

WASH: IMPROVING PROVISION FOR URBAN CHILDREN

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Series Editor

Sarah Sabry

Authors

Sheridan Bartlett, Corina Shika Kwami and Priti Parikh

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SUMMARY

This evidence into action brief summarises the state of research on the topic of urban WASH (water, sanitation and hygiene) access and urban children.

Billions of people in the global South remain unserved by adequate provision for water, sanitation and hygiene (WASH). Some of the most significant challenges in addressing the backlog are in urban areas, where high densities complicate conditions. As local authorities struggle to keep up with rapidly growing urban populations, the number of unserved households continues to grow, particularly in informal settlements in sub-Saharan Africa.

Inadequate WASH provision, detrimental to all residents, poses particular challenges for the health and safety of children and even for their long-term development. This briefing highlights the problems related to urban WASH access and presents research findings on the impact on children of different ages, especially young children and adolescent girls. Building on promising practices and lessons learnt, this briefing also includes suggestions by the authors for NGOs for supporting improved access to WASH and hence living conditions for children in urban contexts.

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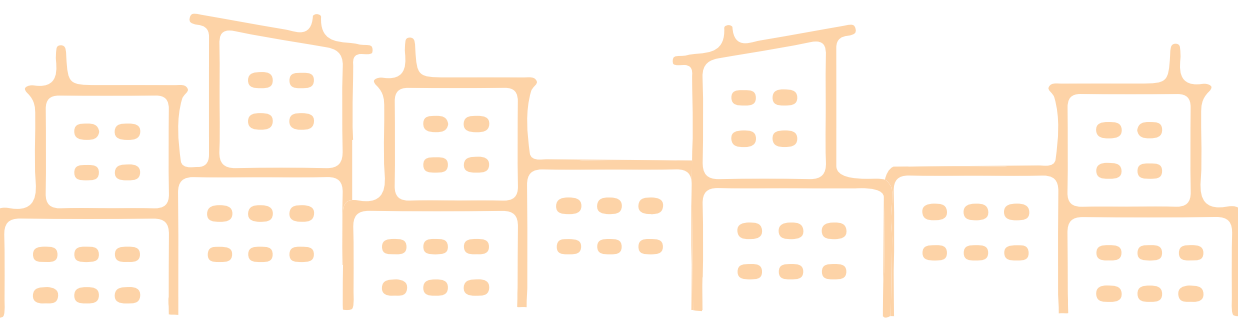
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ACRONYMS

JMP	Joint Monitoring Programme of the World Health Organization (WHO) and United Nations Children’s Fund (Unicef)
NGO	Non-governmental organisation
SDGs	Sustainable Development Goals
SDI	Slum/Shack Dwellers International
WASH	Water, sanitation and hygiene



1. INTRODUCTION: ADDRESSING CHALLENGES AND MISCONCEPTIONS

The provision of clean water and safely managed sanitation continues to improve in much of the global South. Yet billions of people remain inadequately served and their numbers continue to grow. Some of the most significant challenges in addressing the backlog are in urban areas, where high densities and difficulties with access can complicate conditions and where informal settlements are the most likely to be critically underserved. This remains one of the most significant manifestations of urban disparity. The situation in many of these settlements could be said to constitute a chronic humanitarian crisis, regularly meeting or exceeding the emergency thresholds applied in the context of disaster.¹

In this briefing, we first provide an overview of the status of WASH provision in the urban global South. We consider some troubling trends, including the growing burdens presented by climate change and humanitarian crises. We then review the particular implications for children and adolescents, both immediate and long term, and direct and indirect. Most attention is directed at the youngest children, with their disproportionate vulnerability in terms of health and development. But we also consider older children and especially the threats that poor provision can pose for adolescent girls. This overview is followed by a discussion of action points for NGOs that have particular relevance for children and adolescents, and a description of some promising initiatives. We draw on both peer-reviewed journals and grey literature.

2. AN OVERVIEW OF URBAN WASH IN THE GLOBAL SOUTH

Among the many ambitions of the Sustainable Development Goals (SDGs) is, by 2030, ‘...universal and equitable access to safe and affordable drinking water for all...[and] access to adequate and equitable sanitation and hygiene for all.’² Achieving these ambitions would have far-reaching ripple effects: a review of links between sanitation and other SDGs, for instance, identifies synergies with all 17 Goals and 130 targets of the SDGs.³ As of 2020, however, according to the World Health Organization and United Nations Children’s Fund Joint Monitoring Programme (WHO-Unicef JMP) – the most comprehensive source of global WASH data⁴ – we are falling well short of reaching that mark. It is estimated that by 2030, about 5 billion of the world’s projected 8.1 billion people will live in urban areas. Of these, about 2 billion will live in informal settlements mainly in Africa and Asia, the majority of whom will be children, adolescents and young adults.⁵ In most informal settlements, where the rate of urbanisation is higher, substantial investment in WASH will be required.

Access to water and sanitation services remains one of the most significant manifestations of urban disparity.



2.1 Understanding definitions and terms

Some initial clarification of terms is useful here. The JMP has several categories for provision, taking into account not only the presence of the amenity or service in question, but also the level of safety and convenience. At the top is ‘safely managed’ water and sanitation – at the bottom is a reliance on surface water and open defecation. All improvements over thirst, dirty water and open defecation are important, but here we focus primarily on the safely managed category, since it is the only level that genuinely meets the requirements of children and ensures health, safety and long-term well-being. The need for this level of provision applies not only to homes, but to schools, daycare centres and any other facilities that potentially expose children to harm.

SDG ladder for drinking water services

SERVICE LEVEL	DEFINITION
SAFELY MANAGED	Drinking water from an improved source that is accessible on premises, available when needed and free from faecal and priority chemical contamination.
BASIC	Drinking water from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing.
LIMITED	Drinking water from an improved source, for which collection time exceeds 30 minutes for a round trip, including queuing.
UNIMPROVED	Drinking water from an unprotected dug well or unprotected spring.
SURFACE WATER	Drinking water directly from a river, dam, lake, pond, stream, canal or irrigation canal.

Source: WHO-UNICEF JMP, 2021.

SDG ladder for sanitation services

SERVICE LEVEL	DEFINITION
SAFELY MANAGED	Use of improved facilities that are not shared with other households and where excreta are safely disposed of in situ or removed and treated off-site.
BASIC	Use of improved facilities that are not shared with other households.
LIMITED	Use of improved facilities that are shared with other households.
UNIMPROVED	Use of pit latrines without a slab or platform, hanging latrines or bucket latrines.
OPEN DEFECATION	Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches or other open places, or with solid waste.

Source: WHO-UNICEF JMP, 2021.

SDG service ladder for hygiene

SERVICE LEVEL	DEFINITION
BASIC	Availability of a handwashing facility with soap and water at home.
LIMITED	Availability of a handwashing facility lacking soap and/or water at home.
NO FACILITY	No handwashing facility at home.

Source: WHO-UNICEF JMP, 2021.



2.2 Why better urban WASH coverage is vital

Despite substantial progress, on a global level one person in four (almost 2 billion) is still estimated to lack safe drinking water, close to half (3.6 billion people) lack safely managed sanitation solutions, and over a third (2.3 billion) lack the potential for safe hygiene at home. To achieve the 2030 targets, the JMP estimates that current rates of improvement would have to speed up by about four-fold.⁴

The situation in urban areas is especially daunting. As of 2020, an estimated 86% of urban dwellers had safely managed drinking water and 62% had safely managed sanitation (see Tables 1 and 2). Yet despite the apparently higher level of urban provision, the speed of urban population growth means rapid improvement here is especially urgent to meet global goals. The JMP estimates that urban progress needs to be five times faster than it is now – and for safe urban drinking water, an astonishing 25 times faster.⁴

Historically, towns and cities have been far better served than rural areas. But the gap is closing as local authorities struggle to keep up with rapid urban growth.⁶ In some countries, the rate of urban progress has stagnated or even reversed over recent decades. In others, the proportion served has increased, but the absolute numbers needing provision have increased even faster, especially in informal settlements. The challenge is most formidable in sub-Saharan Africa, where over 60% of the burgeoning urban population lives in slum settlements. (It should also be acknowledged that in many Latin American cities, the proportion in informal settlements has fallen and the percentage with WASH provision has increased.⁷)

Table 1. Percentage of urban populations served by different water supply systems (2020)⁴

Nation, region, UN classification and income level	% of the world's urban population	% of the urban population with provision for water that is:			
		Unimproved	Improved & not piped	Improved and piped	Improved and safely managed
Least-developed nations	8.5	5	34	60	55
Low-income nations	5.3	5	27	67	58
Lower-middle-income nations	27.1	3	35	62	58
Sub-Saharan Africa	10.5	5	38	56	54
Some examples of large population nations					
Nigeria	2.5	10	83	12	25
India	11.1	3	31	66	na
Brazil	4.2	<1	<1	>99	88



Table 2. Percentage of urban populations served by different sanitation systems (2020)

Nation, region, UN classification and income level	% of the urban population with provision for sanitation that is:					
	Open defecation	Unimproved	Improved and limited	Improved and basic	Improved and safely managed	With sewer connections
Least-developed nations	4	20	29	48	27	11
Low-income nations	4	24	26	46	20	15
Lower-middle-income nations	2	4	19	75	40	36
Sub-Saharan Africa	5	17	32	46	23	16
WORLD	<1	3	8	88	62	64
Some examples of large population nations						
India	<1	<1	19	79	37	34
Nigeria	8	12	30	52	31	13
Brazil	<1	6	<1	94	51	78

2.3 The challenge of insufficient data

A proper understanding of the situation depends on what data is available, and there are significant gaps in this regard. For instance, in 2020 71% of the global population was estimated by the JMP to have access to basic handwashing facilities – an especially critical number in the context of COVID-19 - yet this figure is based on data from only 79 countries. The JMP also acknowledges its inability to provide any overall estimates for urban areas. As is well known, data for informal settlements are especially lacking.

Also seriously lacking is any indication of the critical level of disparity within urban provision. JMP figures provide rural/urban disparities and disparities by wealth quintile, but not both at the same time, and so the picture for the urban poor remains unclear. Another problem relates to the relevance of the data and standards when applied to urban realities. According to a paper in The Lancet series, for instance, ‘the international community might even have exacerbated the problem by setting standards for improved sanitation (e.g. pit latrines with slabs), that are unsuitable for densely crowded slum conditions.’⁸ There is a broad spectrum of realities in informal settlements, and of deficiencies in the scale, range and feasibility of water and sanitation provision. But as a generality, small plot sizes, multistorey dwellings and difficulties with access for sludge removal or the installation of piped infrastructure all complicate the situation. A failure to consider the complexity of the local context, including the realities for tenants, the regulatory context for illegal residents and the quality of governance, leads to a significant underestimation of the scale of the urban problem.⁹

Globally 1 person in 4 is still estimated to lack safe drinking water, close to half lack safely managed sanitation solutions and over a third lack the potential for safe hygiene at home.

2.4 A more critical and accurate assessment of urban realities

In the following sections, we draw on other resources for a more critical and realistic appreciation of the realities for the urban poor and residents of informal settlements.

2.4.1 Lack of safe drinking water

The JMP figure for safe drinking water in urban areas is 86%. This figure drops to the mid 50% level within sub-Saharan Africa and least developed countries. It drops still further for just informal settlements, although the JMP offers no estimates on this front. Even then, formal figures overestimate the availability of clean and safely managed drinking water for urban residents. As explained by the recent World Resources Report on urban water access,¹⁰ the JMP considers availability and quality, but not the intermittent nature of many supplies or their cost. 'Available when needed' is defined to mean 12 hours a day – this does not guarantee a continuous supply, which is important to preventing contamination within water pipes. Also, when supplies are intermittent, households collect water when it is available, and store it until needed. This becomes one more point when water quality can be compromised. Water that may have started out clean can become contaminated by handling or by storage in uncovered containers before it is used.

Furthermore, city data, like city services, can overlook many informal settlements. Throughout the urban South, access to piped water is tied to the politics of land use and informality, factors that may also contribute to intermittent supplies. Even where cities are considered well supplied, informal residents may depend on water purchased from vendors or tanker trucks, often at many times the cost of piped water. It varies though – the World Resources Report considers the quality of WASH provision in 15 cities and notes the wide range of realities. Where NGOs are active in informal settlements, as in Maputo or Nairobi, sub-sections of these settlements may actually be better provided than the rest of the city. But there are also cities like Mumbai, Kampala and Lagos, where informal settlements have minimal and sub-standard piped water supplies, if any. Even in Maputo's comparatively well-served informal settlements, there are wide disparities. Over a quarter of the informal residents here purchase water from neighbours who have piped supplies, and they end up paying approximately 13 times more per unit.

2.4.2 Inadequate sanitation

Most informal urban settlements, home to most residents in many cities, are not connected to the formal sewered networks and proper sewage treatment facilities. Instead, they rely on on-site solutions, which require the removal or on-site treatment of excreta from toilets and latrines. On-site solutions that work reasonably well in less-dense areas present many problems where space and access are very limited. Even in cities considered to have adequate sanitation, widely strewn faeces after rainstorms, clogged and unusable toilets, and a reliance on solutions such as 'flying toilets'¹¹ are common. As with water, affordability is a massive issue, and one often overlooked by global standards and agencies.

On-site solutions, despite their generally lower level of convenience and efficiency, tend to be more costly for their users, requiring both an initial investment and on-going maintenance costs.

86% of urban populations have safe drinking water.

This figure drops to the mid-50% level within sub-Saharan Africa and least developed countries and drops further in informal settlements.



According to the JMP standards, 62% of urban dwellers have safely managed sanitation. But this includes many solutions that cannot be considered satisfactory in dense urban areas. When all this is taken into consideration, the proportion of urban residents who can be considered safely provisioned drops to 43%.¹⁰

Another concern is that even more formally served parts of cities are not immune to faecal contamination. The 15-city study shows that more than 60% of the sewage and faecal sludge produced in these cities is *not* in fact safely managed (although it may meet JMP standards). It varies widely – in Santiago de Cali, Colombia, 87% is safely managed; in Caracas, Colombo and Karachi, *none* is safely managed. Across these 15 cities, an average of 46% of households are connected to a central sewer system, yet less than half of the sewage they generate ends up in a safely managed sewage treatment facility.⁹ If local authorities are struggling now to keep up with the backlog, there is little chance that the situation will have improved when the urban population in less-developed regions has expanded by another 2 billion over the next three decades.¹²

2.4.3 Exacerbating factors

The WASH situation is further complicated by the impact of climate change in many urban areas, not only with extreme events, but even with smaller seasonal changes.¹³ Droughts lead to depleted water supplies, over-extraction, higher prices, reductions in pressure in piped networks and greater chances of contamination. Flooding contributes further to sanitation difficulties, inundating latrines, leading to overflow of open drains, and spreading faecal matter throughout settlements. The problems are especially severe where stormwater drainage is inadequate or where drains are clogged by uncollected solid waste.¹⁴ There are disproportionate burdens for the urban poor in terms of their capacity to cope adequately with these shocks.¹⁵

Humanitarian crises, which increasingly play out in urban settings, also have a multiplier effect on access to adequate WASH. A systematic literature review on WASH interventions in conflict settings identifies the lack of information on this front, suggesting that it is another area that requires further study.¹

The bottom line is that, despite over 40 years of global pledges and heartening progress in some areas (such as the drop in open defecation), an ever-growing number of urban dwellers, far more than officially recognised, live with levels of WASH provision that threaten their health, safety, comfort, dignity and productivity.

An ever-growing number of urban dwellers, far more than officially recognised, live with levels of WASH provision that threaten their health, safety, comfort, dignity and productivity.



Box 1. The impacts of poor WASH provision: a common story

Located on the outskirts of Mogadishu, the Alkodhar informal settlement was formed in 2012 and has 307 households. These include many internally displaced people who arrived during the 2011–2020 drought or, more recently, who were evicted from central city locations. There are some communal water taps built by NGOs, but not enough. Many residents have to access water from expensive mobile vendors, especially if they cannot afford the time to wait in line. Some entrepreneurial business people have dug wells from which they pipe water to the settlements, but again, it is at a cost. And sanitation is a major challenge. The settlement has seven free-to-use latrines and queues are very long, especially in the morning, when people are in a hurry to leave for work or school. Many residents have no choice but to use the bush.¹⁶

3. THE IMPLICATIONS OF INADEQUATE WASH FOR CHILDREN

The inadequate provision of WASH services affects everyone, but in the context of urban poverty it exerts a particularly large influence on health, survival, growth and development throughout childhood.¹⁷ Although systematic and comparable figures on the impacts for urban children in poverty are hard to come by, a growing body of research on health and development issues in slums and informal settlements provides fine-grained evidence of children's experience.

3.1 Impacts on children's health and survival

There is growing evidence that infant and child mortality and morbidity rates in poor urban settlements are not only higher than in other parts of urban areas, but can equal or exceed the rates in rural areas. A study of slums in Bangladesh, Kenya, Egypt and India, for example, found that illness and malnutrition rates were higher among children living in slum communities than anywhere else, rural or urban. Treatment seeking was better in slums than in rural areas, but this did not mean better mortality outcomes.¹⁸ These disparities are closely tied to inequalities in the urban distribution of basic amenities and health services.¹⁹ Inadequate provision is directly related to water- and food-borne diseases, as well as water-washed diseases, and indirectly to malnutrition and other conditions that sabotage health and survival, especially among the youngest children because of their undeveloped immunity and their greater exposure to contamination, playing close to the ground.²⁰

3.1.1 Diarrhoeal diseases

Diarrhoeal diseases, primarily water-borne but also related to contaminated food, still cause an estimated 20% of all under-5 deaths globally, with the highest rates among infants and toddlers. In the global South, 58% of all cases are attributed to inadequate WASH.²¹ In poor urban settlements, this percentage is undoubtedly much higher. In an urban slum community in Nepal, for instance, 40% of children under five had experienced bouts of diarrhoeal disease in the last three months.²² Bottle-fed infants and toddlers may be at particular risk when formula is mixed, or bottles washed, with contaminated water.²³ Repeated occurrences of diarrhoea can undermine general health, increasing children's vulnerability to infection and malnutrition.

3.1.2 Worms and other parasites

In settlements without basic services, a high proportion of children can suffer from intestinal worms and other parasites, with both school-aged and younger children at high risk. A Nigerian slum study, for instance, found 86% of school-aged children to be infected with at least one kind of intestinal parasite, with the quality of drinking water the most significant cause.²⁴ In Kibera, Nairobi, where 40% of school-aged and pre-school children tested positive for at least one parasite, a toilet at home and covered storage for water were found to be protective factors.²⁵ Infestations can cause pain and interfere with concentration in school. They can also be related to anaemia, growth and cognitive impairment, general immuno-suppression and decreased productivity.

3.1.3 Malnutrition

One of the most lethal effects of poor WASH is its impact on children's nutritional status, with far-reaching implications. Indeed, sanitation-related disease has been referred to as 'undernutrition's blind spot'.²⁶ Malnutrition is not simply a function of insufficient calories – it also depends on children's capacity to make adequate use of the calories they consume.

Diarrhoea can squander these calories, as can infestations of worms. The drain of fighting off infection can also compromise children's capacity to make full use of what they eat. Malnutrition in turn leaves children more vulnerable to repeated infection.²⁷ Guerrant and colleagues, referring to 'the vicious cycle of infection and malnutrition', argue that malnutrition should in part be considered a chronic low-level inflammatory condition related to unsanitary conditions, and contributing to stunting and vulnerability to other infections.²⁸ There are long-term implications, including the intergenerational risk of stunting.²⁹

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3.1.4 Malaria and other vector-borne diseases

Although the links between WASH and vector-borne diseases are not extensively documented, environmental hygiene is known to play an important role. A recent study drawing on national survey data in sub-Saharan Africa, for instance, found a significant relationship between unprotected water and no toilet facilities and the risk of malaria.³⁰ Malaria also depends on the capacity of disease-carrying mosquitoes to breed in standing water, a more likely scenario where undrained water and piles of refuse act as breeding and feeding grounds for various disease vectors.

3.1.5 Water-washed diseases

Water-washed diseases, related to insufficient supplies of water or amenities for keeping children clean, can include such skin and eye diseases as scabies, impetigo, conjunctivitis and trachoma. They can especially affect children old enough to crawl or play in contaminated environments.³¹ When water supplies must be stored within homes, these same children may contaminate water with dirty hands. These ailments are not as far reaching in their effects as water-borne illnesses, but can cause serious discomfort. The lack of hygiene related to scarce water also contributes to the spread of water-borne disease agents.³²

3.1.6 Other airborne diseases

Other diseases that are only indirectly related to WASH provision, such as tuberculosis and pneumonia, can also have a huge impact on the lives of children and their parents.³³ Pneumonia and other acute lower respiratory diseases continue to be the most common killer of children under five. Although these ailments are associated with WASH primarily through the immune-suppression related to malnutrition, they are highly correlated with the absence of adequate basic service provision.³⁴

3.1.7 Physical hazards and obstacles

Poor WASH provision can also put children at higher risk of injury, whether because of uncovered drains, poorly drained streets and alleyways, uncollected rubbish, or latrines more appropriate for adults.³⁵ The impact of inadequate WASH provision can also seriously limit the mobility and safety of children with disabilities. Muddy alleyways can be difficult to navigate, for instance, and schools without accessible toilets can mean that students who are disabled avoid drinking or eating while at school, to the detriment of their health.³⁶

3.1.8 The quality of caregiving

All of these health problems are mediated by the quality of caregiving.³⁷ Caregivers play a primary role in the levels of hygiene that ensure children's good health, and also the feeding practices crucial for their nutritional status.³⁸ The time burdens imposed on caregivers by inadequate WASH provision and poor environmental conditions can also compromise their capacity for supervision, a vital function given the hazards in many poor urban environments.³⁹ The challenges associated with the caregiver's role will be discussed more fully in the gender section.

3.2 Impacts on children's development

Poor WASH provision impedes optimal development in a number of ways, whether in terms of growth, cognitive outcomes or psychosocial impacts.

3.2.1 Malnutrition and cognition

While the links between inadequate WASH and cognitive development remain speculative,⁴⁰ there is copious evidence supporting the connections between WASH and stunting, and a general acceptance that chronic malnutrition in young children is among the major threats to their cognitive development. Longitudinal data from Ethiopia, for instance, found that early childhood stunting had a significant effect on cognitive achievement at age eight.⁴¹ Unicef multiple indicator cluster surveys (MICS) data from several South Asian countries found both stunted and underweight children to be at higher risk of sub-optimal cognitive development.⁴² The severity of the developmental impact is influenced by both the timing and severity of the stunting. When persistent stunting starts in the early months and years, it has the most pernicious impact. There are long-term implications for individual children, but also for their families and societies, including lower educational achievement, lower adult wages and lower productivity.⁴³ Although the implications for cognition have been considered irreversible, there is some evidence now that growth recovery through early adolescence may be linked to improvements in developmental outcomes.⁴⁴

3.2.2 Children's play

Children's play is a critically important pathway for their development on all fronts: physical, cognitive and psychosocial. Of particular importance here is children's engagement in the physical and social world around them. Without a place to play and people to play with, developmentally



supportive play activities can be seriously limited. Children are very resourceful on this front and, even in the most compromised surroundings, they generally find ways to explore and engage. However, especially in densely populated and contaminated environments, their access to the world outside their often-overcrowded homes may be severely limited by safety and health considerations. Piles of rubbish, uncovered drainage ditches, standing water and uncollected faeces, along with other constraints such as traffic, may discourage caregivers from allowing their children the freedom to play outdoors. Tensions between adults can also erupt around long queues for water or toilets, or the indiscriminate dumping of rubbish. Nallari notes how often children are simply kept indoors in these situations to avoid unpleasantness.⁴⁵ Children's desire for play can also be compromised when they are ill or malnourished.

3.2.3 School attendance

WASH provision affects school attendance in various ways. WASH-related illness can mean days out of school. Worm infestations and malnutrition can disrupt concentration in class. For girls especially, inadequate provision at school can affect the willingness to attend school and its feasibility, as we will elaborate on in the gender section (Section 3.3). Children can become trapped this way in a vicious cycle of poverty and poor health, with lifelong implications.

3.3 Tackling WASH from a gender perspective

There are important gender dimensions to inadequate WASH in informal settlements, with implications for the opportunities, safety, dignity and pride of older girls (and women more generally). It is well documented that violence and inappropriate behaviour towards girls can be heightened when they have to use toilets at any distance from home, or even toilets at school.⁴⁶ Girls can also be especially burdened by water collection, enduring lengthy queues at public taps and the physical effort needed to carry water home.⁴⁷ Schooling can be interrupted by this work burden, as well as by the absence of school toilet facilities adequate for coping with menstrual hygiene.⁴⁸ A study in an urban slum in Madhya Pradesh found that more than half the sample of adolescent girls missed school when they were menstruating.⁴⁹ This can result in both school drop-out and lower literacy rates.

Women (and this includes many adolescent girls who may be older sisters or even mothers themselves) are more likely than men to shoulder childcare burdens linked to inadequate WASH – including the care of children sick with diarrhoea or other ailments. The impact of WASH on children's health, as noted, is often mediated by its impact on their caregivers.³⁷ Maintaining adequate levels of hygiene in the context of poor provision can mean huge time commitments – not only fetching and storing water, but also keeping containers and surfaces clean, boiling drinking water, preparing food safely, managing children's faeces safely and keeping children's hands clean. These are just some of the endless tasks that drain caregivers' time and energy.⁵⁰ These factors eat into time that might otherwise be spent in study or productive livelihoods, and can result in long-term declines in human and financial capital – with knock-on effects for both their current and future children.⁵¹ Inadequate WASH can also imperil women's and girls' dignity and self-respect, contributing to feelings of shame and humiliation.⁵²

Children and young people bring a particular perspective to responsive planning – neighbourhoods that work better for children tend to work better for everyone.

Box 2: Radha's story

Radha lives in an unrecognised slum in Bengaluru, India. The slum is home to 1,300 people. The entire settlement is served by one water tap, with supplies every other day for a few hours. Otherwise, there is no formal provision for basic infrastructure. Waste, both wet and dry, is discarded in back lanes, and with no drainage pipes, waste water is dumped outside the settlement or left to stand around homes. Some residents have dug pit toilets; but well over half squat on the adjoining land.

The oldest of five children, Radha attended school briefly, but dropped out to help her mother with household chores. This includes caring for the younger children while her mother works as a housemaid. Radha also cooks, cleans and washes clothes, all of which uses a lot of water, which she lugs home in heavy pots, often

after waiting for hours at the one water tap. What brings tears to her eyes, however, is the lack of a proper toilet. Two years ago, Radha's family invested in a pit latrine, but they had to give up using it after a year because they could not afford to have the over-flowing pit emptied. Radha climbs through a hole in the boundary fence very early in the morning to relieve herself.

During monsoon time, when there is more shrub coverage, this feels more private, but then snakes can be a problem. In the dryer months, she feels ashamed and embarrassed by being seen as she squats. It is especially hard to cope when she is menstruating and has to find discreet ways to dispose of her used pads. Men and boys loiter around, and she is frequently teased and harassed.⁵³

All of these WASH-related concerns can become still more pressing in fragile and unsettled situations – for instance in the context of climate-related hardships, in conflict settings, and in emergency camps and refugee settlements. Yet as we noted at the beginning of this brief, the everyday situation in many poor urban settlements could fairly be characterised as a chronic humanitarian crisis, meeting or exceeding the emergency thresholds that apply in the context of conflict or disaster.¹

4. IMPLICATIONS FOR PRACTICE - RESEARCH TO ACTION

Numerous stakeholders are involved in the complex ecology of providers that address both provision for urban WASH and its many implications – not only a range of local, regional and national government agencies, but also the private sector, aid agencies, communities and end users. This briefing, however, is intended primarily for NGOs, especially those that focus on children, and this section will look at what NGOs can do, highlighting some promising initiatives and, like other briefings in this series, emphasising the critical importance of fostering productive engagement between neglected urban residents and local authorities.

Local authorities in most urban areas have primary responsibility for WASH. But, as already noted, they can be hard-pressed to meet the level of need where cities are growing rapidly. It can seem important, then, for NGOs to help fill the gap. Among child-focused NGOs, this most often happens through projects that address the outcomes of a lack of provision. These can include hygiene initiatives, access to relevant medical treatment, feeding programmes to respond to malnutrition, projects to address violence against girls, or various developmental supports such as protected play space in communities and emergency camps.

There is no question that these interventions can make a significant difference to the quality of children's lives. But it is also true that in the absence of underlying WASH provision for all, they may not realise their full potential. This is not to suggest that these valuable initiatives be minimised or sidelined. Rather, we encourage a perspective that frames them as a *supplement* to efforts to achieve full WASH provision, as will be detailed below, rather than as an *alternative* or substitute for adequate provision. There are many ways to achieve this sort of support and coordination, some of which we will briefly outline below.

But first to consider the underlying issue of actually achieving full WASH provision in urban areas. Many NGOs have tackled WASH provision on a piecemeal project-oriented basis. But partial responses are not sufficient for optimal public health and efficiency. For instance, when only some households in a settlement have safely managed provision, the level of ambient faecal contamination can remain high enough to affect all children.⁵⁴ For the more efficient, integrated community and citywide coverage essential to public health, the only realistic approach is coordination with the authorities responsible for these functions.

In settlements challenged by density, informality and an absence of basic infrastructure, there is compelling evidence for the value of collaboration and coordination between communities and networks of the urban poor and the authorities that in theory are responsible for their provision. These partnerships are critical. Community-based organisations (and most NGOs) cannot build the big infrastructure (water treatment plants, water and sewerage mains, treatment plants) that is needed. But they can negotiate for this provision and can often provide the taps and toilets in their homes and the water and sewerage pipes at neighbourhood level that connect to the big infrastructure. NGOs can provide invaluable support to communities on these fronts, as is evident, for instance, in the classic case of Pakistan's Orangi Pilot Project, where resident-installed water and sewerage pipes serving individual lanes were hooked up with the city's trunk infrastructure.⁵⁵ Another classic case is the widespread and ongoing work of Slum/Shack Dwellers International, as detailed in Box 3.

Box 3. WASH provision through co-production

Over the last several decades, Slum/Shack Dwellers International (SDI), the federated networks of urban poor communities, have managed to negotiate for and collaborate on WASH installations (as well as more far-reaching slum-upgrading projects) in hundreds of cities globally, primarily in Asia and sub-Saharan Africa, but also in Latin America.⁵⁶ SDI-supported communities start by addressing the all-important data gaps that exist for informal settlements through the 'enumerations' or community surveys they conduct, both to gain a clear sense of their own local realities (including WASH) and as the basis for negotiation with the authorities.⁵⁷ To date, SDI's local federations have mapped and surveyed slum communities in over

460 cities, and in many cases have managed to include every local slum community in order to achieve a citywide voice and presence.⁵⁸ These communities and networks also collaborate on determining the most appropriate solutions, as well as coordinating reblocking where necessary and ensuring that their negotiated share of the expenses is paid. This work is not simple or straightforward. There can be many conflicting priorities, bureaucratic impediments and financial challenges. Nonetheless, these approaches have managed to bring about widespread improvements that would not otherwise have happened, and that have changed the lives of many hundreds of thousands of residents worldwide.

How does this kind of co-production relate to the work of child-focused agencies and organisations? Precisely because community networks and local authorities are seldom oriented to the specific and disproportionate needs of children and adolescents, these NGOs have an especially critical WASH role. Box 4 lists some examples of potential coordination that can maximise the value of these efforts for children.



Box 4. How child-focused NGOs can contribute to co-production efforts for WASH provision

Child specific data: NGOs can work with federations of the urban poor to ensure their data-collection efforts include child-specific data, for example about child ages, health and nutritional status, relevant healthcare services, school attendance and reasons for drop-out or absenteeism, or the availability of well-provided childcare centres and safe, healthy community play space. They can also provide support for the involvement of children and adolescents in these enumeration efforts.

Supporting co-production with local authorities: NGOs can collaborate with community-based networks to press for local authorities' engagement, stressing the added value for children and the implications for children's rights.

Including children's perspectives: In community-driven responses to upgrading, NGOs can support the inclusion the perspectives of caregivers, children and adolescent in identifying problems and objectives.

Complementary initiatives in communities, schools and health centres: NGOs can use these opportunities to introduce relevant complementary initiatives that are within their specific repertoire and expertise – including hygiene support, safe play space for children, specific responses to the safety of adolescent girls, attention to the level of WASH provision in nearby schools, and nutritional support to speed the catch-up growth of children who have been left malnourished by the chronic low levels of infection that can accompany the lack of WASH provision.

Advocacy and communication: On national and international fronts, child-focused NGOs can help to ensure that the linkages between WASH and children's well-being are well recognised, as well as the critical importance of locally specific WASH efforts in ensuring the relevance of these efforts to local children.

Even in cities where these types of urban poor networks do not yet exist, child-focused NGOs can strengthen their WASH-related programming by ensuring that it takes place within the context of constant advocacy and awareness-raising regarding the profound implications of an absence of WASH for children, not only among parents and caregivers, but also among community leaders and local authorities.

5. CONCLUSION

The growing numbers of urban residents in the global South who remain unreached by safely managed provision for WASH, especially in slums and informal settlements, are reflected in the comparatively high numbers of children in these settlements who continue to be disproportionately affected by WASH-related ailments and conditions. Diarrhoeal diseases have the most significant impact on infants and children under five. Along with environmental enteric dysfunction (EED) – the chronic low-level infection that afflicts young children in contaminated environments – repeated bouts of diarrhoea contribute to high levels of malnutrition and stunting, leaving children more vulnerable to reinfection and to other lethal illnesses such as pneumonia, which continues to take a high toll on young children. Parasitic infections, water-washed skin and eye ailments, and vector-borne diseases impose heavy burdens on school-aged children as well.

All these health burdens can have consequences for children's longer-term cognitive development and school success. Older girls can be especially disadvantaged with regard to school attendance, particularly by the high time burdens imposed by poor provision, by the absence of school WASH facilities that support menstrual care, and by the violence and harassment that can accompany the use of communal or school toilets.

Many child-focused NGOs have routinely undertaken a range of interventions that address the multiple consequences of inadequate WASH for children and adolescents. Rather than detailing these more familiar responses, this briefing focuses on the added value these NGOs can bring to the critical partnerships between local authorities and neglected communities. Not only do these partnerships have a proven track record in addressing shortfalls in provision; they are also the best route to improving children's environments more generally.



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