

# Part 1 of 2: Child Feces Disposal in BANGLADESH



## OVERVIEW OF CURRENT PRACTICES

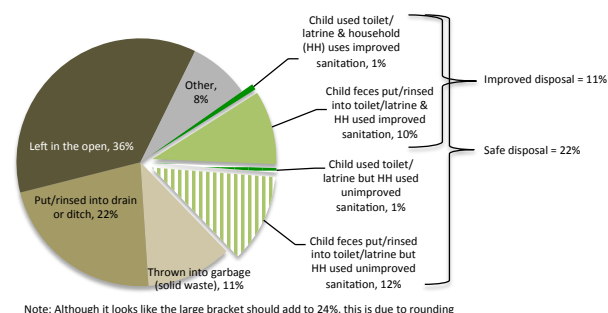
The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) tracks progress towards Millennium Development Goal 7, “to reduce the number of people without access to adequate sanitation by half.” However, the estimates are based on one type of sanitation coverage per household, and hence overlook sanitation practices of young children. Due to their developmental status and safety concerns, young children may not be able to use a toilet or latrine, even if their household has access to one.

Just as with adult sanitation, safe disposal of children’s feces should ensure separation of the stool from human contact and an uncontaminated household environment. Instances where a child uses or their feces are put or rinsed into a toilet or latrine are considered more likely than other disposal methods to break the fecal-oral transmission chain. For the purposes of this document, instances where a child uses or their feces are put or rinsed into a toilet or latrine are referred to as safe while other methods are termed unsafe.

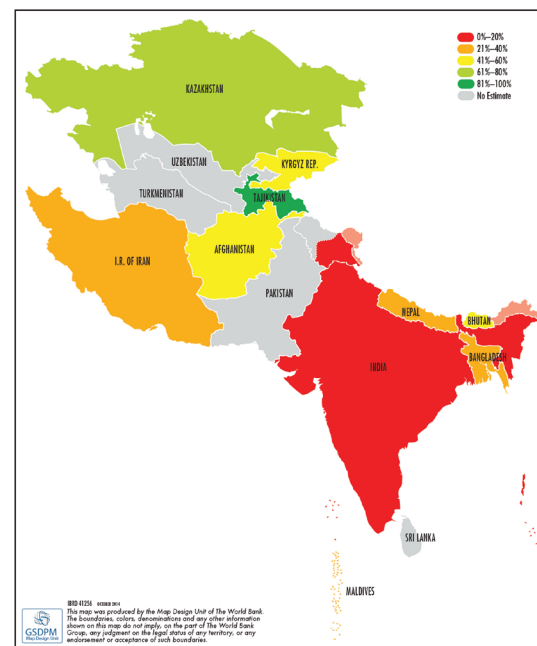
**In Bangladesh, in 2006, only 22 percent of households reported that the feces of their children under three were deposited into a toilet/latrine (Figure 1).** Therefore, the stools of over 7.5 million children under three were not disposed safely. This includes over 3.5 million children whose feces were left in the open.<sup>2</sup> Even among those 22 percent of households with safe child feces disposal, only half (11 percent overall) have an improved sanitation facility into which they could easily dispose the feces. This stricter definition of disposal type is called “improved disposal” in Figure 1.

In rural areas of Bangladesh, crawling infants come into contact with animal feces, the baby’s own feces, and those

**FIGURE 1 Percentage of children aged under three by type of feces disposal, Bangladesh** Segments shaded brown and gray are considered unsafe disposal methods while green colors are used to designate disposal methods that are considered more safe.



**FIGURE 2 The proportion of children aged under three with safe feces disposal reported, South Asia<sup>1</sup>**



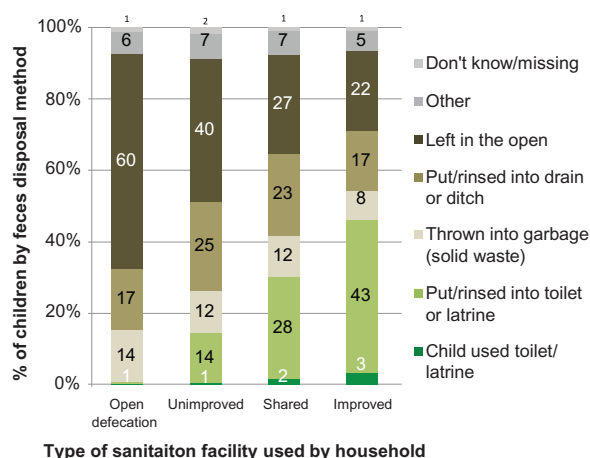
of its brothers and sisters. According to one study, half of the mothers in two villages near Dhaka had also seen their infants eating or touching feces during the previous two weeks.<sup>3</sup> In the South Asia region, the Maldives, Iran, Nepal, Kyrgyzstan, Afghanistan, Bhutan, Kazakhstan and Tajikistan all have lower rates of unsafe child feces disposal, while India has higher rates (Figure 2).

**In Bangladesh, marginalized households and those with younger children consistently report higher rates of unsafe disposal of child feces.** Poorer and rural households as well as those without improved sanitation were generally less likely to report safe disposal.

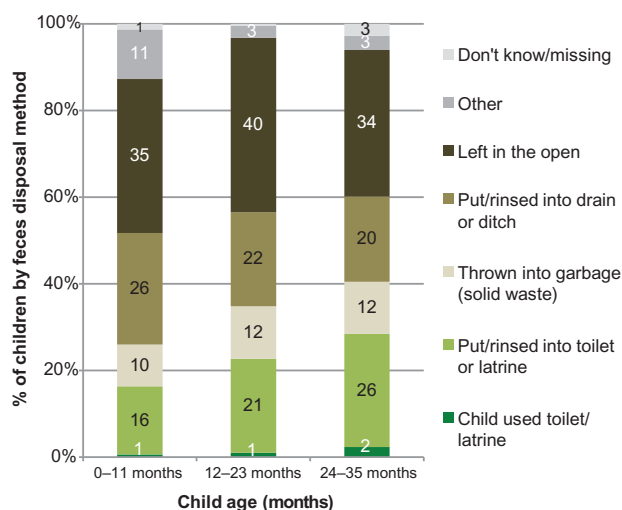
Households practicing open defecation reported the highest level of unsafe child feces disposal (Figure 3). However, it is important to note that in Bangladesh, even among households with improved sanitation, 53 percent reported unsafe behaviors. Among households with improved sanitation, the feces of 22 percent of children are being left in the open and those of 17 percent of children are being put or rinsed into drains or ditches.

In addition, households with younger children were generally more likely to report unsafe disposal methods (Figure 4). Households are most likely to report child feces being unsafely disposed of during the first 0–11 months of age. There is also a peak in open defecation (feces “left in the open”) for children aged 12–23 months, the same age when the majority of children have just started walking.

**FIGURE 3** Percentage of children aged under three by household's type of sanitation facility and type of child feces disposal, Bangladesh



**FIGURE 4** The percentage of children aged under three by age and reported type of feces disposal in Bangladesh

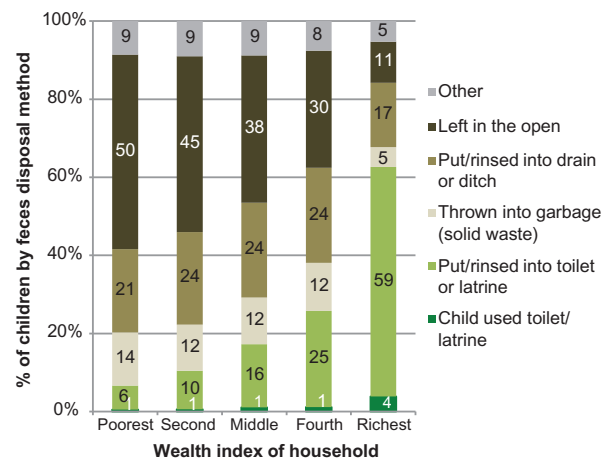


Those children who live in the poorest 20 percent of households are most likely to live in a household that reported unsafe disposal of the child's feces (Figure 5). However, over a quarter of the wealthiest 20 percent of households still report leaving child feces in the open, or putting/rinsing them into a drain or ditch.

## DATA SOURCES

Unless otherwise specified, all analysis in this brief is based on self-reported child feces disposal behavior collected in the Bangladesh Multiple Indicator Cluster Survey (MICS) 2006, which is the latest MICS/Demographic and Health Survey (DHS) on file for Bangladesh that records child feces disposal behaviors. The MICS only collects data on children under the age of three and as such all graphs in this profile are based on children under three. There is global evidence, as well as evidence from Bangladesh, that self-reports may overestimate safe disposal.<sup>4</sup> Although in Bangladesh MICS2006 22 percent of children reportedly either used a toilet/latrine or their feces was put/rinsed into the toilet/latrine, a structured observation of behavior conducted under UNICEF's Sani-

**FIGURE 5** The percentage of children aged under three by household wealth quintile and type of child feces disposal, Bangladesh



tation, Hygiene Education and Water Supply in Bangladesh (SHEWA-B) program in 2007 found only 9 percent of subjects disposing child feces into a toilet/specific pit.<sup>5</sup> Regardless of this issue, self-reports are currently regarded as the most efficient method for gauging safe disposal of children's feces.

## NOTES

1. The latest available MICS/DHS survey with data for each country, as of January 2014. <http://www.unicef.org/statistics/>.
2. Calculation based on United Nations, Department of Economic and Social Affairs, Population Division. 2013. *World Population Prospects: The 2012 Revision*. DVD edition. (New York: United Nations, 2013). <http://esa.un.org/unpd/wpp/>.
3. Zeitlin, M.F., G. Guldan, G. Klein, R.E. Ahmad, and J. Zeitlin. "Sanitary Conditions of Crawling Infants in Rural Bangladesh." (Washington, DC: U.S. Agency for International Development, 1985). Unpublished report excerpted in *Dialogue on Diarrhoea: The International Newsletter on the Control of Diarrhoeal Diseases* 26 (September 1986): 4. <http://rehydrate.org/dd/dd26.htm>
4. Stanton, B. F., J. D. Clemens, K. M. Aziz, and M. Rahman. "Twenty-Four-Hour Recall, Knowledge-Attitude-Practice Questionnaires, and Direct Observations of Sanitary Practices: A Comparative Study." *Bulletin of the World Health Organization* 65, no. 2 (1987): 217-222.
5. Akhtaruzzaman, M., N. Islam, and S. N. Islam. *Nutrition, Health and Demographic Survey of Bangladesh—2011* (Bangladesh: University of Dhaka, 2011), 19.

## ACKNOWLEDGEMENTS

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# Part 2 of 2: Child Feces Disposal in BANGLADESH



## INTERVENTIONS AND POSSIBLE PROGRAM INTEGRATION IDEAS FROM THE FIELD

This brief is a companion to *Child Feces Disposal in Bangladesh: Overview of Current Practices*, which was also published by the World Bank Water and Sanitation Program (WSP) and the United Nations Children's Fund (UNICEF). That publication provides evidence on why children must be recognized as a vital component for achieving total sanitation and associated benefits: 78 percent of Bangladeshi households reported that the feces of their children under three was disposed of unsafely. Poor, rural and younger children are most at risk. Despite such facts, and although the impact of poor sanitation and hygiene is often measured by the effects on children, most sanitation and hygiene interventions target adults. This brief includes all relevant information that the authors have been able to locate thus far on current interventions to improve children's sanitation in Bangladesh, as well as collating possible integration ideas from the field. It concludes with an appeal to readers to send in any additional information they may be aware of.

**In Bangladesh, a range of efforts to increase demand, improve supply, and create an enabling environment for the safe disposal of child feces during the first years of life are underway by various organizations.** Within its Community-Led Total Sanitation activities, Bangladesh has added effective disposal of children's feces as a criteria for open defecation free verification. In addition, the children's television show *Sesame Street* has introduced a new Muppet named Raya (pictured in Figure 1), who will focus on teaching children across Bangladesh about good sanitation and hygiene.<sup>1</sup> Three activities addressing different aspects of the collection, transport, and disposal of child feces and toilet training are discussed in more detail below.

### WASH Benefits

WASH Benefits and the International Centre for Diarrheal Disease Research, Bangladesh (icddr,b) developed an intervention with three components: 1) a sani-scoop hoe for picking up feces (see Figure 2), 2) plastic child potties with a removable tray (Figure 2), and 3) a new or upgraded dual pit latrine for each household in its compound. The intervention emphasizes safe disposal of feces from the compound.<sup>2</sup> A randomized controlled trial (RCT) is being carried out to measure impacts. Self-reported data about the respondent's use of the interventions marked improvement. However, observations of

**FIGURE 1** *Sesame Street's* new Muppet, Raya (here with Elmo), will teach children in Bangladesh about healthy hygiene practices



Photo credit: © 2014 John Barrett, Sesame Workshop

feces in the household environment found only a statistically insignificant difference.<sup>3</sup>

### UNICEF and SHEWA-B

Through UNICEF's Sanitation, Hygiene Education and Water Supply in Bangladesh (SHEWA-B) project, 10,000 trained local community workers provide hygiene instruction to their neighbours, primarily focusing on the mothers of children under five.<sup>4</sup> According to a study conducted in 2012, structured observations did not record statistically significant increases in the proportion of child feces disposed in a latrine or pit.<sup>5</sup>

### BRAC

BRAC (formerly Bangladesh Rural Advancement Committee)'s 2006–2007 baseline survey found that adults placed less importance in the contamination potential of children's than adults' stool and only 11 percent of respondents regarded "after cleaning children's stool" to be an appropriate time for handwashing.<sup>6</sup> In response to such findings, the organization is targeting over 17 million people in Bangladesh. The program educates children under five and their mothers about proper hygiene practices, through the use of flipcharts and brochures that include messages such as:

- Did you know that the feces of small children can be dangerous? Try to throw the children feces into the latrine.
- Your children need a hygienic latrine and need to use it.
- After cleaning the child's bottom throw the child feces into the latrine; it is important to wash both hands with soap.<sup>7</sup>



**FIGURE 2** A potty already available in the Bangladesh market (left), and a sani-scoop adapted from a common hoe by icddr, b (right)



Photo credit: icddr, b

### Preliminary Integration Ideas

Given the relatively few programmes focusing on children's sanitation in Bangladesh and also globally, there is not a strong evidence base on what works best for effectively increasing the safe disposal of child feces. Significant knowledge gaps must be filled before comprehensive practical evidence-based policy and program guidance will be available. Nevertheless, those organizations mentioned above plus other experts working in or researching children's sanitation globally have published a number of recommendations and possible methods for incorporating child feces management into existing programs. These are collated below.

#### Increase Demand:

- Tailor messaging to caregivers. For example, place emphasis on disposing the feces into a toilet/latrine for children not developmentally able to use a toilet.<sup>8</sup>
- Introduce education programs in schools and pre-schools to encourage caregivers' understanding that children's stools are dangerous, in communities where people consider children's feces as relatively inoffensive.<sup>9</sup>
- Incorporate the entire range of relevant motivators—health, time saving, ease of cleaning and pride, etc—into communication materials for caregivers.<sup>10</sup>
- Maximize the frequency of program-to-caregiver contact.<sup>11</sup>
- Encourage caretakers to dispose of the wash water properly if washable diapers or nappies are used.<sup>12</sup>
- Communicate the importance of consistency in the new behaviours established for preventing child feces coming into contact with humans.<sup>13</sup>

#### Improve Supply:

- Look for any affordable local tool already in the market that can be redeployed and remarketed for safe feces disposal—thus making use of pre-existing supply and local familiarity of the product.<sup>14</sup>
- Encourage the installation of household toilets and a convenient water supply to increase the availability and therefore likelihood of safe child feces disposal.<sup>15</sup>
- Encourage toilet training through the use of training tools, such as the “safe squat,” with use of an improved toilet/latrine.<sup>16</sup>

- Work with caregivers to define appropriate interventions and tools for each age of mobility and development.

#### Create an Enabling Environment:

- Include criteria that a community cannot be certified as open defecation free unless everyone's feces are safely disposed of, in locations using community-led total sanitation.<sup>17</sup>
- Work with governments to incorporate safe disposal of child feces into existing interventions.<sup>18</sup>
- Maintain a feedback loop between the management of children's feces and its impact to correctly identify and address any issues.<sup>19</sup>

#### We're 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 child feces, please contact WSP at [worldbankwater@worldbank.org](mailto:worldbankwater@worldbank.org) or UNICEF at [WASH@unicef.org](mailto:WASH@unicef.org) so that we can integrate your information into future program guidance.

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## NOTES

- <sup>1</sup> Sesame Workshop blog, accessed April 15, 2014, <http://www.sesameworkshop.org/our-blog/2014/03/19/cleaner-healthier-happier/>.
- <sup>2</sup> WASH Benefits website, accessed January 2014, <http://www.washbenefits.net/Bangladesh-Intervention-Descriptions>.
- <sup>3, 5, 10, 13, 14, 19</sup> Luby, S., S. Ashraf, and F. Hussain, “Efforts to Improve Child Feces Disposal in Rural Bangladesh.” Presentation given at the World Bank's Water and Sanitation Program, Washington, DC, 2013.
- <sup>4, 8, 12, 16, 17, 18</sup> UNICEF, “Safe Disposal of Children's Feces,” draft version (UNICEF: New York, 2013).
- <sup>6</sup> BRAC WASH Research Team, *WASH Programme of BRAC: Towards Attaining the MDG Targets: Baseline Findings* (Bangladesh: BRAC Centre, 2008), 92–93.
- <sup>7</sup> BRAC, “Messages for Caregivers Regarding the Management of Child Feces” (Bangladesh: BRAC Centre, 2013).
- <sup>9, 15</sup> Feachem, R., D. Bradley, H. Garelick, et al., “Sanitation and Disease: Health Aspects of Excreta and Wastewater Management,” *World Bank Studies in Water Supply and Sanitation 3* (United Kingdom: John Wiley & Sons), 46.
- <sup>11</sup> Galway, M. and WSP (Water and Sanitation Program), *New Approaches to Promoting Sanitation in Rural Bangladesh* (Washington, DC: PS Press Services Pvt., Ltd., 2000).