

Developing the Rapido Latrine in rural Bihar, India

From user needs assessment to design validation

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PSI/Sanjay Singh

Does your loo work for you?



Photo credit: Butterfunk.com

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Supporting Sustainable Sanitation Improvements in Bihar



Project outcomes:

- 1) Increase in sanitation coverage
- 2) Increase number of latrine/sanitation product suppliers
- 3) Increase in the total number of toilets sold
- 4) Increase in the number of toilets sold to those below the poverty level

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Supporting Sustainable Sanitation Improvements in Bihar



PATH's product development:

- 1) Identify critical user needs and design improvements
- 2) Design and refine latrine prototypes that address user needs and requirements
- 3) Conduct user and stakeholder evaluations on latrine prototypes

PATH user research, round one (December 2012)

Rapid user assessment



- Understand user needs
- Identify product design opportunities



User need statements

"I need a latrine that (is)..."

- *Enables privacy, especially for women*
- *Easy to clean and hygienic*
- *Convenient for all family members*
- *Safe to use at night*
- *Usable in all seasons*
- *Affordable*
- *Durable and pucca (solid and permanent)*

Photos: PATH/Robyn Wilmouth

PATH user research, round two (April 2013)

Latrine
component and
design feedback

- Translating user needs into design features
- Latrine-feature feedback



Photos: PSI/Sanjay Singh



PATH user research, round three (December 2013)

User validation study



- Acceptability and usability of new designs
- Manufacturer and community leader feedback



PATH user research, round four (March 2015)

User evaluation
study



- Validate precast latrine designs and features
- Affordability and demand for new latrines



Rapido latrine



Parry latrine

Photos: PATH/Jennifer Foster

Acceptability—Rapido Latrine

- *“This latrine is highly satisfactory, as it will be very useful for women.”* – Male respondent
- Design met key user need statements
- Top features



Cubby shelf



Handles



Water tank and spout

Photos: PATH/J. Foster

Perceived affordability—Rapido Latrine

- “Very affordable”

“The features are good and the cost is less than the brick latrine, which makes it affordable.”

— Woman respondent

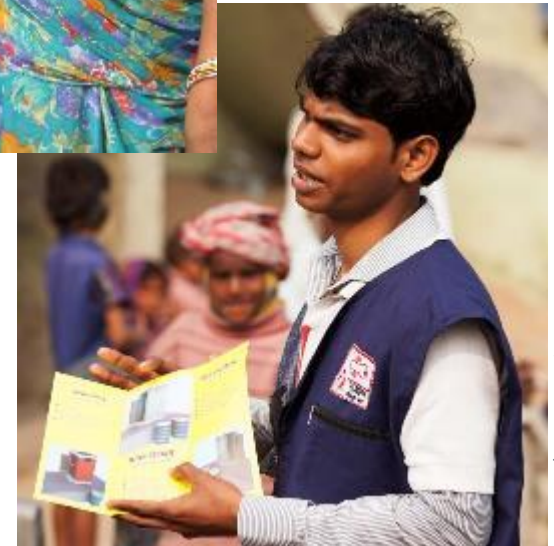
- Key purchase factors

“There will be a lot of demand for this product once it is launched into the market.”

—Manufacturer/sanitation provider respondent



PATH/Jennifer Foster



PSJ/ Sanjay Singh

Manufacturability—Rapido Latrine

“The latrine is assembled easily in four or five hours when compared to the brick latrine, which takes five days.”

– Sales representative/sanitation technical associate

“People will like it. The system of attaching all the components of the latrine is very nice.”

– Manufacturer/sanitation provider respondent



PATH/J. Foster

Mold on vibrating table



PATH/J. Verrall

Rapido latrine being assembled.

Future design modifications

- Immediate product improvements



Internal latch & bolt

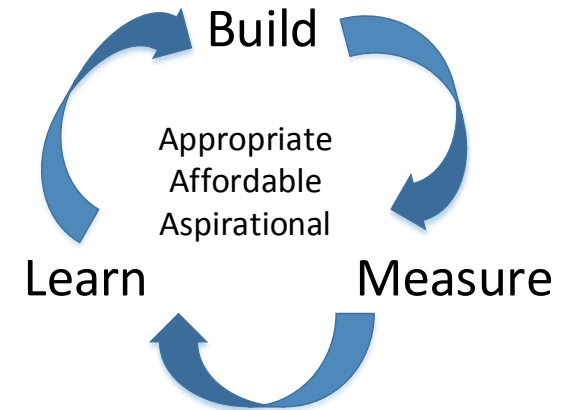


Lowered entry way

Photos: PATH/Jennifer Foster

- Optional product improvements
 - Roof overhang
 - Raised ceiling height of superstructure
 - Increased volume of water tank
 - Modified water tank lid
 - Smoother finish & plastering over clamps
- Future opportunities

PATH's product development process



Does your loo work for you?



Photo credit: Butterfunk.com

THANK YOU

Study team

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Project partners



Healthy lives. Measurable results.

