Access to WASH Services in Schools in Sub-Saharan Africa

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Access to water, sanitation, and hygiene (WASH) services plays a pivotal role in the socio-economic development of any nation. Particularly within educational institutions, ensuring access to these services is paramount for creating a conducive learning environment where students can focus on their studies with peace of mind. This report utilizes data from the JMP 2022 report to analyze the current status of WASH delivery in schools across Sub-Saharan Africa. The analysis reveals that access to basic WASH services is high in schools located in the urban areas than in the rural areas. in addition, most countries lack comprehensive data at both national and local levels, posing a significant challenge to ensuring equitable access to WASH services in schools. Notably, only Ghana and the United Republic of Tanzania have maintained complete records of WASH data across all residence types and school levels. It is imperative for authorities to prioritize efforts towards improving data collection mechanisms and the provision of WASH services in schools, with special attention directed towards marginalized rural communities. By doing so, we can take significant strides towards bridging the gap and ensuring that all students, regardless of their location, have access to the fundamental necessities for a healthy and productive learning environment.

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1 Introduction

Access to Water, Sanitation, and Hygiene (WASH) services is a fundamental aspect of ensuring a healthy and conducive learning environment in schools. However, some countries in Sub-Saharan Africa, faces unique challenges in providing adequate WASH coverage in educational institutions, contributing to disparities in the quality of education and the overall well-being of students. These challenges represent significant impediments to the achievement of the ambitions of the 2030 Agenda, not least the commitment to leave no-one behind. Recognizing the critical importance of addressing these issues, this project seeks to:

- Understand the current state of WASH services in schools within the region.
- Assess the relationship between WASH service delivery and the residency type of schools (urban or rural settings) and whether the location of the schools have any influence on the level of access to sanitation delivery.
- Assess WASH service availability across different school levels to identify which school level is WASH services lacking or improving?

The results from this study will provide vital information that can inform targeted policy recommendations to bridge the existing gaps to promote socio-economic development.

2 Data and Methodology

2.1 Data

The data used in this project was obtained from the WHO/UNICEF JMP WASH Monitoring dataset. Larger part of the data is from the jmpwashdata R package (Dickinson, 2021) while another portion was downloaded from the JMP Website.

2.2 Methodology

This report employed descriptive approach to assess the level of WASH access in schools in Sub-Saharan Africa. The analysis is categorized into five main tasks where each task is dedicated to answering a particular question. The tasks are as follows:

- Task 1: This deals with countries with basic access to sanitation, hygiene and water supply services in schools.
- Task 2: Deals with countries lacking basic access to sanitation, hygiene and water supply services in schools.
- Task 3: Examines the status of WASH coverage for various service levels (no service, limited service and basic service). Definition of service levels are described in the annex.
- Task 4: Examines WASH service delivery at the local level (schools in rural and urban areas).
- Task 5: Examines the status of WASH service delivery at the school level (pre-primary, primary and secondary).

The tidyverse (Wickham et al., 2019) and gt (Iannone et al., 2023) packages were used in this report.

3 Analysis and Discussion

3.1 Countries with basic access to sanitation, hygiene and water supply services in schools

3.1.1 Sanitation Coverage

This section looks at countries in Sub-Saharan Africa with high sanitation coverage in schools. The period used as the year 2021. The threshold was based on countries with at least 70% coverage for basic services.

In Table 1 , we could see that only 6 countries has sanitation coverage over 70%. Among these countries, Mauritius and Seychelles both have 100% coverage followed by Cape Verde with about 93%. Uganda and Sao Tome and Principe have almost same coverage approximately 75%.

Table 1: Countries in Sub-Saharan Africa with high sanitation coverage (>70%) in schools (national level)

Country	Students population	Basic service coverage (%)
Mauritius	231	100
Seychelles	22	100
Cabo Verde	153	93
Togo	3,368	79
Sao Tome and Principe	88	76
Uganda	21,085	75

3.1.2 Hygiene Coverage

Under this service delivery, 5 countries have over 70% coverage led by Seychelles with 100%. Djibouti is second with 94% followed by Mauritius with 93%. Cabo Verde is 4th with 86% and Guinea Bissau is 5th with 76%.

It could be seen that some countries are doing well in both the provision of sanitation and hygiene services whiles other countries are doing well in only one at a time. Cabo Verde, Seychelles and Mauritius appeared in the top 5 for both hygiene and sanitation services.

The results can be seen in Table 2.

Table 2: Countries in Sub-Saharan Africa with high hygiene coverage (>70%) in schools (national level)

Country	Students population	Basic service coverage (%)
Seychelles	22	100
Djibouti	261	94
Mauritius	231	93
Cabo Verde	153	86
Guinea-Bissau	767	75

3.1.3 Water supply coverage

For basic access to water supply in schools, there are 7 countries with over 70% coverage of the school age population. Seychelles and Mauritius both have 100% coverage. Their high access rate could be due to the lesser population in these two countries (Mauritius=232, Seychelles=23).

Zambia has 79% coverage while Ghana and Malawi are approximately 78%. The 7th is Mali with about 70% coverage. Graphical presentation is showed in Table 3.

Table 3: Countries in Sub-Saharan Africa with high water supply coverage (>70%) in schools (national level)

Country	Students population	Basic service coverage (%)
Mauritius	231	100
Seychelles	22	100
Zambia	8,244	79
Ghana	10,702	78
Malawi	7,988	78
Uganda	21,085	73
Mali	8,736	70

3.2 Countries with no basic access to sanitation, hygiene and water supply services in schools

This section looks at countries in Sub-Saharan Africa with little or no WASH coverage in schools. The threshold was based on countries with more than 40% of the students population lacking access to any of the WASH services.

3.2.1 Sanitation Coverage

In Table 4, we could see that 6 countries has more than 40% of the student population with no access to sanitation services. Among these countries, Niger is on top with 63%, followed by Mauritania with 60% and Guinea-Bissau which is the least on the list with 40% of student population with no access to sanitation services.

Table 4: Countries in Sub-Saharan Africa with no sanitation access (>40%) in schools (national level)

Country	Students population	No service coverage (%)
Niger	10,693	63
Mauritania	1,799	60
Côte d'Ivoire	10,671	49
Eritrea	1,330	46
Nigeria	69,321	43
Guinea-Bissau	767	40

3.2.2 Hygiene Coverage

Table 5 shows the list of the leading countries in Sub-Saharan Africa with over 40% of student population having no access to hygiene services. This list is topped by South Sudan and Ethiopia each with 80% of the student population without access to hygiene services. the list make a total of 10 with Uganda being the least on the list with 46% of the student population with no access.

Table 5: Countries in Sub-Saharan Africa with no hygiene access (>40%) in schools (national level)

Country	Students population	No service coverage (%)
South Sudan	4,454	80
Ethiopia	42,755	80
Malawi	7,988	76
Senegal	6,988	72
Nigeria	69,321	70
Burundi	4,318	67
Côte d'Ivoire	10,671	65
Guinea	5,455	62
United Republic of Tanzania	23,021	55
Uganda	21,085	46

3.2.3 Water Supply coverage

Schools in 14 countries in Sub-Saharan Africa has no access to water supply and this is very alarming. Nine of these schools has more than 50% of the student population without access to water supply with Niger on top of this list with about 83% of the student population lacking access to water supply. This can be seen in Table 6.

Table 6: Countries in Sub-Saharan Africa with no water supply services (>40%) in schools (national level)

Country	Students population	No service coverage (%)
Niger	10,693	83
Central African Republic	2,163	77
Ethiopia	42,755	76
Equatorial Guinea	442	72
Madagascar	10,389	63
Chad	7,345	63
Democratic Republic of the Congo	37,102	58
Sierra Leone	3,256	51
Côte d'Ivoire	10,671	50
Liberia	1,948	48
Burundi	4,318	47
Guinea	5,455	47
Somalia	6,691	45
Nigeria	69,321	41

3.3 Status of WASH coverage for various service levels

This section examines the percentage share/coverage for the individual service levels for the top 5 countries identified in task 1. It also examines the progress made by these countries between 2019 and 2021.

3.3.1 Sanitation status

Data for all countries remained same for the two-year period apart from Togo. From 2019 to 2021, Togo has made a significant improvement in access to basic service. The percentage coverage in 2019 was 44.8% which has increased to 79.4% in 2021 representing an increase of 34.6%. This feat is commendable and will go a long way to increase school attendance rate especially for young girls. Results are depicted in Figure 1.

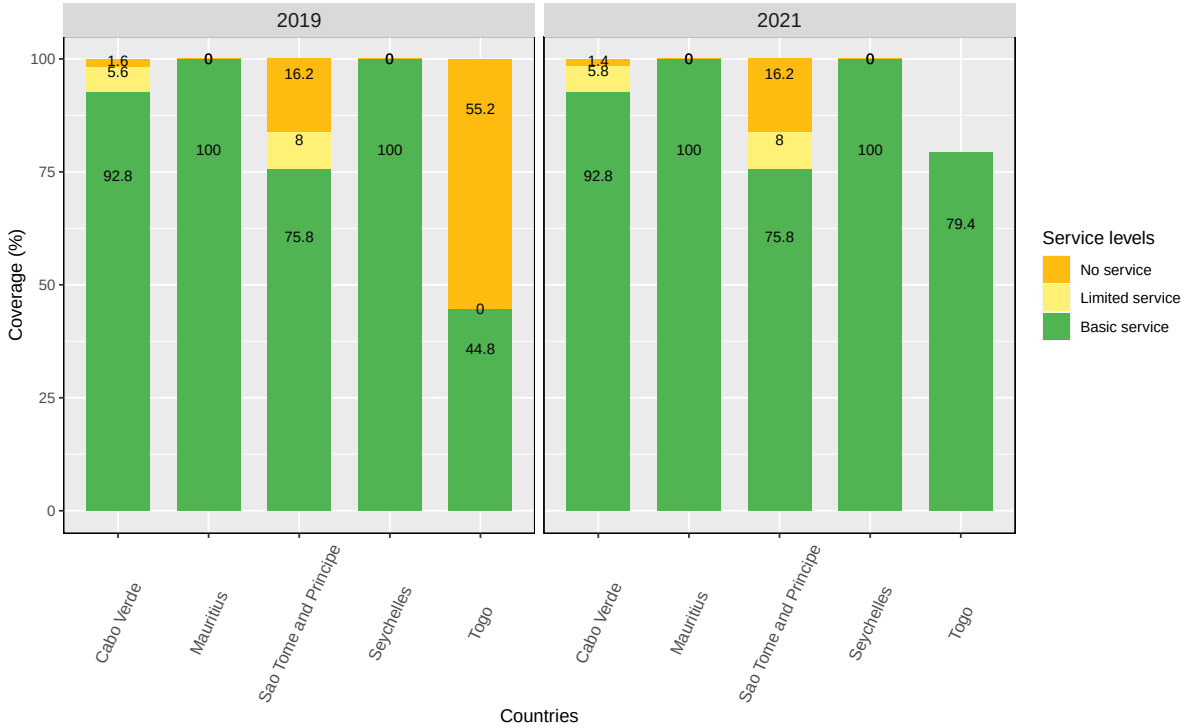

Figure 1: Percentage share of service levels for sanitation in selected countries

3.3.2 Hygiene status

Results for the two years remains the same for all the countries (Figure 2). It is also worthy to note that Seychelles was already at 100% access to basic services in 2019 and did not need any improvement. It is also important to note that Cabo Verde, Djibouti and Mauritius had insufficient data in 2019 and same as in 2021. They neither made progress in the coverage nor made improvement in the data availability. Though their current coverage for basic service is commendable, more effort is required to ensure data is available to make informed decisions that will promote hygiene access in schools and ensure conducive schooling environment for all.

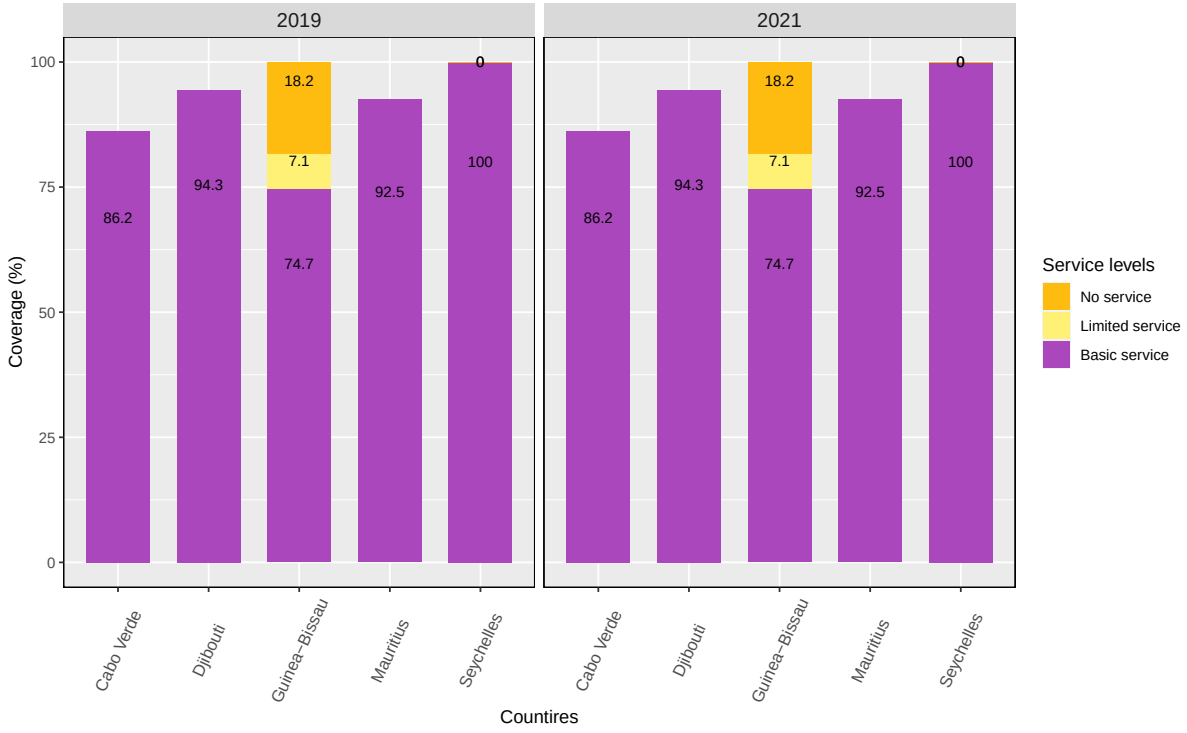

Figure 2: Percentage share of service levels for hygiene in selected countries

3.3.3 Water supply status

No major improvement within the span of the two years for the countries with the exception of Ghana. Between 2019 and 2021, Ghana improved on the access to basic service by 2.7% while reducing the percentage of no access by 3.2% as shown in Figure 3.

3.4 WASH service delivery at the local level

This exercise was based on some selected countries that has data at the local level. That is data for urban and rural residencies.

3.4.1 Sanitation

In total, there were seven countries with available data at the rural and urban levels (Ghana, Mali, Malawi, South Sudan, Niger, Nigeria, United Republic of Tanzania). Out of which 6 were selected for this analysis. Among all the six countries, the coverage for basic sanitation service is higher for schools in urban areas than schools in rural areas with the exception of Mali. In Figure 4, it can be observed that Mali has high percentage coverage in rural areas

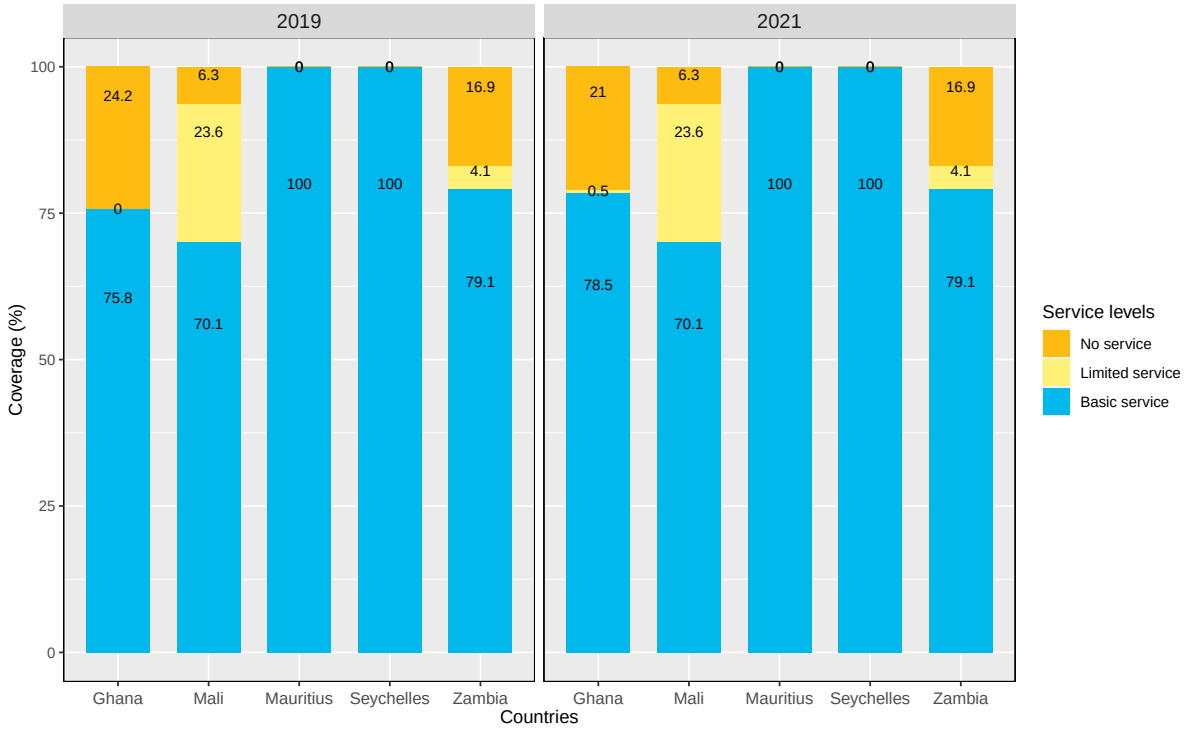

Figure 3: Percentage share of service levels for water supply in selected countries

than in urban areas. Likewise, the proportion of student population with limited access is higher in the rural areas than in urban areas except for Malawi where percentage coverage for limited access is higher in urban areas than rural areas.

3.4.2 Hygiene

Only five countries had available hygiene data at the rural and urban levels and were used for the analysis. Results from the analysis indicates that access to basic hygiene services is on the high in urban areas than in rural areas for 4 out of the five countries considered (Figure 5). In Tanzania, schools in rural areas have high access to basic services than schools located in the urban areas. However, the difference is not large.

Moreover, the rate of no services is higher in the rural areas than in the urban areas for all the countries analysed.

3.4.3 Water supply

Access to basic services is higher in schools that are located in urban areas than schools in the rural areas for all the six countries analysed. Analysis was based on all the countries with available data (6) at the rural and urban levels.

Likewise, it could be seen that schools in rural areas have high records of no services as well as limited service. However, there is an exception for Nigeria and Tanzania, where the percentage of students with limited access in the urban area is higher than in the rural areas (Figure 6).

The results confirms the assertion that rural communities are always left behind in the provision of social amenities (Breese, 1978; Hewlett, 1977) of which WASH services is essential. Lack of access to WASH services in the rural communities put the students at risk of contracting and spreading wash-related diseases which will affect their health and education.

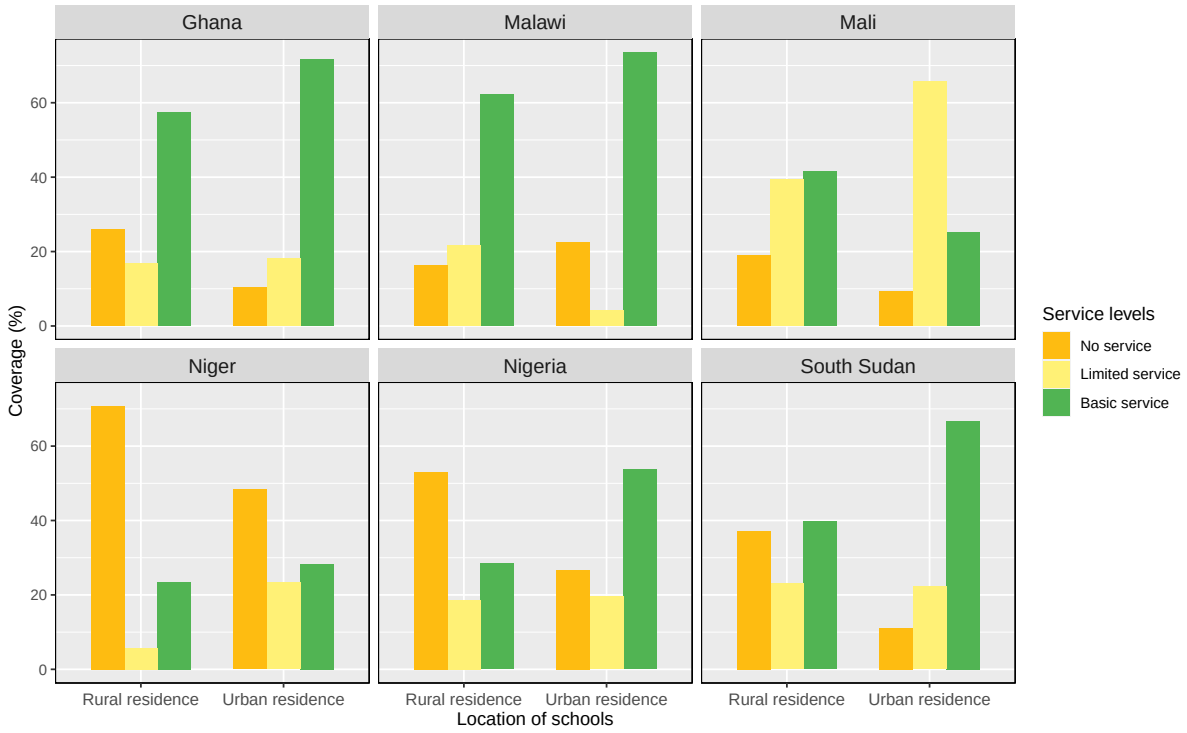

Figure 4: Comparison of sanitation services delivery between rural and urban areas

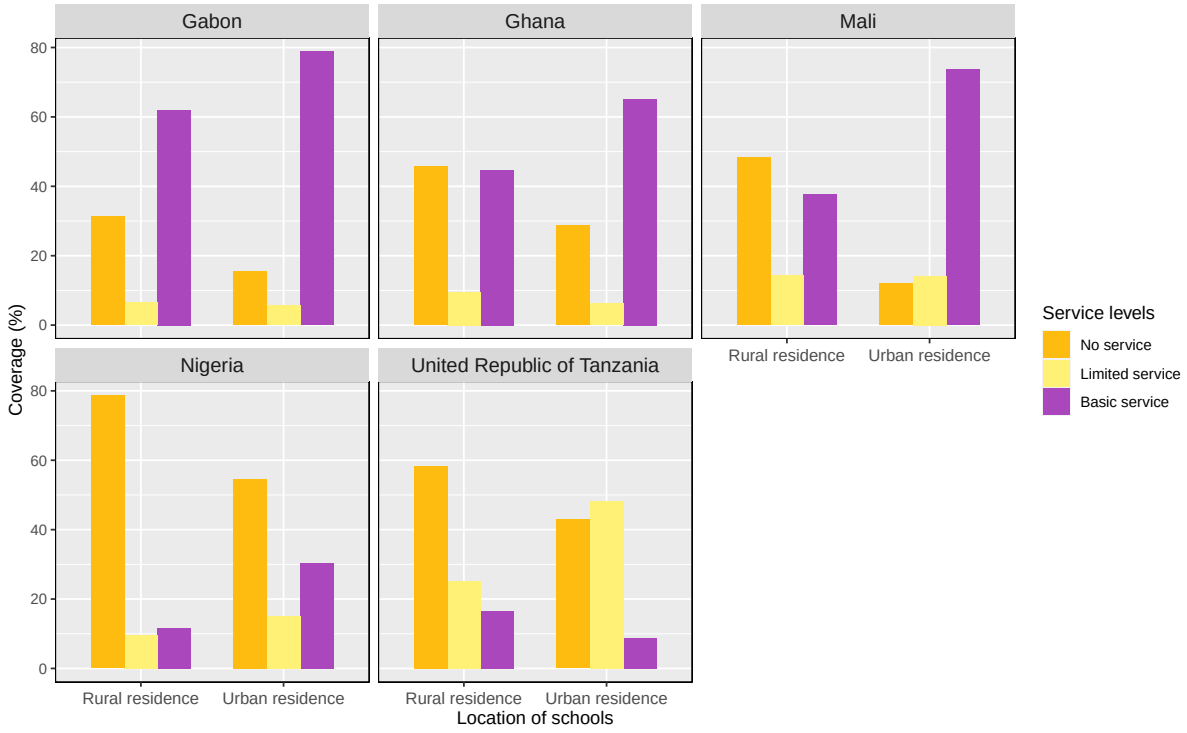

Figure 5: Comparison of hygiene services delivery between rural and urban areas

It is particularly concerning that the opportunities for children and young people residing in rural areas are frequently hindered in comparison to their urban counterparts. They face a higher likelihood of being dropped out of school (UNESCO, 2015) due to lack of access to WASH services especially the girl child. Thus, it is important to invest and pay attention to the rural communities to ensure that they have access to basic WASH services as their human rights.

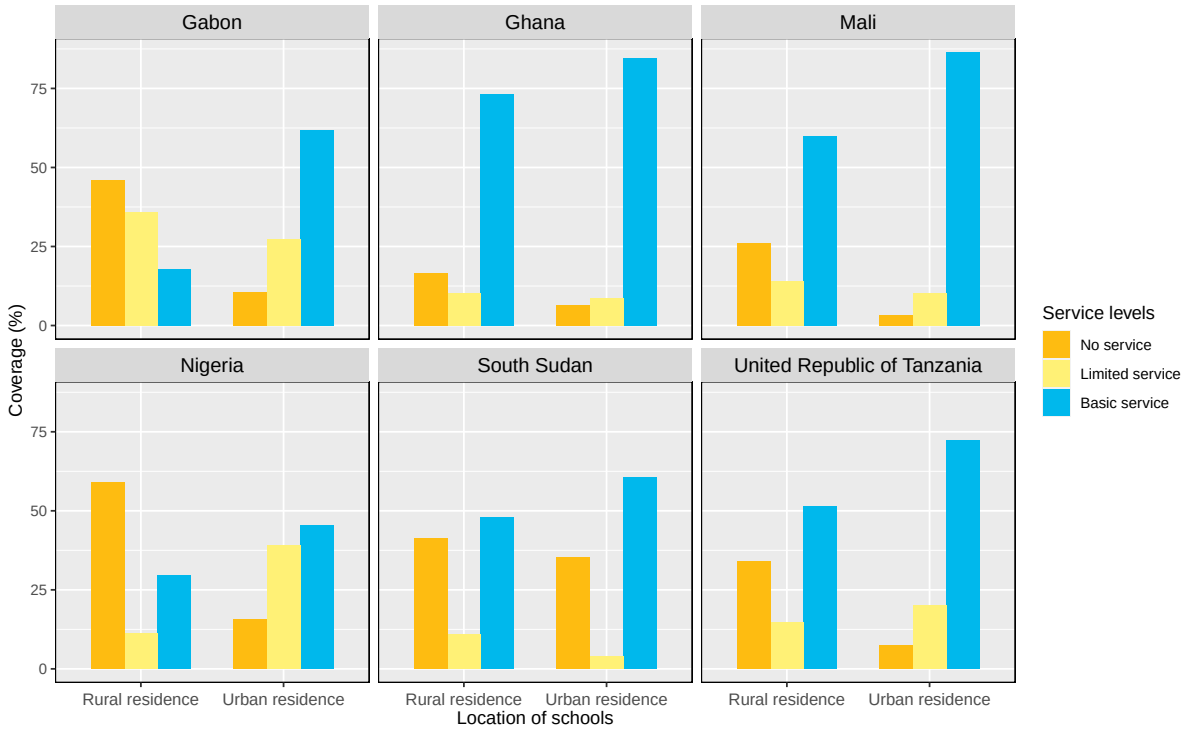

Figure 6: Comparison of water supply services delivery between rural and urban areas

3.5 Status of WASH service delivery at the school level

Most of the countries do not have data at this level. Thus, in selection the countries for this analysis, the following conditions was applied:

- The country must have a data for ***basic service*** for at least two school levels and
- Data for ***no service*** for all school levels

A total of 5 countries met this criteria and was included in the analysis.

3.5.1 Sanitation

Coverage for basic sanitation service is observed to be high in the secondary schools for Ghana, Rwanda, Senegal and United Republic of Tanzania. In Sierra Leone, primary schools have high coverage for basic service Figure 7.

Comparing the the rate of no service delivery, Rwanda, Senegal and United Republic of Tanzania observed high coverage in the pre-primary schools while Ghana and Sierra Leone have higher percentages in the primary schools.

Generally, Ghana is doing very well with at least 60% basic service coverage at all school levels.

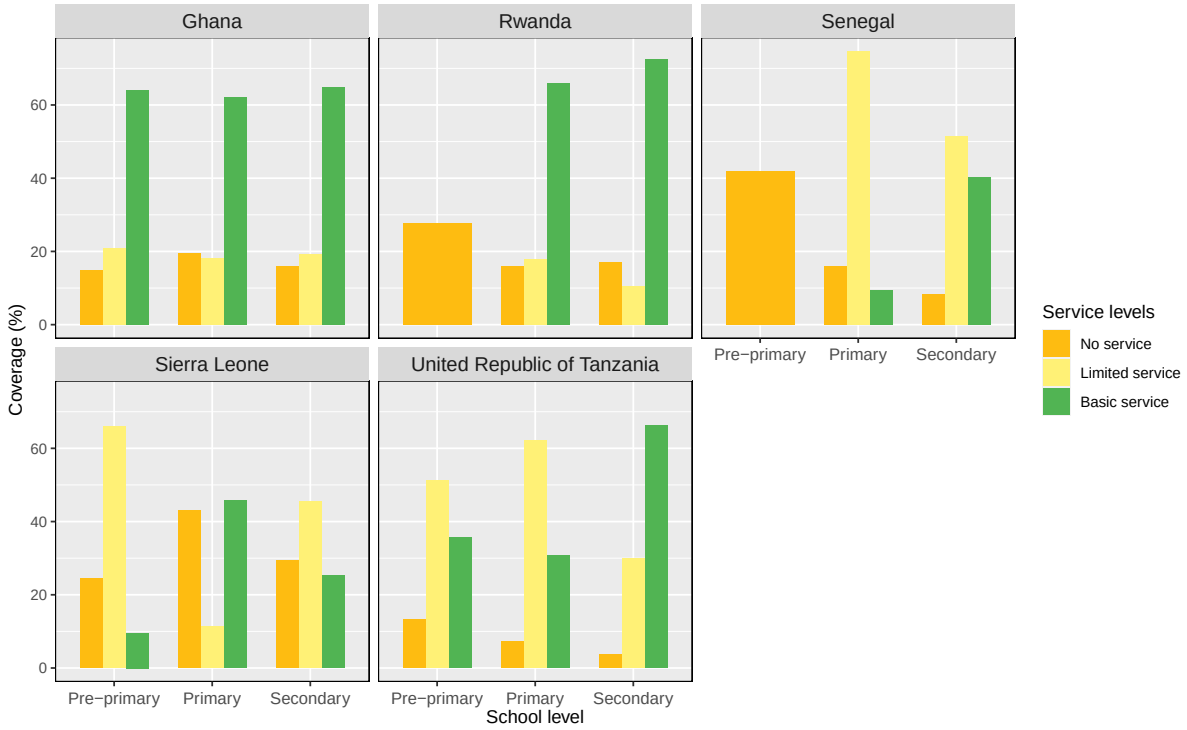

Figure 7: Coverage of sanitation services delivery at different school levels in 2021

3.5.2 Hygiene

Burundi, Ghana, and Gabon all have high coverage of basic hygiene services in the pre-primary schools while Rwanda and United Republic of Tanzania observed high coverage in the primary and secondary schools respectively. Similarly, the rate of no hygiene services is high in primary schools for Burundi, Ghana, and Gabon and high in pre-primary for Rwanda and United Republic of Tanzania respectively Figure 8.

United Republic of Tanzania has the least basic service coverage of less than 20% for all school levels followed by Burundi with less than 20% for primary and secondary schools. Thus, these countries needs to put in more effort to ensure that school children have access to hygiene facilities in order to promote their health.

3.5.3 Water supply

Figure 9 shows the access to water supply at different school levels for 5 countries with available data. Ghana, Burundi and United Republic of Tanzania have high basic service coverage in secondary schools while for Burkina Faso and Gabon, primary schools have high basic service coverage.

4 Conclusion

This study analysed the level of WASH access and data availability in schools in Sub-Saharan countries.

- Access to various wash services varies in various countries likely due to several factors that are not considered in this study.

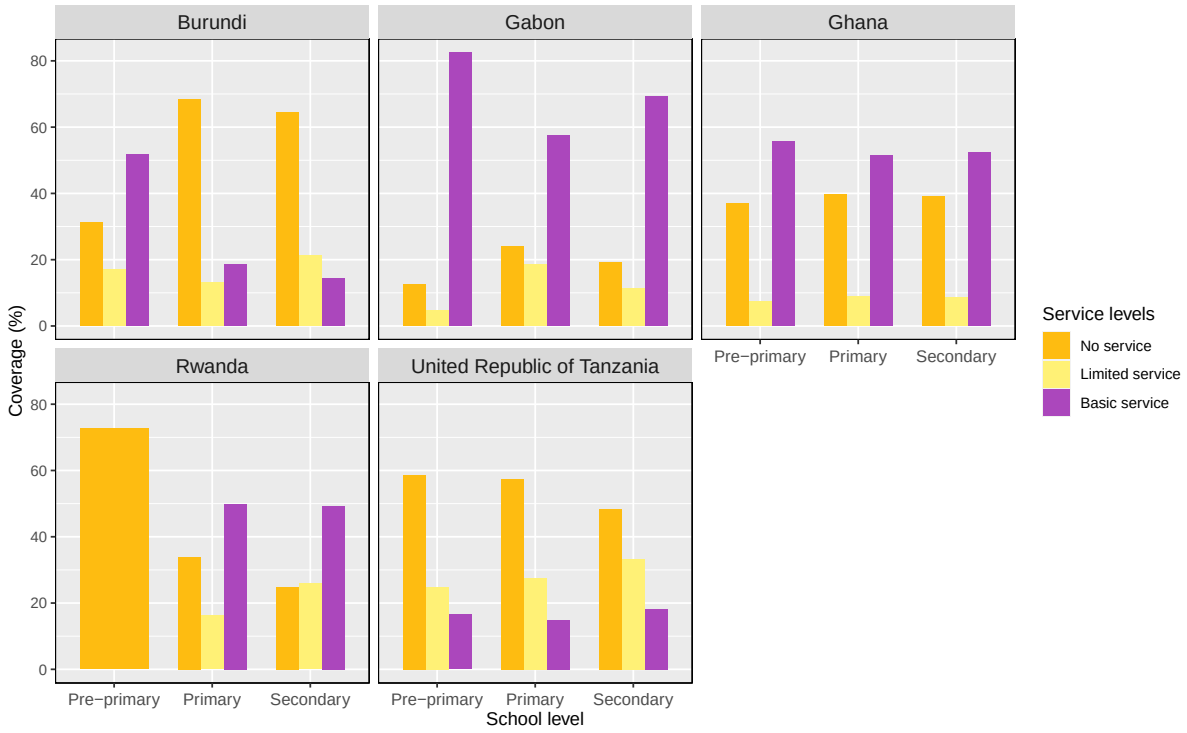

Figure 8: Coverage of hygiene services delivery at different school levels in 2021

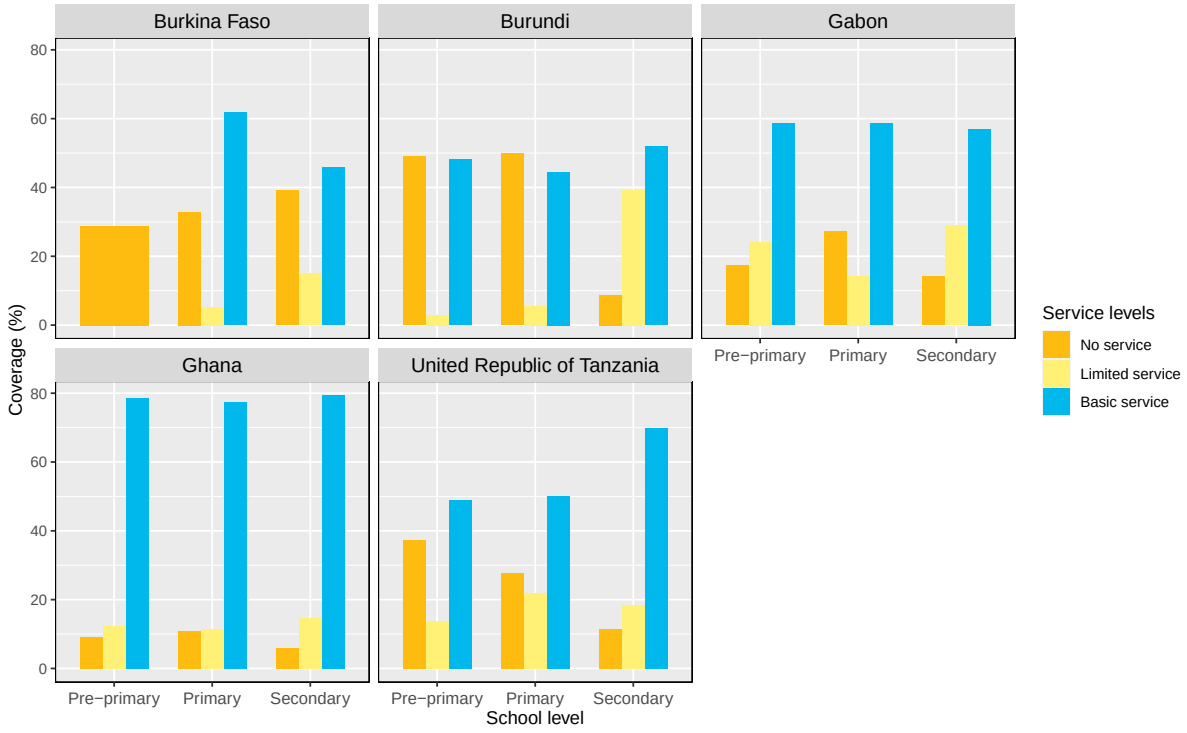

Figure 9: Coverage of water supply services delivery at different school levels

- Generally, access to water supply needs more improvement with 14 countries having over 40% of their students population without access to water supply. Only 7 countries have schools with over 70% basic service coverage in water supply.
- Ten countries have over 40% of the school-age population with no access to hygiene services while 5 countries have basic services coverage over 70%.
- Countries are performing well with access to sanitation services in schools. Only six countries have over 40% of their school-age population with no access to sanitation services. Similarly, six countries have a coverage of basic access over 70%.
- Schools located in rural communities have high rate of limited or no access to water, sanitation and hygiene services delivery.
- Access to wash services at school levels varies across countries. Secondary schools in most cases have high coverage of basic services in water supply and sanitation while access to basic hygiene services is high in pre-primary schools.
- Ghana and United Republic of Tanzania has the best records of WASH data for all residence types and at all school levels.
- Data availability at the local level is very important for informing policy and decision making and thus authorities in Sub-Saharan countries must prioritize it. Additionally, More efforts are required to ensure equity and equal access to water, sanitation and hygiene services in schools.

5 Annex

Definition of service levels

Water supply

- Basic: Drinking water from an improved source is available at the school
- Limited: There is an improved source (piped, protected well/spring, rainwater, packaged/delivered water), but water not available at time of survey
- No services: No water source or unimproved source (unprotected well/spring, surface water)

Note: *Improved drinking water sources are those that have the potential to deliver safe water by nature of their design and construction*

Sanitation

- Basic: Improved facilities, which are single-sex and usable at the school
- Limited: There are improved facilities (flush/pour-flush toilets, pit latrine with slab, composting toilet), but not single-sex or not usable at time of survey
- No service: No toilets or latrines, or unimproved facilities (pit latrines without a slab or platform, hanging latrines, bucket latrines)

Note: *Improved sanitation facilities are those designed to hygienically separate excreta from human contact*

Hygiene

- Basic: Handwashing facilities, which have water and soap available
- Limited: Handwashing facilities with water, but no soap

- No service: No handwashing facilities at the school or handwashing facilities with no water

Note: *Handwashing facilities may be fixed or mobile and include a sink with tap water, buckets with taps, tippy-taps, and jugs or basins designated for handwashing.*

References

Breese, G. (1978). *Why Poor People Stay Poor: Urban Bias in World Development.*Michael Lipton. *American Journal of Sociology*, *84*(3), 772–774. https://doi.org/10.1086/226852

Dickinson, N. (2021). *Jmpwashdata: WHO/UNICEF joint monitoring programme water and sanitation data.*

Hewlett, S. A. (1977). Why Poor People Stay Poor: Urban Bias in World Development, *by Michael Lipton. Political Science Quarterly*, *92*(3), 570–572. https://doi.org/10.2307/2148535

Iannone, R., Cheng, J., Schloerke, B., Hughes, E., Lauer, A., & Seo, J. (2023). *Gt: Easily create presentation-ready display tables.* https://gt.rstudio.com

UNESCO. (2015). *Education for all global monitoring report 2015: Education for all 2000-2015: Achievements and challenges.* GEM Report UNESCO. https://doi.org/10.54676/lbsf6974

Wickham, H., Averick, M., Bryan, J., Chang, W., McGowan, L. D., François, R., Grolemund, G., Hayes, A., Henry, L., Hester, J., Kuhn, M., Pedersen, T. L., Miller, E., Bache, S. M., Müller, K., Ooms, J., Robinson, D., Seidel, D. P., Spinu, V., … Yutani, H. (2019). *Welcome to the {tidyverse}.* *4*, 1686. https://doi.org/10.21105/joss.01686