

Sudan's frayed lifelines: Even pre-war, basic services fell far short of adequate

Afrobarometer Dispatch No. 1053 | Zuhayr Mustun

Summary

Sudan's civil war has manifested itself in what has been described as the largest displacement crisis in the world, and the repercussions of the war are unfolding in major resource and demographic stress throughout the country and in neighbouring Chad, South Sudan, and Egypt (International Organization for Migration, 2024; World Health Organization, 2025). The war has exacerbated already-precarious water, sanitation, and hygiene (WASH) systems, and the destruction of power stations has led to frequent power cuts (Singh, 2025).

Accentuated water shortages are forcing citizens, most often women and children, to undertake perilous journeys in search of water, which may be from unsafe sources and cause diseases such as diarrhea and cholera (International Medical Corps, 2025). At the same time, power outages have had crippling effects on the health-care system, making it increasingly difficult to store medications (Elamin et al., 2024).

Recent studies have worked to assess the impacts of the war on health, education, livelihoods, migration, and basic services, among other sectors (Asmally et al., 2025; International Food Policy Research Institute, 2024). To complement these assessments, the present dispatch examines key findings on Sudanese perceptions of essential services – water, sanitation, and electricity – based on an Afrobarometer survey conducted before the current conflict started in 2023, thus providing a pre-war on-the-ground look.

Survey findings show that water shortages were already a reality shared by an increasing majority of Sudanese, most frequently by poorer citizens. Access to in-house piped water was skewed in favour of city dwellers and economically well-off citizens. Pollution of water sources and inadequate human-waste management were cited as the most important environmental challenges affecting communities.

Although more than six in 10 said their households were connected to the national electricity grid, only about one-third of all respondents enjoyed a reliable supply of electricity.

Vast majorities gave the government poor marks for its management of water, sanitation, and electricity services.

Afrobarometer surveys

Afrobarometer is a pan-African, nonpartisan survey research network that provides reliable data on African experiences and evaluations of democracy, governance, and quality of life. Ten survey rounds in up to 45 countries since 1999. Afrobarometer conducts face-to-face interviews in the language of the respondent's choice.

In Round 9, the Afrobarometer team in Sudan, led by the Sudan Polling Statistics Center (SPSC), interviewed a nationally representative, random, stratified probability sample of 1,200 adults in November-December 2022. A sample of this size yields country-level results with a

margin of error of +/-3 percentage points at a 95% confidence level. Previous surveys were conducted in Sudan in 2013, 2015, 2018, and 2021.

Key findings

- By overwhelming majorities, Sudanese citizens said their government was doing a poor job of providing water and sanitation services (86%) and a reliable supply of electricity (79%).
- Afrobarometer field teams found that 68% of the communities they visited had an electricity grid “that most houses can access,” while fewer had a piped-water system (52%), a borehole or tubewell (49%), and/or a sewage system (13%).
 - Urbanites and economically well-off citizens were considerably more likely to have access to basic service infrastructure than rural residents and poor citizens.
- About two-thirds (65%) of citizens reported that they or someone in their household had gone without enough clean water at least once during the previous year. The prevalence of water shortages increased by 9 percentage points between 2013 and 2022.
- One-third (34%) of Sudanese said they had piped water in their home, while one-fourth (25%) relied on public taps or standpipes as their main water source.
 - In-home piped water was far more common among urbanites and well-off citizens than among rural residents and the poor.
- About seven in 10 respondents (69%) said they a toilet or latrine in their home, while another 19% had such facilities inside their compound.
- Pollution of water sources and sanitation ranked as the most important environmental issues in respondents’ communities.
- More than six in 10 respondents (63%) said they were connected to the national electricity grid. Grid connectivity was higher among city dwellers than rural residents (87% vs. 51%) and among the wealthiest compared to the poorest (84% vs. 54%).
 - But overall, only 35% of all respondents enjoyed a power supply from the national grid that worked “most” or “all” of the time.

Government performance on water/sanitation and electricity

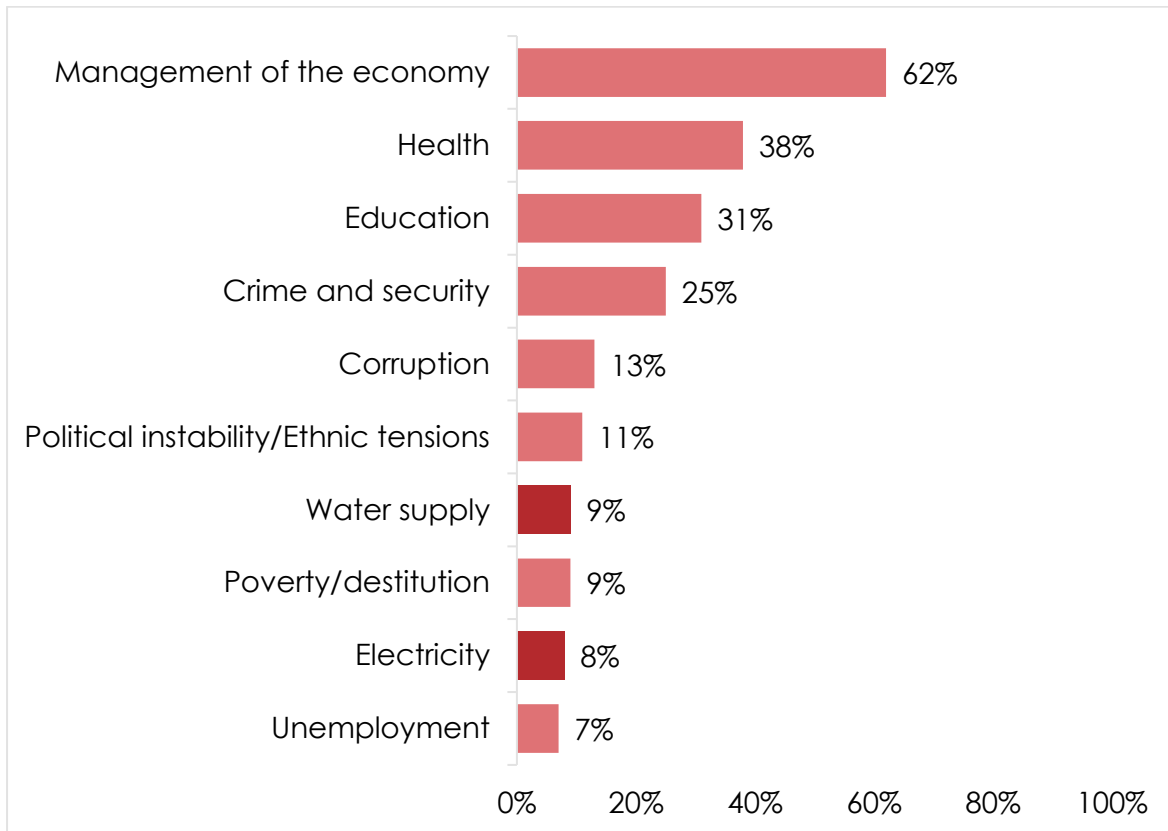
As of late 2022, water and electricity supply ranked seventh and ninth, respectively, among the most important problems that Sudanese wanted their government to address (Figure 1).

Overwhelming majorities said the government was failing on these essential services (Figure 2). Almost nine out of 10 (86%) said it was doing a poor job on providing water, including 67% who described its performance as “very bad.”

Similarly, 79% said the government was doing poorly on providing a reliable supply of electricity.

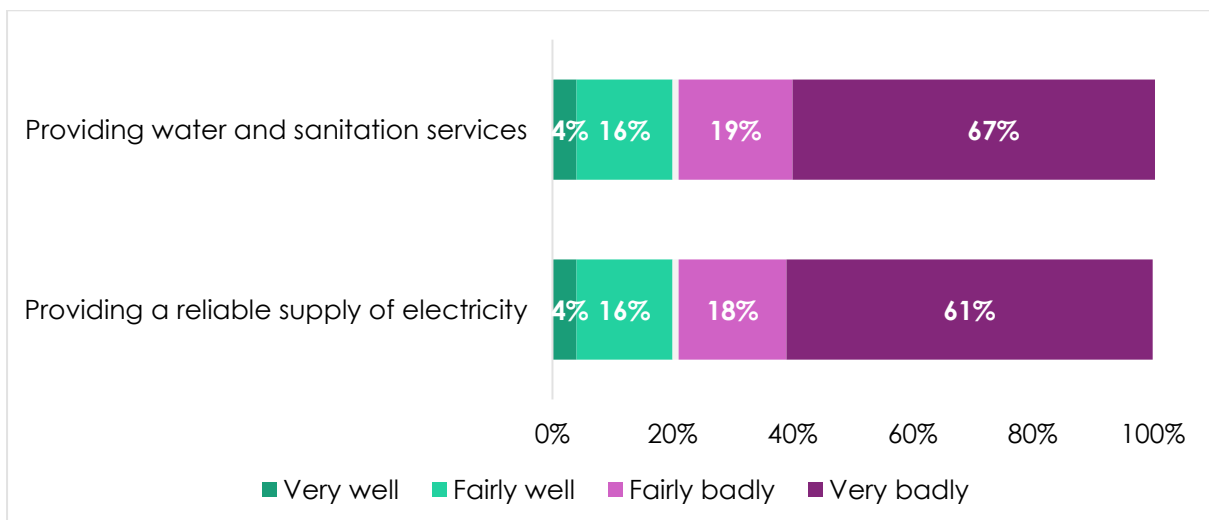
Leaders’ inaction may help explain such negative ratings: More than half (54%) of Sudanese considered it “not very likely” or “not at all likely” that they could get a local leader or government office to help with a community development project such as improved water supply or community clean-up (Figure 3).

Figure 1: Most important problems | Sudan | 2022



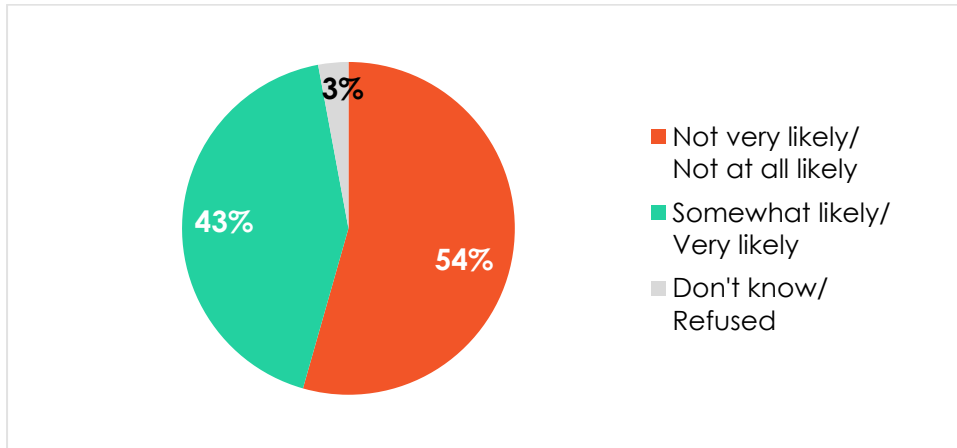
Respondents were asked: In your opinion, what are the most important problems facing this country that government should address? (Up to three responses per person; figure shows % of respondents who cite each problem among their three priorities.)

Figure 2: Government performance on providing water, sanitation, and electricity | Sudan | 2022



Respondents were asked: Now let's speak about the performance of the present government of this country. How well or badly would you say the Transitional Government is handling the following matters, or haven't you heard enough to say?

Figure 3: Likelihood of getting government action on water supply or community clean-up | Sudan | 2022

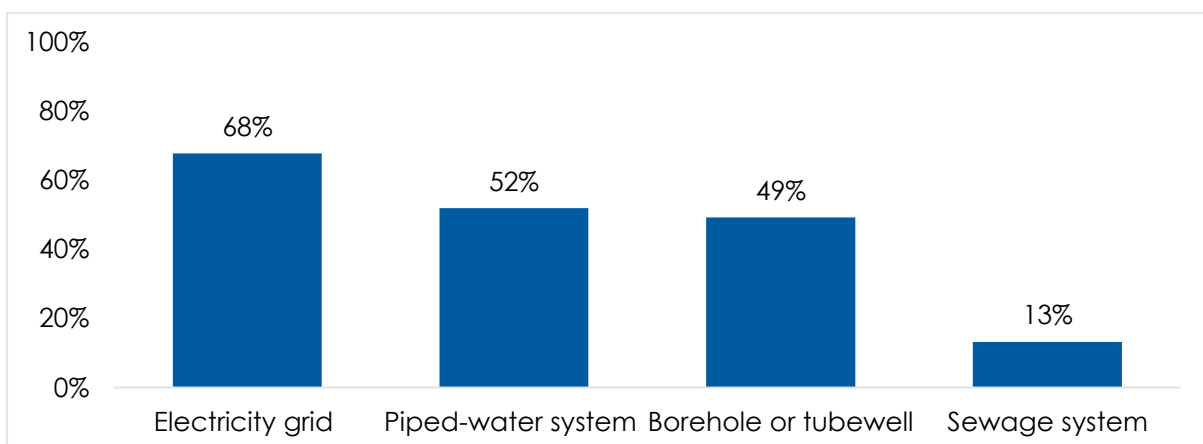


Respondents were asked: How likely is it that you could get someone to take action if you went to a local leader or a local government office to request assistance for a development project in your community, like an improved water supply or community clean-up activity?

Electricity, water, and sanitation infrastructure

Reliable electricity, water, and sanitation services typically require the presence of adequate infrastructure. Afrobarometer field teams record the presence or absence of an electricity grid and water and sewage systems in every enumeration area (EA) they visit. In 2022, field teams in Sudan found that 68% of the communities they visited had an electricity grid “that most houses can access.” About half of EAs had a piped-water system (52%) and/or a borehole or tubewell (49%), while only 13% had a sewage system (Figure 4).

Figure 4: Water, sanitation, and electricity infrastructure in the EA | Sudan | 2022

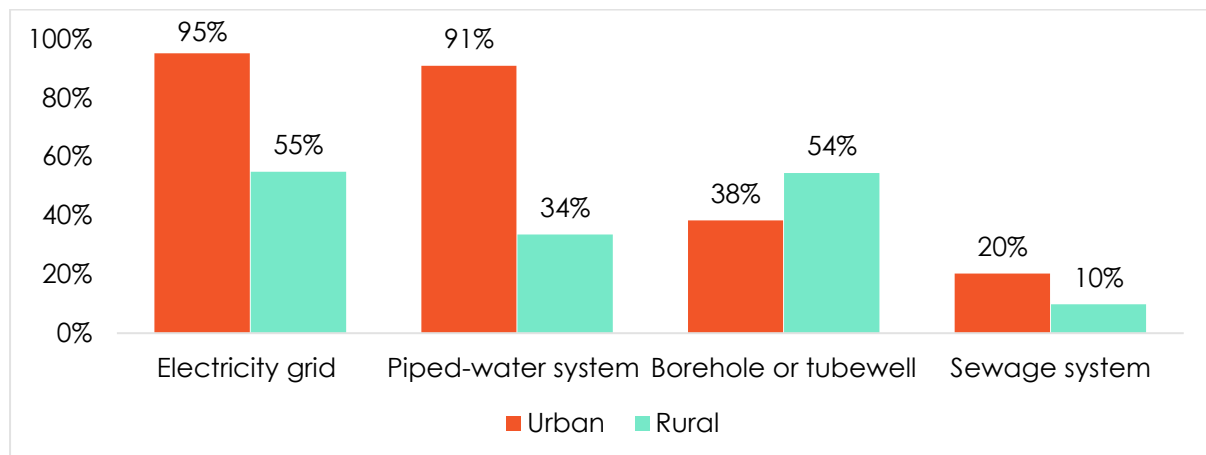


Afrobarometer field researchers were asked to record: Are the following services present in the primary sampling unit/enumeration area: Electricity grid that most houses can access? Piped water-system that most houses can access? Sewage system that most houses can access? Borehole or tubewell? (% “yes”)

Electricity grids, piped water, and sewage systems are more common in cities than in rural areas, with the largest gap observed for piped-water systems (91% urban vs. 34% rural). In contrast, boreholes/tubewells are more often found in rural areas (54% vs. 38%) (Figure 5).

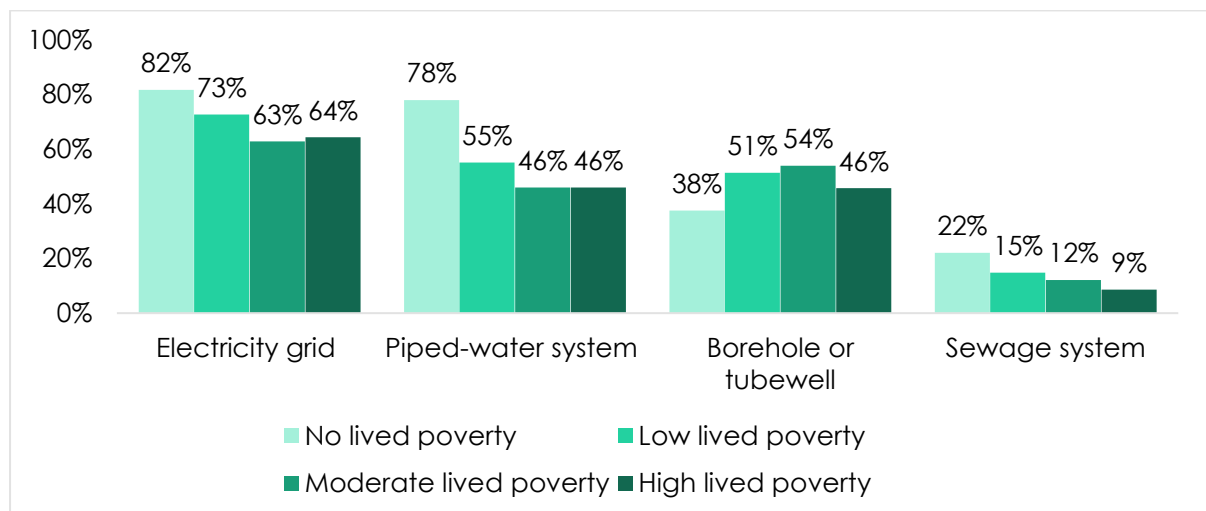
An assessment by economic status¹ yields a similar story: Well-off citizens are considerably more likely than the poorest to live in areas served by an electricity grid (82% vs. 64%), a piped-water system (78% vs. 46%), and a sewage system (22% vs. 9%), but it is the poorest who are more likely to live near a borehole/tubewell (46% vs. 38%) (Figure 6).

Figure 5: Water, sanitation, and electricity infrastructure in the EA | by urban-rural location | Sudan | 2022



Afrobarometer field researchers were asked to record: Are the following services present in the primary sampling unit/enumeration area: Electricity grid that most houses can access? Piped-water system that most houses can access? Sewage system that most houses can access? Borehole or tubewell? (% “yes”)

Figure 6: Water, sanitation, and electricity infrastructure in the EA | by lived poverty | Sudan | 2022



Afrobarometer field researchers were asked to record: Are the following services present in the primary sampling unit/enumeration area: Electricity grid that most houses can access? Piped-water system that most houses can access? Sewage system that most houses can access? Borehole or tubewell? (% “yes”)

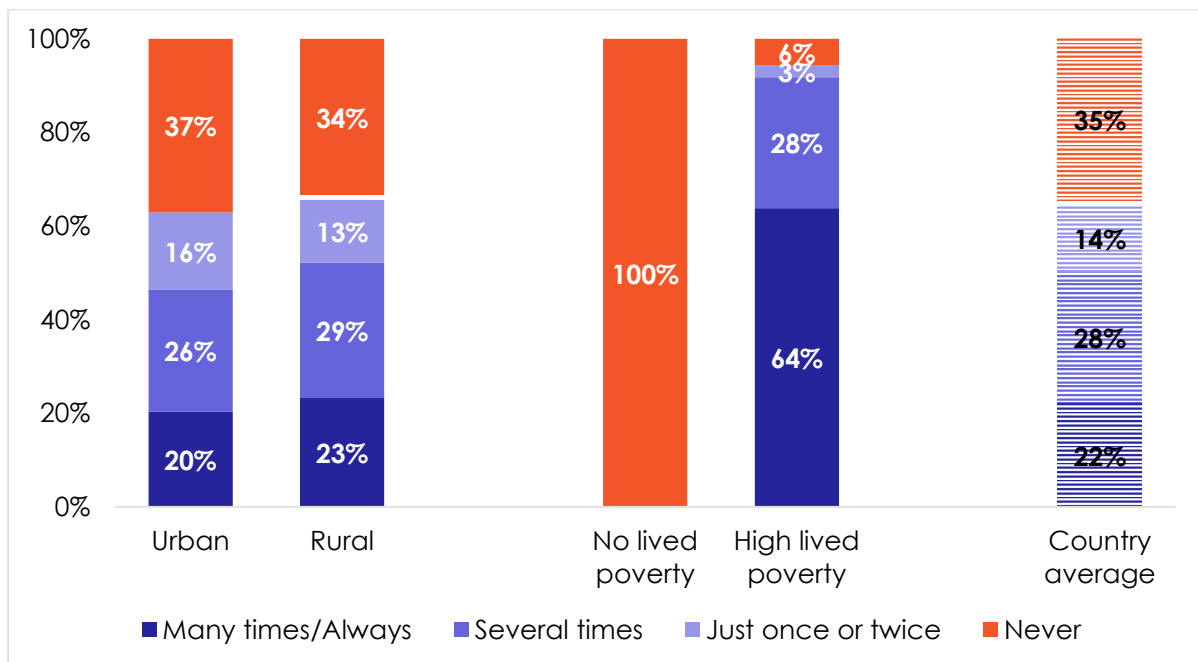
¹ Afrobarometer’s Lived Poverty Index (LPI) measures respondents’ levels of material deprivation by asking how often they or their families went without necessities (enough food, enough water, medical care, enough cooking fuel, and a cash income) during the previous year. For more on lived poverty, see Mattes and Lekalake (2025).

Access to clean water and sanitation

It is well known that conflicts often cause major disruptions in the accessibility and quality of WASH services (Asmally et al., 2025), as is currently the case in Sudan. Pre-war survey findings show that about two-thirds (65%)² of citizens reported that they or someone in their household had gone without “enough clean water for home use” at least once during the year preceding the fieldwork, including 22% who experienced shortages “many times” or “always” (Figure 7). It’s plausible that this number has worsened during the war.

While urban and rural residents show only modest differences in their experience of water shortages, we see stark contrasts by respondents’ economic status. Virtually everyone among the wealthiest respondents reported never facing any shortage of clean water during the previous year, while more than nine in 10 of the poorest citizens (94%) said they went without enough water, including 64% who said this happened “many times” or “always.”

Figure 7: Went without enough water during the previous year | by urban-rural location and lived poverty | Sudan | 2022

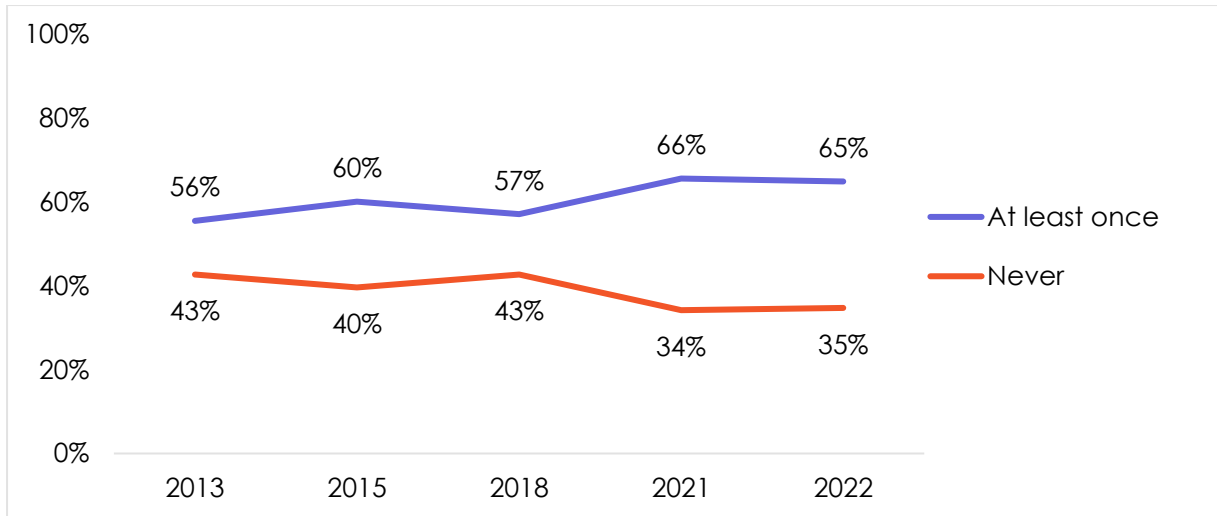


Respondents were asked: Over the past year, how often, if ever, have you or anyone in your family gone without enough clean water for home use?

Over the decade preceding the war, the share of citizens who experienced water shortages at least once during the previous year rose by 9 percentage points, from 56% to 65% (Figure 8).

² Due to rounding, percentages for combined categories reported in the text may differ slightly from the sum of sub-categories shown in figures (e.g. 22% “Many times/Always,” 28% “Several times,” and 14% “Just once or twice” sum to 65%).

Figure 8: Went without enough water during the previous year | Sudan | 2013-2022



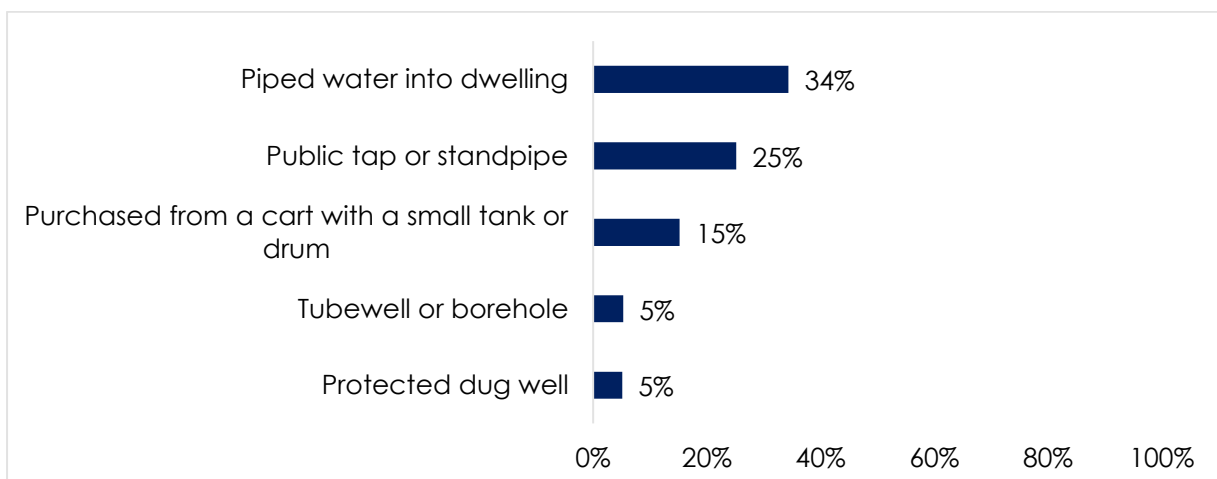
Respondents were asked: Over the past year, how often, if ever, have you or anyone in your family gone without enough clean water for home use?

Water sources

Various studies point out the positive effects of better water-distribution systems, such as piped water, on communities by increasing happiness (Mahasuweerachai & Pangjai, 2018) and improving the welfare of poor households (Rarassanti, Muchtar, Faisal Hastiadi, & Halimatussadiyah, 2016).

As of late 2022, about one-third (34%) of Sudanese reported using piped water in their homes as their main water source, followed by one-quarter (25%) who instead rely on public taps or standpipes (Figure 9). Fewer bought their water from a water cart (15%) or obtained it mainly from a tubewell/borehole (5%) or a protected well (5%).

Figure 9: Main source of water for household use | Sudan | 2022

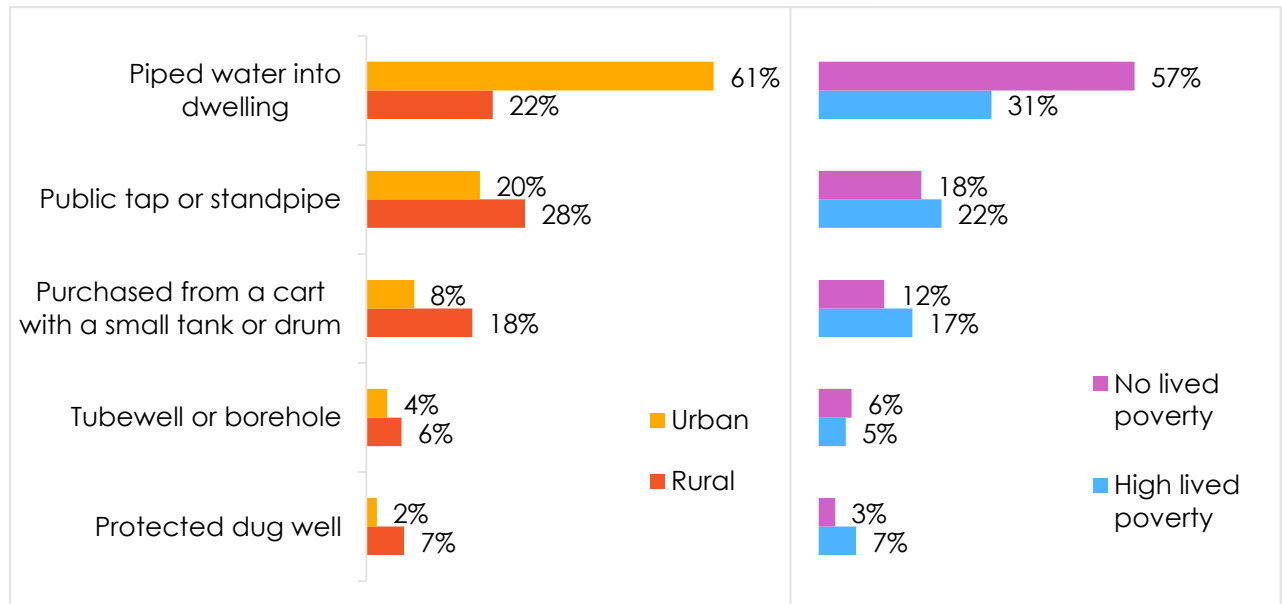


Respondents were asked: What is your main source of water for household use?

The urban-rural and lived poverty divides once again offer clear distinctions (Figure 10). In-home piped water is far more common among urbanites than rural residents (61% vs. 22%) and among well-off respondents compared to the poorest (57% vs. 31%). The other water

sources are generally more prevalent among rural and less affluent households except for tubewells/boreholes, which are about equally common.

Figure 10: Main source of water for household use | by urban-rural location and lived poverty | Sudan | 2022

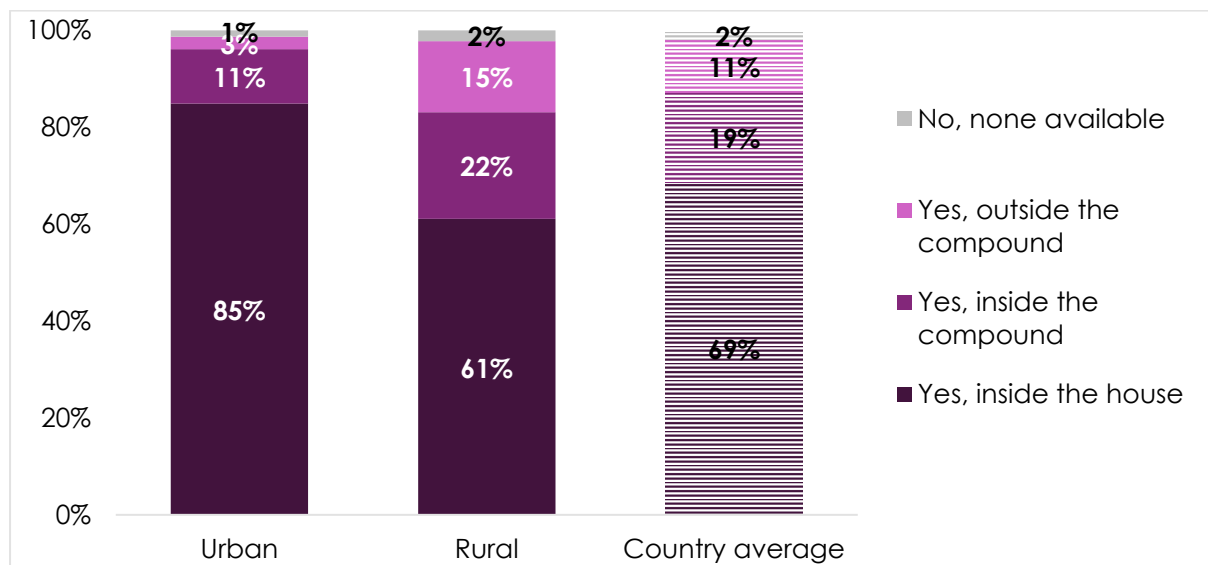


Respondents were asked: What is your main source of water for household use?

Sanitation

Toilets or latrines were more widely present inside the homes of citizens (69%) than piped water, but the urban-rural divide remained wide (85% vs. 61%) (Figure 11). Another 19% had toilets or latrines inside their compound, while about one in eight reported that they had to leave the compound to use a toilet (11%) or had no access to a toilet (2%).

Figure 11: Access to a toilet or latrine | by urban-rural location | Sudan | 2022

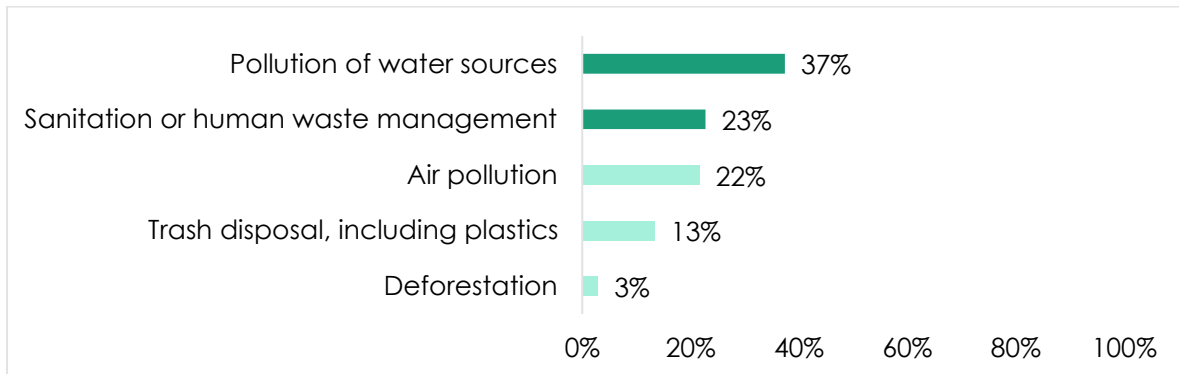


Respondents were asked: Please tell me whether each of the following is available inside your house, inside your compound, or outside your compound: A toilet or latrine?

Environmental challenges

Water and sanitation also present significant environmental challenges in Sudan. Asked what they consider the most important environmental issue in their community, survey respondents were most likely to cite pollution of water sources (37%) and sanitation or human waste management (23%) (Figure 12).

Figure 12: Main environmental challenges | Sudan | 2022

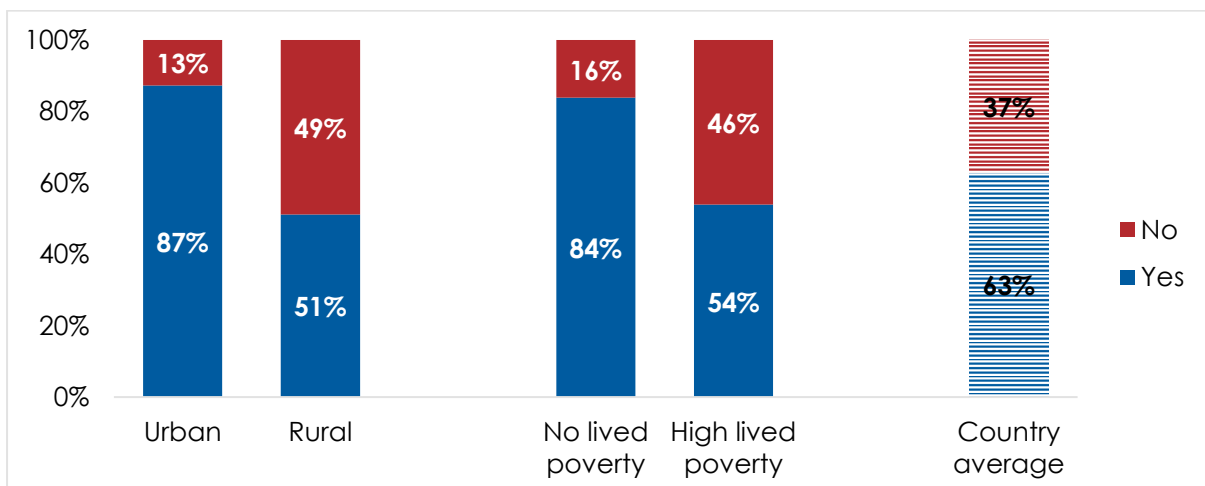


Respondents were asked: Which of the following is the most important environmental issue in your community today?

Electricity: Between connectivity and supply

As of late 2022, 63% of survey respondents said their homes were connected to the national electricity grid, leaving 37% without a connection. Urbanites were far more likely to be connected than rural residents (87% vs. 51%), as were well-off citizens compared to the poorest (84% vs. 54%) (Figure 13).

Figure 13: Connection to the national electricity grid | by urban-rural location and lived poverty | Sudan | 2022

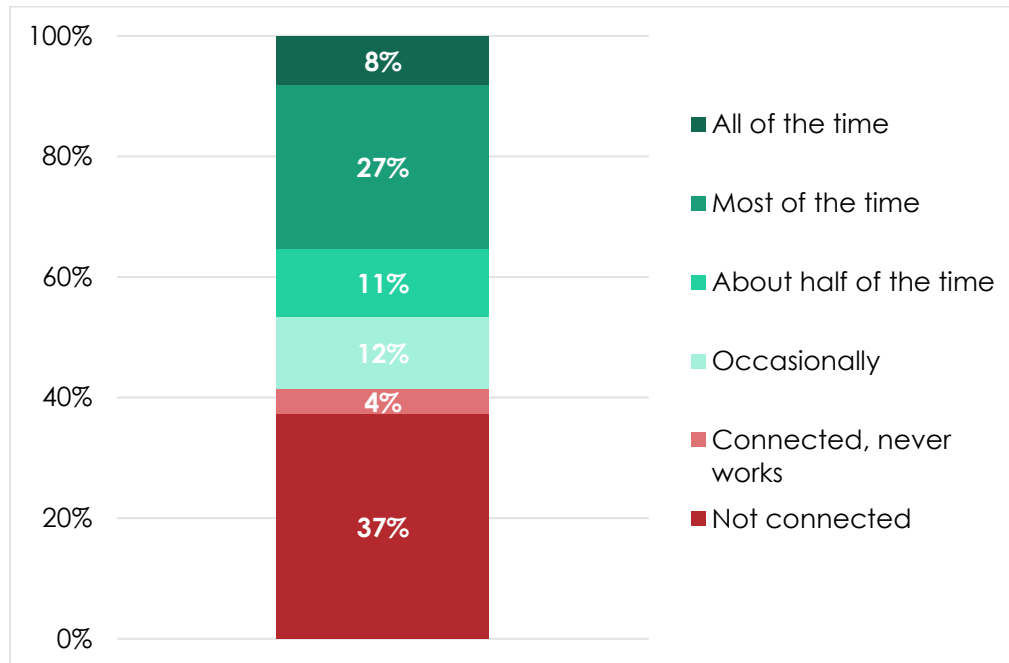


Respondents were asked: Do you have an electric connection to your home from the National Electricity Corporation of Sudan or NEC?

Moreover, being connected does not guarantee a reliable supply of electricity: Among citizens with a connection to the national grid, only a little more than half (56%) say electricity is available “most” or “all” of the time.

Considering the entire population, only about one-third (35%) of all Sudanese enjoy a reliable supply of electricity (available most/all of the time), while 11% have power “about half of the time,” 12% “occasionally,” and 41% are not connected or have a connection that “never” works (Figure 14).

Figure 14: How many citizens have reliable electricity? | Sudan | 2022



Respondents were asked: Do you have an electric connection to your home from the National Electricity Corporation of Sudan or NEC? (If “yes”:) How often is electricity actually available from this connection?

Conclusion

Survey findings as of late 2022 indicate that even before the ravages of the ongoing civil war, access to water, sanitation, and electricity was limited in Sudan, with rural and poorer households at a particular disadvantage. Water shortages were increasing, and pollution of water sources and human-waste management were citizens' greatest environmental concerns.

The war has no doubt worsened access to these essential services, requiring immediate and longer-term service-delivery improvements, especially in rural areas and economically disadvantaged communities.

Do your own analysis of Afrobarometer data – on any question, for any country and survey round. It’s easy and free at www.afrobarometer.org/online-data-analysis.

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Afrobarometer, a nonprofit corporation with headquarters in Ghana, is a pan-African, nonpartisan research network. Regional coordination of national partners in about 35 countries is provided by the Ghana Center for Democratic Development (CDD-Ghana), the Institute for Justice and Reconciliation (IJR) in South Africa, and the Institute for Development Studies (IDS) at the University of Nairobi in Kenya. Michigan State University, the University of Cape Town, and the University of Malawi provide technical support to the network.

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