

**Researchers**

Silantoi Kisoso

Michael Kremer  
The University of Chicago

Clair Null  
Mathematica Policy Research

**Staff**

The Latrine Training Mat Project

Claudia Casarotto  
Chief Global Programs Officer

Dimitri Berenstein  
Grants Manager

**Timeline**

2010-2012

**Sample Size**

12 households (qualitative assessment)

**Research Implemented by IPA**

Yes

# The Latrine Training Mat Project

## Abstract

In many countries, sanitation facilities, such as simple pit latrines are common and are helpful for maintaining sanitation and preventing illness. However, young children often continue to defecate in the open long after they are old enough to use the latrine finding open pit latrines intimidating and challenging to use. Innovations for Poverty Action has developed a simple, affordable, and scalable tool called the Safe Squat™ latrine training mat for use in such contexts. Our training mat promotes good sanitation practices from an early age and fosters a life-long habit of latrine use by converting the latrine floor into a child-friendly, easy-to-clean surface. The Latrine Training Mat Project has piloted several prototypes of the mat in rural Western Kenya with promising results and is currently working to pilot the tool in new locations.

## Policy Issue

The World Health Organization estimates that 1.5 million children die each year from diarrheal disease.<sup>[1]</sup> Evidence demonstrates that families using latrines are less likely to have children with diarrhea than those who dispose of feces improperly, in the trash, or in the open near the household. <sup>[2]</sup> However, access to a latrine is not enough to ensure safe disposal of children's feces. Young children, particularly those under the age of five, often do not use latrines even when they have consistent access to one.<sup>[3]</sup> Latrines, often simple pits in the ground, can be difficult for young children to use, discouraging proper sanitation practices.

## Context of the Evaluation

Among world regions, Sub-Saharan Africa has the highest proportion of basic sanitation use, including open pit latrines (without a slab or platform), bucket latrines, hanging latrines, pour flush latrines that are not connected to a sewage system, and open defecation. Open pit latrines without a slab or platform can be particularly intimidating and challenging for children to use. Based on a series of in-depth interviews with mothers in rural Western Kenya, IPA found that children defecate in the open long after they might be capable of using a latrine for two main reasons. First, the hole of a pit latrine is often wide enough to frighten a small child, if not pose a serious safety risk. Secondly, mothers are reluctant to promote latrine use for young children, since the messes they create make the latrine unpleasant for other families to use. Ironically, frequent cleaning of the latrine floor can exacerbate the problem, as the size of the hole grows when the floor is scrubbed and the mud erodes away.

## Details of the Intervention

IPA has designed a latrine training mat (LTM) called the Safe Squat <sup>™</sup> that is a flat, square slab made of plastic or treated wood, approximately 60 cm across with a tapered hole about 13cm wide at the center. It is elevated a few centimeters from the ground on risers and temporarily fits over the existing latrine hole. The Safe Squat <sup>™</sup> training mat is designed to safely promote good sanitation practices from an early age, while saving mothers valuable time that might otherwise have been spent cleaning the latrine or disposing of feces.

IPA piloted the mat among two villages in Matungu District of Western Kenya. Three prototypes were designed and tested among 12 households (six from each village). The prototypes were made of treated wood, temporary plastic, or permanent plastic, with the objective of determining the most acceptable material and design for the mat. Both wooden and temporary plastic models were designed solely for children, and could be placed on and off the hole as needed. The permanent plastic mat was designed for the whole family to use, but the hole in the center of the mat was approximately 5 cm wider than the other two prototypes. Data collected was qualitative in nature, consisting of in depth interviews and focus group discussions. This type of data collection assured a detailed and nuanced understanding of the participant's experience with the latrine training mat. Following an in depth interview regarding her child's defecation practices, mothers from each household received one of the three mat prototypes, and agreed to use the training mat with her child for at least one week. Researchers used the Trials of Improved Practice (TIP) methodology to assess whether the method of intervention delivery would influence the way in which the intervention was used and tested the intervention presentation in two ways. In the first village, field officers merely explained that the mat was a sanitation tool to help young children use the latrine. In the second village, participants received the mat along with a detailed description of its main features, as well as explicit instructions on how the mat should be cleaned and stored.

## Results and Policy Lessons

### Pilot Results:

The mat was well received by intervention participants in the Kenya based pilot. The mothers that participated in the pilot reported that they liked the tool, and reported that it saved valuable time otherwise spent cleaning the latrine, or disposing of feces. They also reported that their children liked and used the mats regularly, and that other household members approved of the tool as well. Although pilot households preferred the permanent plastic mats for the whole family's convenience, the temporary plastic mat remained the most acceptable choice for children under the age of five. There were no observed differences in mat use, between the village that received messaging, as opposed to the one that did not. Based on these promising results, the Latrine Training Mat Project plans to conduct future pilots in new countries. If future pilots are successful, the Latrine Training Mat Project hopes to test the mats as part of a larger randomized controlled trial.

---

[1]World Health Organization. "Diarrhoeal Disease" Fact Sheet No. 330. August 2009. Retrieved from [www.who.int/mediacentre/factsheets/fs330/en/index.html](http://www.who.int/mediacentre/factsheets/fs330/en/index.html) on November 16, 2011.

[2]Mertens, T; Jaffar, S; Fernando, M.A; Cousens, S.N.; Feachem, R.G. Excreta disposal behavior and latrine ownership in relation to the risk of childhood diarrhea in Sri Lanka. *International Journal of Epidemiology*. 21 (6); 1157-1164, 1992.

[3]Gil, A; Lanata, C; Kleinau, E; and Mary, P. *Children's feces disposal practices in developing countries and interventions to prevent diarrheal diseases: a literature review*. Environmental Health Project (EHP). 2004.

## Sources

[1]World Health Organization. "Diarrhoeal Disease" Fact Sheet No. 330. August 2009. Retrieved from [www.who.int/mediacentre/factsheets/fs330/en/index.html](http://www.who.int/mediacentre/factsheets/fs330/en/index.html) on November 16, 2011.

[2]Mertens, T; Jaffar, S; Fernando, M.A; Cousens, S.N.; Feachem, R.G. Excreta disposal behavior and latrine ownership in relation to the risk of childhood diarrhea in Sri Lanka. *International Journal of Epidemiology*. 21 (6); 1157-1164, 1992.

[3]Gil, A; Lanata, C; Kleinau, E; and Mary, P. *Children's feces disposal practices in developing countries and interventions to prevent diarrheal diseases: a literature review*. Environmental Health Project (EHP). 2004.

December 07, 2012