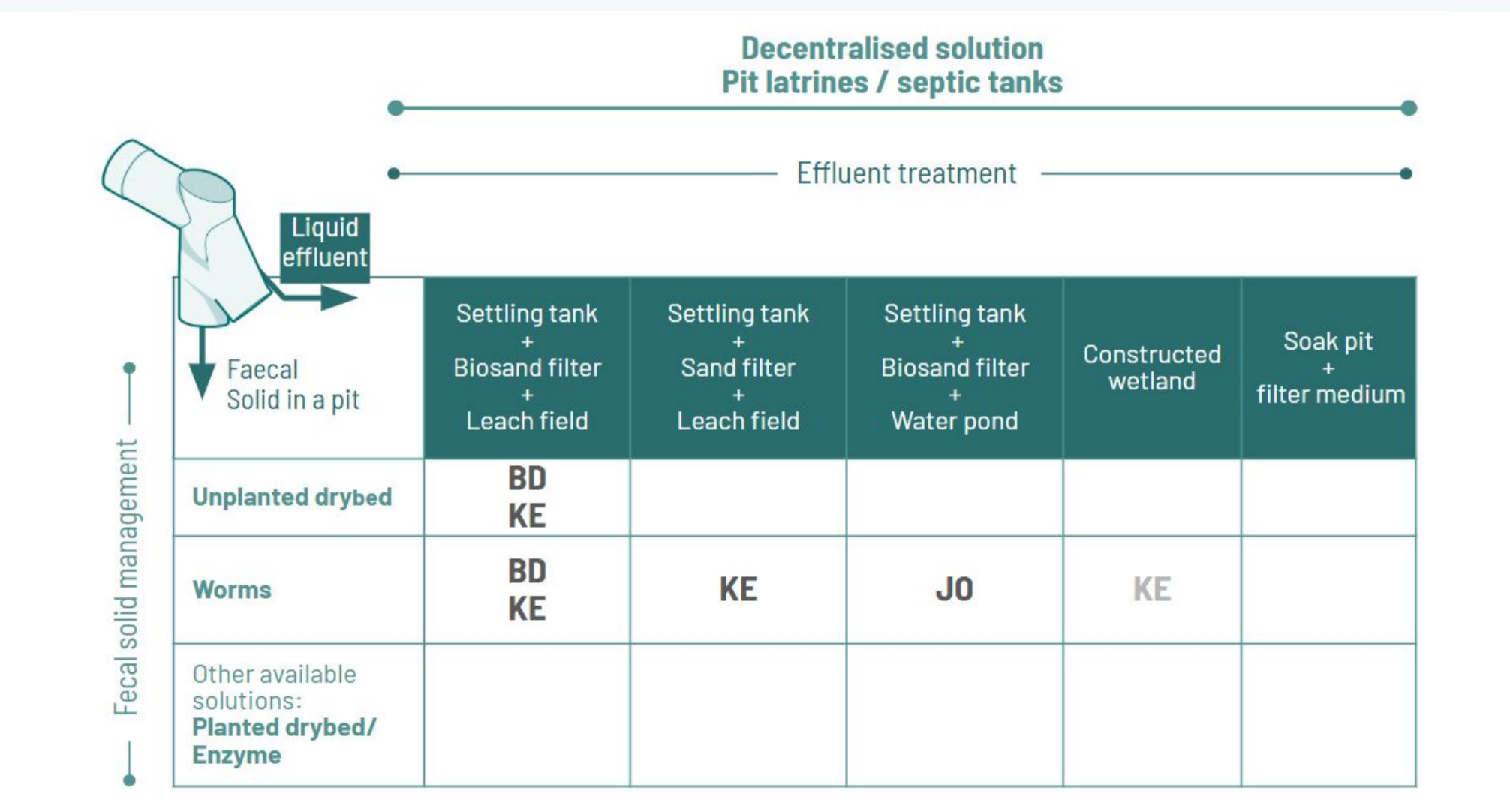
The Recommendations

Market-based business approach

Topic	Recommendation
Gap between willingness to pay and cost of safely managed sanitation	For a market-based sanitation initiative to be truly pro-poor, subsidies are likely needed. Subsidies may be provided from the supply side (the EDU provider, the sanitation enterprises etc), and/or the demand side (household buyers)
Latent demand is observed among target households.	To increase the likelihood of demand activation (sales), partnering up with local organisations that have a strong outreach to their communities is needed. Demand generation activities should be repeated.
Breakeven for us as the EDU supplier, will be achieved only at high volume sales	Investors (private & private) should consider a longer period of return of investment (ROI). Catalytic funding that enables reaching high volume sales (& production) should be prioritised
Method to increase affordability	(a) Discount to one-time payment (a form of subsidy), or (b) payment in instalments, with risks born by sanitation entrepreneur/ supplier, or (c) micro-credit schemes in partnership with micro-finance institutes, could be taken into consideration

Future applications

The versatility and adaptability of the EDU, enable various combinations of on-site treatment methods.



Follow us on linkedin:
AKYAS Sanitation

Subscribe to our newsletter
www.akyas-sanitation.com

Scan to find out how we make a difference