

## Key messages:

- In 2012, 48 percent of households surveyed in Indonesia reported unsafe disposal of the feces of their youngest child under age three—i.e., they were not deposited into a latrine or toilet.
- Even among households with improved toilets or latrines, 38 percent reported unsafe child feces disposal behavior.
- Unsafe child feces disposal is more prevalent among households that defecate in the open, those in rural areas, those that are poorer, and those with younger children.<sup>1</sup>

## 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 Indonesia 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.<sup>2</sup>

In the latest JMP report, only 59 percent of Indonesia's population had access to improved sanitation in 2012.<sup>3</sup> This means that 102 million individuals in Indonesia lacked improved sanitation in 2012, of which 54 million practice open defecation. These estimates are 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.

## SUMMARY OF CHILD FECES DISPOSAL DATA

In 2012, just over one-half (52 percent) of households in Indonesia reported the feces of their youngest child under age three were safely disposed. Indonesia ranked third for the percentage of children whose feces are safely disposed of, out of eight countries in East Asia and the Pacific with available Multiple Indicator Cluster Survey (MICS) or Demographic and Health Survey (DHS) data. However, this still means only 43 percent of households in Indonesia reported 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 country's broader population, where 59 percent use improved sanitation.



Although the focus of this brief (and others in the series) is the MICS and DHS, which are comparable across each country studied (please see the "Data Sources" section), the authors have also reviewed all other relevant information they could identify. A World Bank Water and Sanitation Program (WSP) survey in rural East Java found that 66 percent of the youngest children in households with a child under age five had safe feces disposal in 2008.<sup>4</sup> The Johns Hopkins Bloomberg School of Public Health is currently conducting a "Rapid Open Source Survey" in Indonesia that includes the collection of child feces disposal data; however, its results are not yet available.<sup>5</sup>

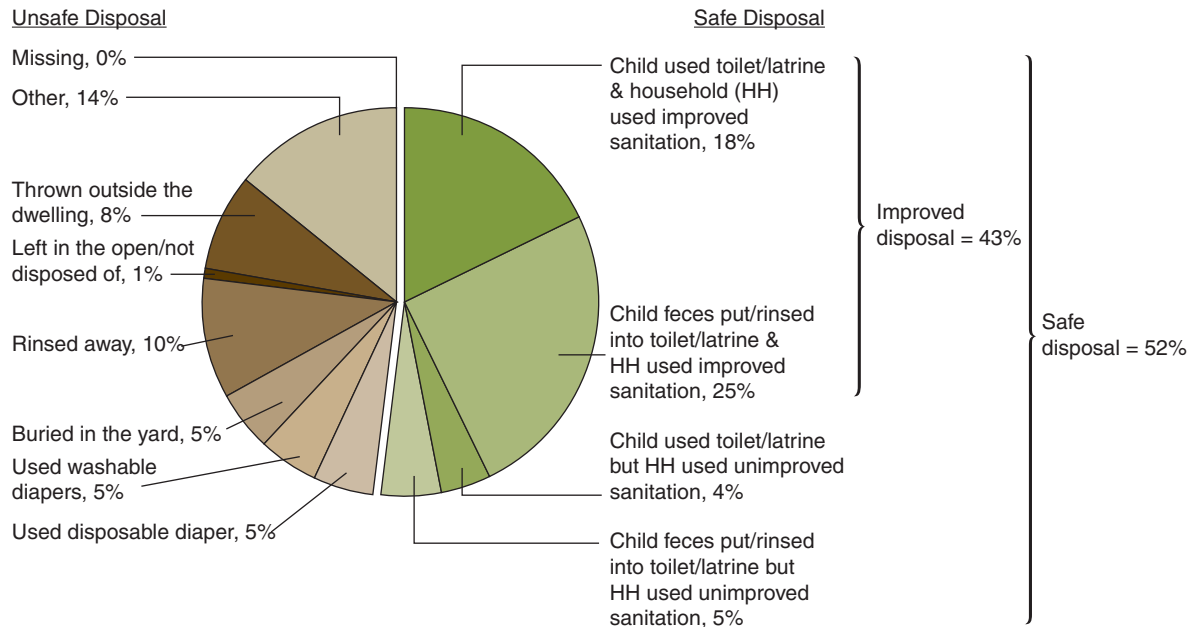
Households practicing open defecation reported the highest level of unsafe child feces disposal, at 88 percent. However, 12 percent of households practicing open defecation report using safe child feces disposal; it is possible, but not probable, that these households who do not use improved sanitation themselves deposit their children's feces into a toilet/latrine (see notes on self-reported data under "Data Sources").

In addition, households with younger children were more likely to report unsafe disposal methods (see Figure 3). Specifically, among households with children in their first year of life, only 35 percent reported safe disposal, compared to 78 percent of households with children aged four (48 to 59 months). A shift in safe disposal practices is also 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 critically important to dispose of their feces safely and shape the child's toilet training.

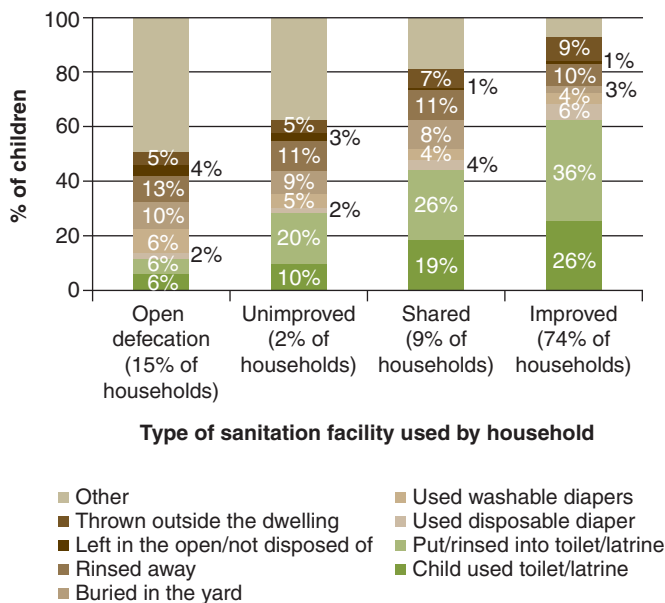
## What Is "Safe Disposal" of a Child's Feces?

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."

**FIGURE 1** In Indonesia in 2012, only one half (52 percent) of households reported that the feces of their youngest child under age three were safely disposed. Percent of households reporting each feces disposal practice for their youngest child under age three, Indonesia, 2012.

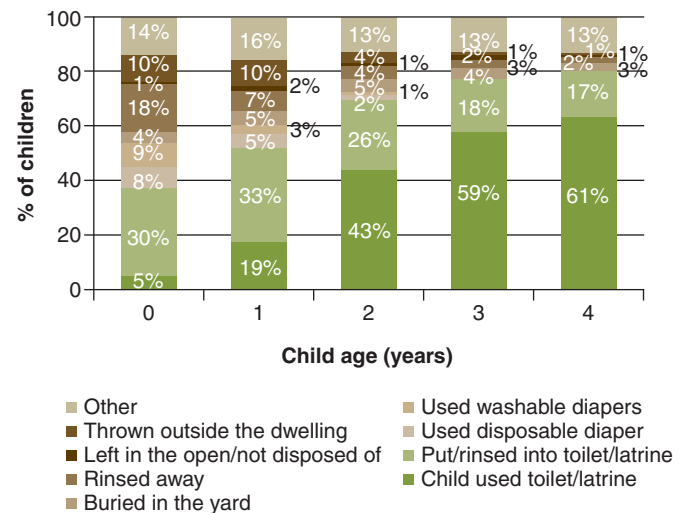


**FIGURE 2** Even among households with improved sanitation, 38 percent reported unsafe child feces disposal behaviors. Reported feces disposal practice for households' youngest child under age three, by household sanitation facility type, Indonesia, 2012.



Only one quarter (26 percent) of the youngest children under age three in households in the poorest quintile in Indonesia had safe disposal, compared to 59 percent among the richest (and 66 percent among the second richest) quintile. In households with children under age three, 54 percent of people in the poorest quintile used

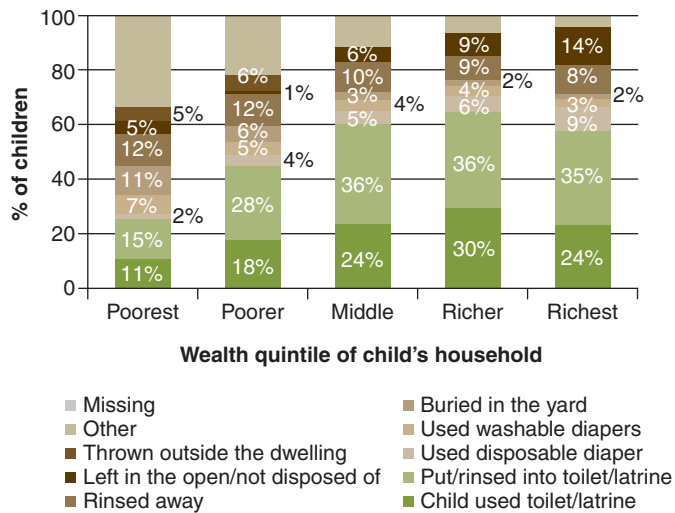
**FIGURE 3** Households with younger children were more likely to report unsafe disposal methods. Reported feces disposal practice for children of different ages, Indonesia, 2012.



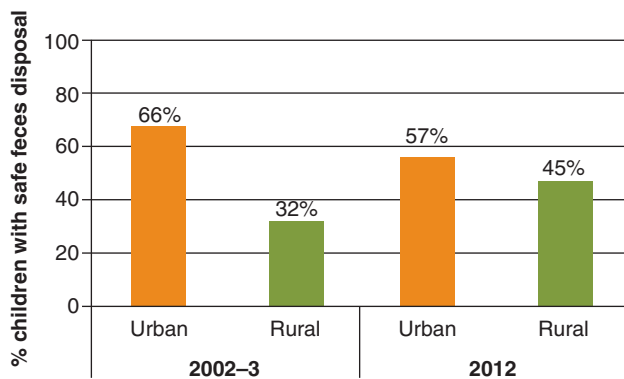
a toilet/latrine of any kind, compared to 100 percent of the richest quintile.

Between the DHS surveys of 2002–2003 and 2012, reported safe disposal of child feces increased slightly, from covering 48 percent of the youngest children per household nationally in 2002–2003, to 52 percent of them a decade later.

**FIGURE 4** Safe disposal differs across the wealth asset quintiles,<sup>6</sup> with safe disposal more likely to be reported among the richest 60 percent of households than the poorest 40 percent. Reported feces disposal practice for households' youngest child under age three, by household wealth quintile, Indonesia, 2012.



**FIGURE 5** Safe disposal remains less prevalent among rural households than among urban households. Percent of households reporting safe feces disposal for their youngest child under age three, by urban and rural residence, Indonesia, 2002–2003 and 2012.<sup>7</sup>



## IDEAS FOR CONSIDERATION

In Indonesia, a key criterion that the Ministry of Health has defined for certifying a community as open defecation free (ODF) is that the feces from babies are disposed of into a toilet in 100 percent of households.<sup>8</sup> WSP's Total Sanitation and Sanitation Marketing (TSSM) project conducted in rural East Java between 2008 and 2012 had three main arms to its programmatic approach: Community-Led Total Sanitation (CLTS); social marketing of sanitation; and supporting the development of policies and institutional practices that facilitate scaling up, program effectiveness, and sustainability. The project's impact evaluation found safe disposal increased among treatment households in the final two years by four percentage points ( $p < 0.05$ ), controlling for exogenous variables.<sup>9</sup> However, there are



### 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 in adults.<sup>10</sup> 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.<sup>11</sup> Poor sanitation can result in substantial health impacts in children, including a higher prevalence of diarrheal disease, intestinal worms, enteropathy, malnutrition, and death. A 1994 study in South Sumatra, Indonesia, found that disposing of children's feces in open places rather than in a latrine was significantly associated with diarrheal disease incidence among children under age three.<sup>12</sup> 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.<sup>13</sup> 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.<sup>14</sup> 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.<sup>15</sup>

few interventions in Indonesia 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 Indonesia.

Given the relatively few programs focusing on children's sanitation in Indonesia 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:

- Conducting 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 as well as washing hands with soap after fecal contact and before preparing food or feeding a child
- Exploring opportunities to integrate child sanitation into existing interventions that target caregivers of young children, such as including key messages in antenatal/newborn care materials and infant and young child feeding guidance provided to parents, ensuring midwives' training includes information on safe child feces disposal, and integrating into early childhood development materials and preschool programs
- Partnering with the private sector to improve feces management tools, such as potties, diapers, tools for retrofitting latrines for child use, and scoopers
- Improving the enabling environment for management of children's feces by including additional child feces-related criteria in national sanitation policies, strategies, or monitoring mechanisms.

## NOTES

**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 children's 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.

## DATA SOURCES

Unless otherwise specified, all analysis in this brief is based on households' self-reported behavior for disposing of children's feces, as collected in the 2012 Indonesia DHS, which is the latest MICS/DHS available for Indonesia 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.<sup>16</sup> 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.<sup>17</sup> Regardless of this issue, self-reports are currently regarded as the most efficient method for gauging safe disposal of children's feces.

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