

## **Gaps in coverage of water and sanitation in Africa: challenges for practicing safe hand hygiene to combat spread of COVID-19**

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**Abstract:** In the context of the ongoing Coronavirus Disease (COVID-19) pandemic, the availability of safe water and sanitation in Africa is essential for the implementation of safe hand hygiene, which is a crucial intervention for preventing transmission of COVID-19. Fifty per cent and above of the total population in 37 (71.2%) countries, 7 (13.5%) countries, and 34 (89.5%) countries did not have at least basic sanitation services, basic drinking water, and basic hand washing facilities at home, respectively.

**Keywords:** Basic drinking water; Basic hand washing facilities; Basic sanitation services; COVID-19

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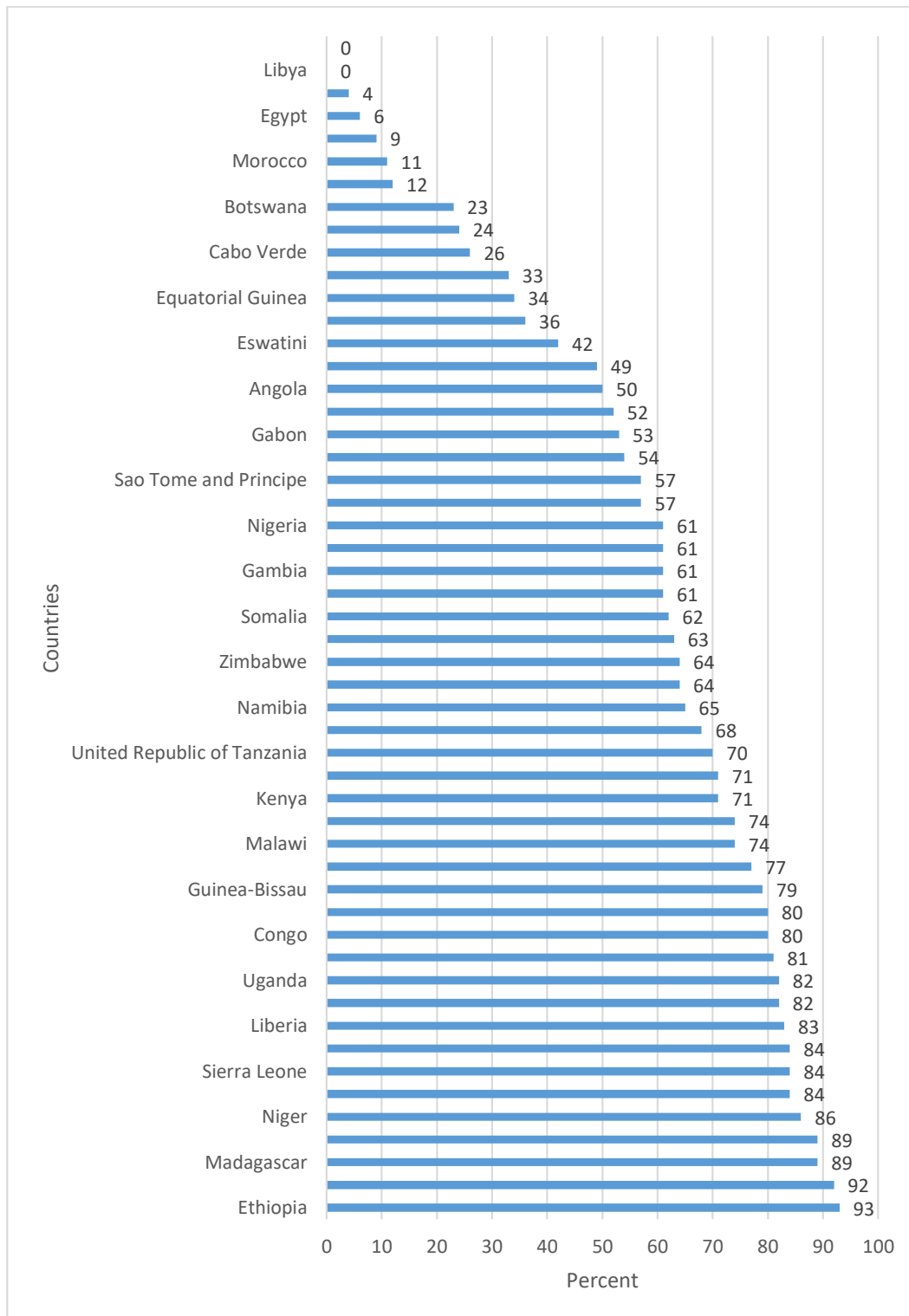
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### **Editorial**

The national water and sanitation systems are essential for the attainment of the United Nations (UN) Sustainable Development Goal (SDG) 6 that aspires to ensure availability and sustainable management of water and sanitation for all [1]. In the context of the Corona Virus Disease (COVID-19) pandemic, safe water and sanitation are crucial for the implementation of safe hand hygiene, which is a critical intervention for preventing transmission of COVID-19. The objective of this Editorial is to highlight the gaps in coverage of safe water, sanitation, and personal hygiene practice in continental Africa. The gap in each variable is the difference between the maximum possible coverage (100%) and the reported coverage contained in the WHO Global Health Observatory Data Repository [2,3].

### **Gaps in the coverage of basic sanitation services**

Figure 1 shows the population not using at least basic sanitation services in Africa in 2017.



**Figure 1:** Population not using at least basic sanitation services in Africa, 2017

The Central African Republic and Eritrea did not have data. The entire population of Libya and Seychelles used at least basic sanitation services. Fifty per cent and above of the total population in 37 (71.2%) countries were not using at least basic sanitation services. Five countries had between 1-20% of the population not using at the minimum basic sanitation services, 6 (six) countries had between 21-40%, 8 (eight) had between 41-60%, 19 had between 61-80%, and 12 had 81% and above.

Twenty-nine (53.7%) of countries had 50% and above of their urban population not using at least basic sanitation services. Seven countries had between 1-20% of their population not using basic sanitation services, 8 (eight) had 21-40%, 17 had 41-60%, 17 had 61-80%, and 1 (one) country had 81% and above not using basic sanitation services.

Data on rural population use of at least basic sanitation services were not available for the Central African Republic, Eritrea, Libya, and Seychelles. In 4 (four) countries, 1-20% of the rural population did not use at the minimum basic sanitation services. Four countries had between 1-20% of their population not using basic sanitation services, 5 (five) had 21-40%, 5 (five) had 41-60%, 13 had 61-80%, and 23 had 81% and above of population not using basic sanitation services. Thirty-nine of the countries' rural population did not use at least basic sanitation services.

**Gaps in the coverage of basic drinking water services**

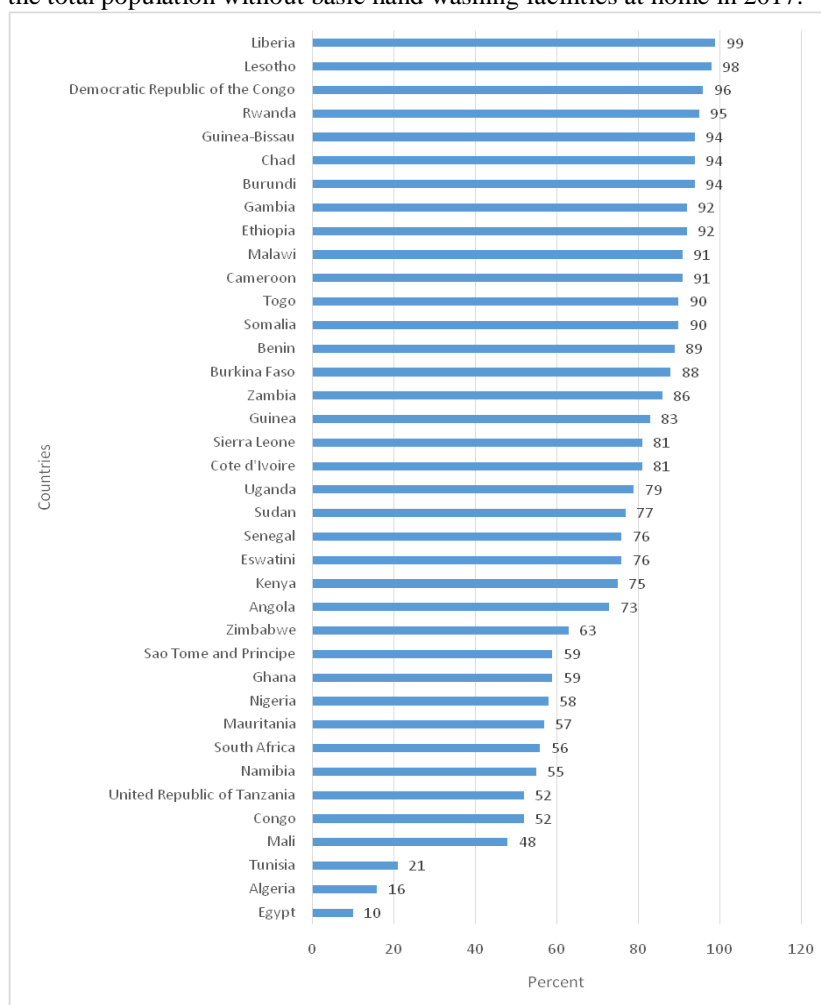
The Central African Republic and Eritrea did not have data. The entire population in Mauritius used at least basic drinking water services. About 1-20% of the population in 15 countries; 21-40% in 22 countries; 41-60% in 13 countries; and 61% in Chad country did not use at least basic drinking water services. Fifty per cent and above of the population in 7 (seven) countries (Burkina Faso, Chad, DRC, Ethiopia, Niger, South Sudan, and Uganda) did not use at the minimum basic drinking water services.

The percentage of the population not using at least basic drinking water services varies widely between urban and rural areas in Africa. Central African Republic, Eritrea, Libya, and Seychelles did not have data on the urban population using at least basic drinking water services. The whole urban population in Mauritius and Tunisia used at least basic drinking water services. About 1-20% of the urban populations in 38 countries; and 21-40% in 10 countries did not use at the minimum basic drinking water services.

Data on the rural population using at least basic drinking water services were not available in the Central African Republic, Eritrea, Libya, and Seychelles. The entire rural population in Mauritius used at least basic drinking water services. About 1-20% of the rural populations in 4 (four) countries, 21-40% in 13 countries, 41-60% in 22 countries, and 61-80% in 10 countries did not use at least basic drinking water services. Over 49% of the rural population in 23 countries were not using the minimum basic drinking water services.

**Gaps in availability of basic hand washing facilities at home**

Figure 2 portrays the total population without basic hand washing facilities at home in 2017.



**Figure 2:** Percentage of total population in Africa without basic hand washing facilities at home in 2017

Thirty-eight countries had data on population with basic hand washing facilities at home. The percent of total population without basic hand washing facilities at home was 1-20% in 2 (two) countries, 21-40% in 1 (one) country, 41-60% in 9 (nine) countries, 61-80% in 7 (seven) countries, and above 80% in 19 countries. In 34 (89.5%) countries, 50% and above of the total population were without basic hand washing facilities at home.

Sixteen countries did not have data on the percent of the urban population with basic hand washing facilities at home. About 1-20% of the urban population in 3 (three) countries did not have basic hand washing facilities at home; 21-40% in 3 (three) countries; 41-60% in 8 (eight) countries; 61-80% in 13 countries; and over 80% in 11 countries. In 28 (73.7%) countries, over 50% of the urban population were without basic hand washing facilities at home.

Sixteen countries did not have data on the percent of the rural population with basic hand washing facilities at home. Approximately 1-20% of the rural population in 1 (one) country did not have basic hand washing facilities at home; 21-40% in 1 (one) country; 41-60% in 3 (three) countries; 61-80% in 9 (nine) countries; and over 80% in 24 countries. In 35 (92.1%) countries, over 50% of the rural population were without basic hand washing facilities at home. Thus, the unmet need for basic hand washing facilities is more acute among rural than urban populations in Africa.

Therefore, minimal and lack of safe water, sanitation, and personal hygiene in some countries in Africa shall be a big challenge in the implementation of the WHO [4] recommended practicing of safe hand hygiene to prevent the spread of COVID-19.

### **Competing interests**

The authors declared no competing interest.

### **Authors' contributions**

All authors contributed equally in designing the study; extracting data from the WHO Global Health Observatory; data analysis; and drafting the manuscript. All the authors approved the final version of the manuscript.

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### **Tables and Figures**

Figure 1: Population not using at least basic sanitation services in Africa, 2017

Figure 2: Percentage of total population in Africa without basic hand washing facilities at home in 2017

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