

## Key messages:

- In 2011, 69 percent of households surveyed in Nepal reported unsafe disposal of the feces of their youngest child under age three.
- Even among households with improved toilets or latrines, 38 percent reported unsafe child feces disposal behavior.
- Safe child feces disposal steadily increases with the wealth of the household: only 12 percent of the poorest quintile reported safe disposal compared to 77 percent of the richest quintile.<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 Nepal 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>

According to the latest JMP report, only 37 percent of Nepal's population had access to improved sanitation in 2012.<sup>3</sup> This means that 17.4 million individuals in Nepal lacked improved sanitation in 2012; of these, 11.1 million practice open defecation. However, 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 2011, less than a third of households (31 percent) surveyed in Nepal reported that the feces of their youngest child under age three were safely disposed of. Only 19 percent of households reported that their youngest child's feces were disposed of into an improved sanitation facility, according to the 2011 Nepal Demographic and Health Survey (DHS) (see Figure 1). Interestingly, a third (35 percent) of households report throwing children's feces into the garbage. Because of variable solid waste management systems across communities and environmental health concerns such as leeching, this is considered an unsafe practice.<sup>4</sup>



Between 2001 and 2011, reported safe disposal of children's feces steadily increased in both urban and rural areas (see Figure 2). Although safe disposal in rural areas has increased substantially since 2001, the rate of increase seems to have slowed since 2006 and a large disparity between rural and urban areas remains.

In Nepal, households lacking improved sanitation, those in rural areas, and poorer households—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, at 97 percent (Figure 3).

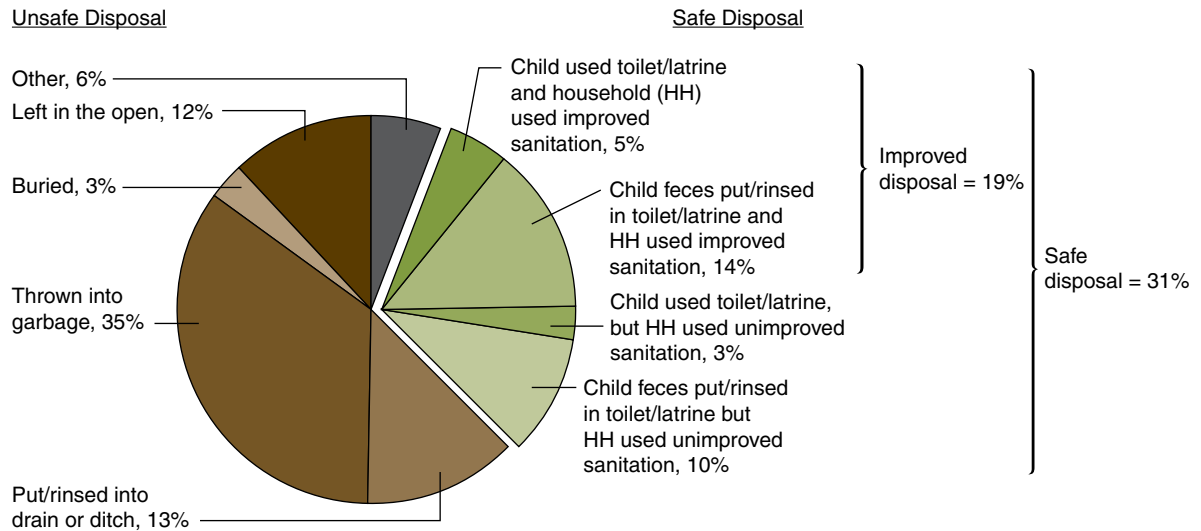
A shift in safe disposal practices is also seen as children grow: children are increasingly likely to use a toilet/latrine themselves, or have their feces put or rinsed into one. Interestingly, in Nepal, open defecation (i.e. feces left in open) also steadily increases with age. At these young ages, the behavior of the child's caregiver is critical to dispose of their feces safely and shape the child's toilet training.

**Child feces disposal steadily increases with the child age groups, however both safe disposal and open defecation peak in children aged four.**

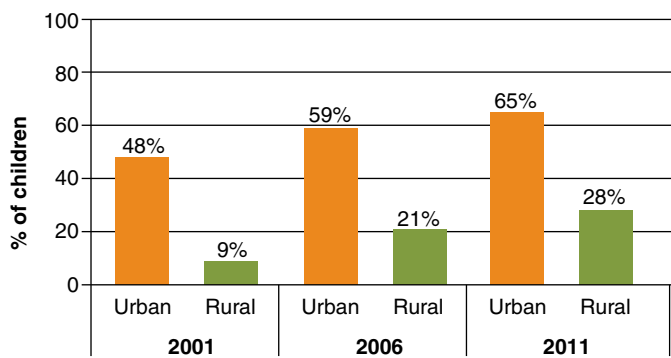
## What Is "Safe Disposal" of a Child's Feces?

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 Safe disposal prevalence is low (31 percent), but the prevalence of improved disposal is even lower (19 percent).** Percentage of households reporting each feces disposal practice for their youngest child under age three, Nepal, 2011.

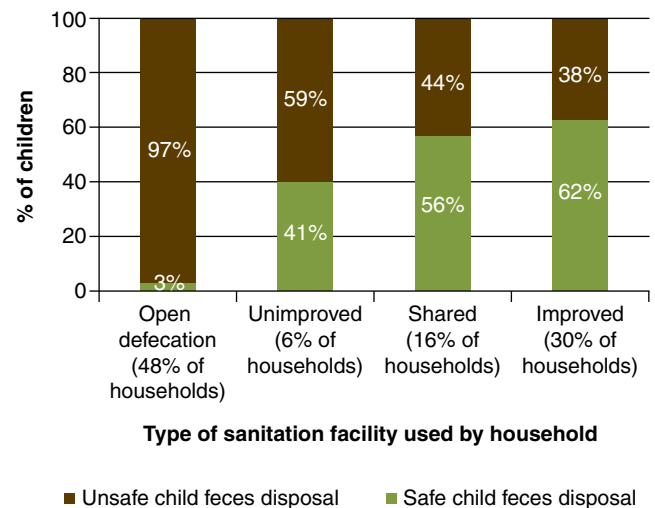


**FIGURE 2 The prevalence of safe child feces disposal has increased overall since 2001, but households in urban areas remain substantially more likely to use safe feces disposal than rural households.** Percentage of households reporting safe feces disposal for their youngest child under age three, by urban and rural residence, Nepal, 2001, 2006, and 2011.<sup>5</sup>



Safe disposal differs widely across the wealth asset quintiles.<sup>6</sup> The poorest quintile of households is substantially less likely than the richer and richest households to report safe child feces disposal: only 12 percent of the poorest quintile reports safe disposal (see Figure 5). Children’s feces from 22 percent of the poorest households were left in the open—which is essentially open defecation. Looking at overall sanitation facility coverage for households with children under age three in Nepal, only 24 percent of the poorest households reported use of any toilet/latrine, compared to 98 percent of the richest quintile. This is an important factor in child feces disposal: by definition, safe disposal is only possible when there is access to a toilet/latrine.

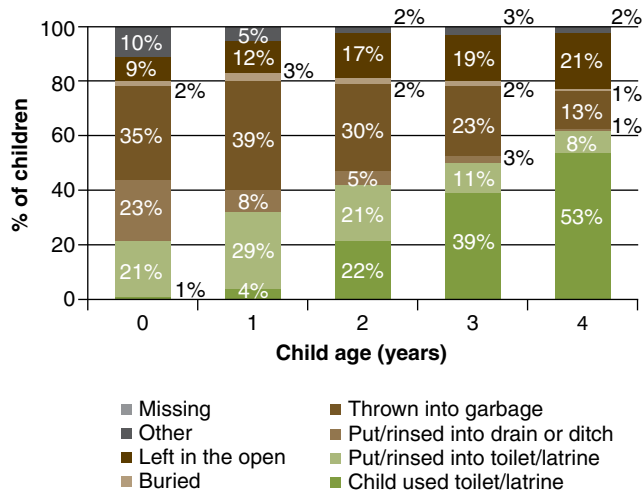
**FIGURE 3 Even among households with improved sanitation, over a third (38 percent) reported unsafe child feces disposal practices.** Reported feces disposal practice for households’ youngest child under age three, by household sanitation facility type, Nepal, 2011.



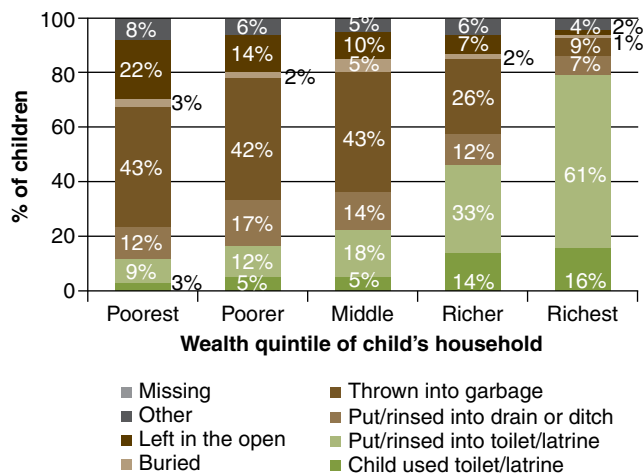
## IDEAS FOR CONSIDERATION

In Nepal, although the national sanitation focus is directed toward universal sanitation coverage, the approach has not focused specifically on important elements such as child feces disposal. In general, sanitation for children under age three has been a neglected area of policy and program intervention. Given the relatively few programs focusing on children’s sanitation in Nepal and globally, there is not a strong evidence base of effective strategies for increasing

**FIGURE 4 Safe child feces disposal steadily increases with children's age.** *Reported feces disposal practice for children of different ages, Nepal, 2011.*



**FIGURE 5 Safe child feces disposal increases substantially with increasing wealth, and is rare in the poorest households.** *Reported feces disposal practice for children under age three, by household wealth quintile, Nepal, 2011.*



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 handwashing 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 the national handwashing with soap

## 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 adults' feces, due to a higher prevalence of diarrhea and pathogens—such as hepatitis A, rotavirus, and *E. coli*—in children than in adults.<sup>7</sup> Therefore, children's feces should be treated with the same concern as adults' 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>8</sup> 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 World Health Organization (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 eight in every 10 deaths are children.<sup>9</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>10</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>11</sup>



**Images from a flipchart publication, which encourages caregivers to care for children with diarrhea and wash their hands after cleaning a child who has defecated.<sup>12</sup>**

- program, antenatal/newborn care materials, infant and young child feeding guidance, midwives' training, and early childhood development center 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 specific child feces related criteria in





open defecation free (ODF) verification protocols and in national sanitation policies, strategies, or monitoring mechanisms.

## DATA SOURCES

Unless otherwise specified, all analysis in this brief is based on child feces disposal behavior self-reported by the child's mother or caregiver in the 2011 Nepal DHS 6, which is the latest Multiple Indicator Cluster Survey (MICS) or DHS available for Nepal that records child feces disposal behavior.

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 live with the respondent (mother or caretaker). To maximize comparability, we restricted all analysis to children under age three in all figures, except Figure 5.

It is likely that self-reports overestimate safe disposal.<sup>13</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 that only 9 percent of subjects disposed of children's feces into a toilet/specific pit.<sup>14</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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- 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*.
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## 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.

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