

Key messages:

- Three-quarters (75 percent) of households surveyed in Cambodia in 2010 reported unsafe disposal of the feces of their youngest child under age three—i.e., they were not deposited in a latrine or toilet.
- Even among households with improved toilets or latrines, more than one-third (36 percent) reported unsafe child feces disposal behavior.
- Higher rates of unsafe child feces disposal are found for households that open defecate, those in rural areas, those that are poorer, and those with younger children.¹

OVERVIEW

Safe disposal of children's feces is as essential as the safe disposal of adults' feces. This brief provides an overview of the available data on child feces disposal in Cambodia and concludes with ideas to strengthen safe disposal practices, based on emerging good practice.

The Joint Monitoring Programme for Water Supply and Sanitation (JMP) tracks progress toward the Millennium Development Goal 7 target to halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation. The JMP standardized definition for an improved sanitation facility is one that hygienically separates human excreta from human contact.²

In the latest JMP report, only 37 percent of Cambodia's population had access to improved sanitation in 2012.³ This means that 9.4 million individuals in Cambodia lacked improved sanitation in 2012, of which 8 million practice open defecation. However, this estimate is based on the household's primary sanitation facility, and may overlook the sanitation practices of young children. In many cases, children may not be able to use an improved toilet or latrine—because of their age and stage of physical development or the safety concerns of their caregivers—even if their household has access to one.

What Is "Safe Disposal" of a Child's Feces?

The safest way to dispose of a child's feces is to help the child use a toilet or latrine or, for very young children, to put or rinse their feces into a toilet or latrine. For the purposes of this brief, these disposal methods are referred to as "safe," whereas other methods are considered "unsafe." By definition, "safe disposal" is only possible where there is access to a toilet or latrine. When a child's feces is put or rinsed into an "improved" toilet or latrine, this is termed "improved child feces disposal."



A child pretends to use a potty

SUMMARY OF CHILD FECES DISPOSAL DATA

Only one-fifth (20 percent) of households in Cambodia reported that their youngest child's feces were disposed of into an improved sanitation facility (see Figure 1). This low percentage of households using improved child feces disposal suggests that children under three have worse sanitation than the broader population, where 37 percent use improved sanitation.

Between 2005 and 2010, reported safe disposal of child feces increased in Cambodia, especially in urban areas (see Figure 2). In both years, safe disposal was much lower among rural households than urban households. This trend, where urban populations have greater access to sanitation, is also seen in the population at large.

In Cambodia, households lacking improved sanitation, those in rural areas, and those that are poorer—as well as households with younger children—have a higher prevalence of unsafe disposal of child feces. Households practicing open defecation reported the highest level of unsafe child feces disposal (see Figure 3).

FIGURE 1 In Cambodia in 2010, only one-quarter of households (25 percent) reported that the feces of their youngest child under age three were safely disposed of. *Percentage of households reporting each feces disposal practice for their youngest child under age three, Cambodia, 2010.*

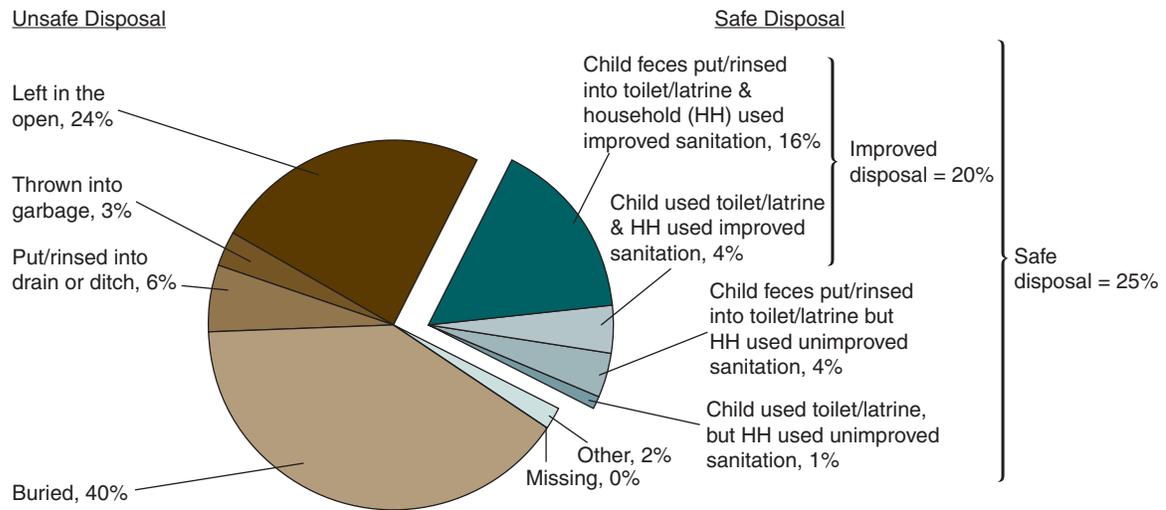
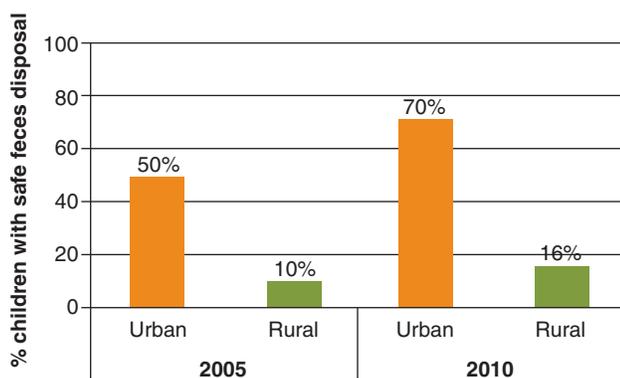


FIGURE 2 Safe child feces disposal has been increasing over time, but remains more than four times more prevalent in urban than in rural areas. *Percentage of households reporting safe feces disposal for their youngest child under age three, by urban and rural residence, Cambodia, 2010.⁴*

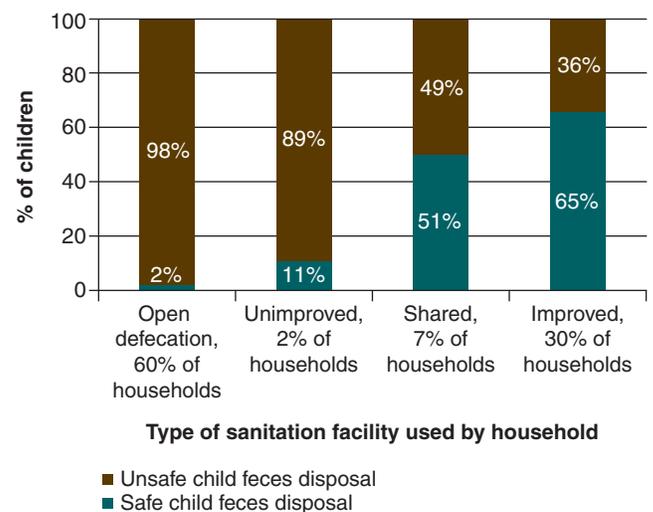


Households with younger children were more likely to report unsafe disposal methods (see Figure 4). Specifically, among households with children in their first year of life, 20 percent report safe disposal, compared to 31 percent of households with children aged four (48 to 59 months). A shift in safe disposal practices is seen as children grow: children are increasingly likely to use a toilet/latrine themselves, rather than having their feces put or rinsed into one. At these young ages, the behavior of the child’s caregiver is critical to dispose of their feces safely and shape the child’s toilet training.

Half of children in the poorest two quintiles of households had their feces left in the open, which essentially is open defecation (see Figure 5).

Unpacking national-level data has shown a wide variation in child feces disposal practices, with a greater prevalence of unsafe practices among households without access to improved sanitation, in rural areas, those that are poorer, and those with younger children. Although this brief only focuses on one socio-economic indicator at

FIGURE 3 Even among households with improved sanitation, more than a third (36 percent) reported unsafe child feces disposal behaviors. *Reported feces disposal practice for households’ youngest child under age three, by household sanitation facility type, Cambodia, 2010.*



a time, applying multiple lenses would show even greater extremes of disparity—with the poorest rural households reporting the greatest prevalence of unsafe disposal.

IDEAS FOR CONSIDERATION

In Cambodia, WaterSHED is currently conducting research on appropriate products and tools for safe child feces disposal. However, there are few other interventions in the country aimed at the safe disposal of children’s feces during the first years of life. In general, sanitation for children under age three has been a neglected area of policy and program intervention in Cambodia.

FIGURE 4 Households with younger children were generally more likely to report unsafe disposal methods. Reported feces disposal practice for children of different ages, Cambodia, 2010.

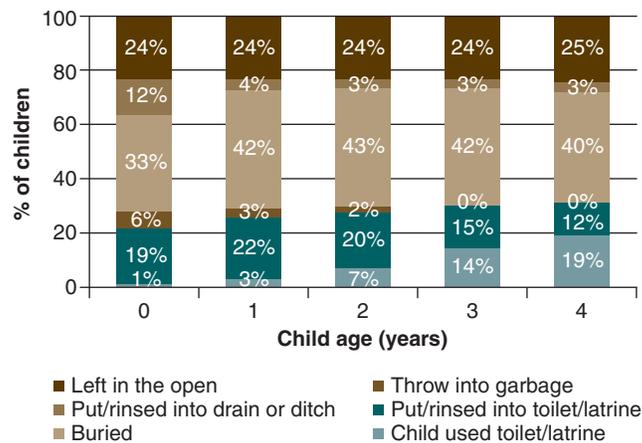
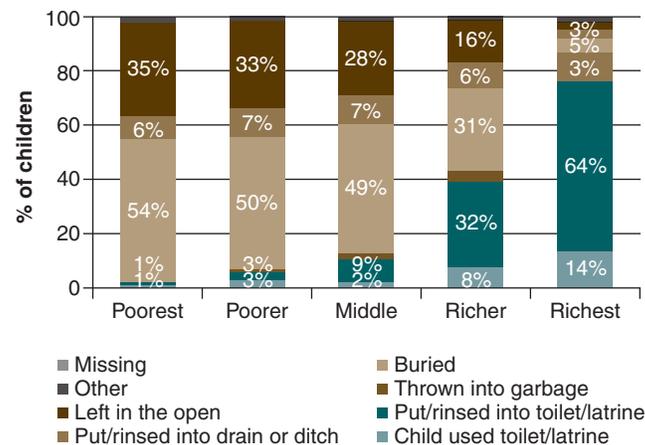


FIGURE 5 Safe child feces disposal differs across the wealth asset quintiles, with safe disposal virtually nonexistent among the poorest households.⁵ Reported feces disposal practice for households' youngest child under age three, by household wealth quintile, Cambodia, 2010.



Given the relatively few programs focusing on children's sanitation in Cambodia and globally, there is not a strong evidence base of effective strategies for increasing the safe disposal of children's feces. Significant knowledge gaps must be filled before comprehensive, practical, evidence-based policy and program guidance will be available. Nevertheless, organizations and governments interested in improving the management of children's feces could consider taking the following actions:

- Conducting additional formative research to understand the behavioral drivers and barriers to safe child feces disposal
- Strengthening efforts to change the behavior of caregivers through programs that encourage cleaning children after defecation, potty training children, and using appropriate methods to transport feces to a toilet/latrine

What Is the Impact of Unsafe Disposal of Child Feces?

There is widespread belief that the feces of infants and young children are not harmful, but this is untrue. In fact, there is evidence that children's feces could be more risky than adult feces, due to a higher prevalence of diarrhea and pathogens—such as hepatitis A, rotavirus, and *E. coli*—in children than adults.⁶ Therefore, children's feces should be treated with the same concern as adult feces, using safe disposal methods that ensure separation from human contact and household contamination. In particular, the unsafe disposal of children's feces may be an important contaminant in household environments, posing a high risk of exposure to young infants.⁷

Poor sanitation can result in substantial health impacts in children, including a higher prevalence of diarrheal disease, intestinal worms, enteropathy, malnutrition, and death. According to the WHO, most diarrheal deaths in the world (88 percent) are caused by unsafe water, sanitation, or hygiene. More than 99 percent of these deaths are in developing countries, and about 8 in every 10 deaths are children.⁸ Diarrhea obliges households to spend significant sums on medicine, transportation, health facility fees, and more, and can mean lost work, wages, and productivity among working household members.⁹ Stunting and worm infestation can reduce children's intellectual capacity, which affects productivity later in life. The WHO estimates that the average IQ loss per worm infection is around 3.75 points.¹⁰

- Exploring opportunities to integrate child sanitation into existing interventions that target caregivers of young children, such as including key messages in antenatal and newborn care materials provided to parents or ensuring midwives' training includes information on safe child feces disposal
- Partnering with the private sector to improve feces management tools, such as potties, diapers, and scoopers (see photos)
- Improving the enabling environment for management of children's feces, by including specific child feces-related criteria in open defecation free verification protocols, national sanitation policies, strategies, or monitoring mechanisms

NOTES

We are interested in your thoughts. Have you found different evidence of what works through your own programming? If you have thoughts to share, or know of a program that is encouraging the safe disposal of children's feces, please contact WSP at worldbankwater@worldbank.org or UNICEF at WASH@unicef.org so that we can integrate your information into future program guidance.

Photo Credits: Molly Miller-Petrie (page 1 and page 4L); Emily Christensen Rand (page 4R)



A caregiver demonstrates clean-up of child feces

DATA SOURCES

Unless otherwise specified, all analysis in this brief is based on self-reported child feces disposal behavior collected in the 2010 Cambodia DHS, which is the latest MICS/DHS available for Cambodia that records child feces disposal behaviors.

The MICS and DHS collect data in a generally harmonized manner and hence are the basis for this country profile series. However, whereas the DHS collects data on the youngest child under age five living with the mother for each household, the MICS collects data on all children under age three who lives with the respondent (mother or caretaker). To maximize comparability, we restricted all analysis to children under age three in all figures, except Figure 4.

It is likely that self-reports overestimate safe disposal.¹¹ In Bangladesh, for example, although 22 percent of children reportedly either used a toilet/latrine or their feces were put or rinsed into the toilet/latrine (according to MICS 2006), a structured observation of behavior conducted under UNICEF's Sanitation, Hygiene Education, and Water Supply in Bangladesh (SHEWA-B) program in 2007 found only 9 percent of subjects disposed of child feces into a toilet/specific pit.¹² Regardless of this issue, self-reports are currently regarded as the most efficient method for gauging safe disposal of children's feces.

MICS and DHS data available at http://www.unicef.org/statistics/index_24302.html and <http://dhsprogram.com/Data/>, respectively.

REFERENCES

- 1 National Institute of Statistics, Directorate General for Health, and ICF Macro. 2011. *Cambodia Demographic and Health Survey 2010*. Phnom Penh, Cambodia, and Calverton, MD: National Institute of Statistics, Directorate General for Health, and ICF Macro.
- 2 The JMP has established a set of standardized definitions to categorize improved sanitation, which are used to track progress toward Millennium Development Goal 7. However, these definitions are not always the same as those used by national governments. See *Progress on Drinking Water and Sanitation: Update 2014* (WHO/UNICEF Joint Monitoring Programme, 2014).
- 3 WHO/UNICEF Joint Monitoring Programme. 2014. *Progress on Drinking Water and Sanitation: Update 2014*. Geneva: World Health Organization.
- 4 National Institute of Public Health, National Institute of Statistics, and ORC Macro. 2006. *Cambodia Demographic and Health Survey 2005*. Calverton, MD: National Institute of Statistics, Directorate General for Health, and ICF Macro; and National Institute of Statistics, Directorate General for Health, and ICF Macro. 2011. *Cambodia Demographic and Health Survey 2010*. Phnom Penh, Cambodia, and Calverton, MD: National Institute of Statistics, Directorate General for Health, and ICF Macro
- 5 The asset indices used to classify households into wealth quintiles have not been adjusted to remove drinking water or sanitation variables.



Child sanitation products discussed with caregivers during WaterSHED research

- 6 Feachem, R., D. Bradley, H. Garelick, et al. 1983. *Sanitation and Disease: Health Aspects of Excreta and Wastewater Management*. World Bank Studies in Water Supply and Sanitation 3. Chichester, UK: John Wiley & Sons.
- 7 Gil, A., C. Lanata, E. Kleinau, and M. Penny. 2004. *Strategic Report 11. Children's Feces Disposal Practices in Developing Countries and Interventions to Prevent Diarrheal Diseases: A Literature Review*. Washington, DC: Environmental Health Project (EHP).
- 8 WHO. 2009. *Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks*. Geneva: World Health Organization, 23.
- 9 Favin, M., G. Naimoli, and L. Sherburne. 2004. *Improving Health through Behavior Change: A Process Guide on Hygiene Promotion*. Washington, DC: Environmental Health Project.
- 10 WHO. 2005. *Report of the Third Global Meeting of the Partners for Parasite Control: Deworming for Health and Development*. Geneva: World Health Organization, 15.
- 11 Stanton, B., J. Clemens, K. Azis, and M. Rahamanr. 1987. "Twenty-Four-Hour Recall, Knowledge-Attitude-Practice Questionnaires and Direct Observations of Sanitary Practices: A Comparative Study." *Bulletin of the World Health Organization*. Geneva: World Health Organization.
- 12 Akhtaruzzaman, M. N., and S. N. Islam. 2011. *Nutrition, Health and Demographic Survey of Bangladesh-2011: A Preliminary Report*. Bangladesh: University of Dhaka, 19.

ACKNOWLEDGEMENTS

This brief was developed jointly by WSP and the United Nations Children's Fund (UNICEF) as part of a series of country profiles about sanitation for children under age three.

The findings, interpretations, and conclusions expressed herein are those of the author(s), and do not necessarily reflect the views of the International Bank for Reconstruction and Development / The World Bank and its affiliated organizations, or those of the Executive Directors of The World Bank or the governments they represent, or of UNICEF.

© 2014 by International Bank for Reconstruction and Development / The World Bank and UNICEF.