



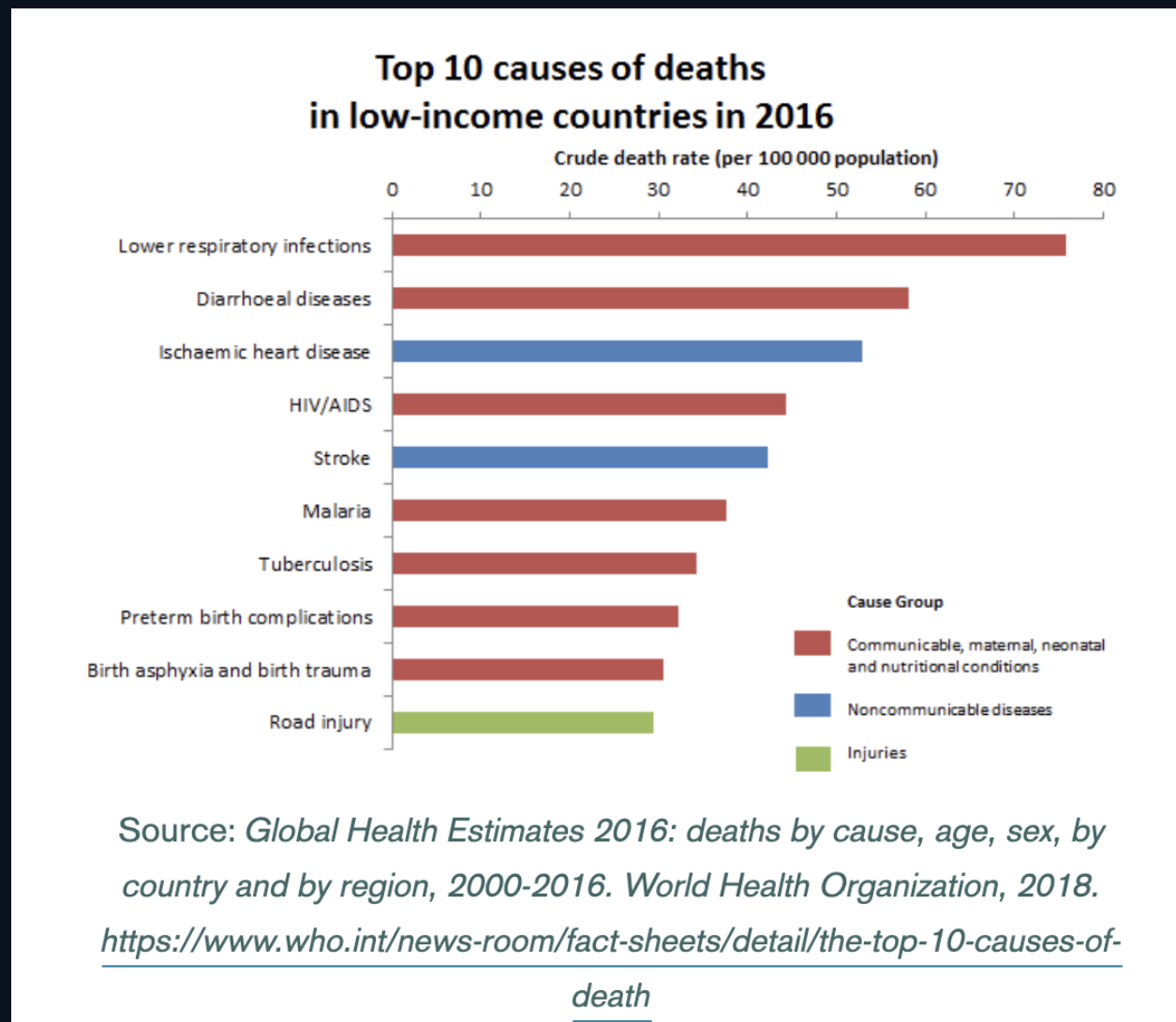
WASH services and vulnerability to respiratory disease

**The lack of handwashing facilities in Africa hampers the fight
against infectious diseases such as COVID-19**



African populations are vulnerable to disease outbreaks

Lower respiratory infections (LRI) are a leading cause of mortality in low-income countries worldwide. With its high levels of poverty, weak health systems and overpopulated areas, Africa is particularly vulnerable. 22 of the 25 countries most susceptible to an infectious disease outbreak are in Africa.



Several high-mortality pathologies are already prevalent in Sub-Saharan Africa: water related diseases caused by protozoa like malaria, bacterial infections like cholera and tuberculosis, and viral infections like AIDS and Ebola. Which African countries could be more vulnerable to the current COVID-19 pandemic, regarding their access to water, sanitation and hygiene (WASH) and healthcare services?



The Ebola virus (upper right) and *Plasmodium falciparum*, the parasite responsible of malaria (centre right) cause deadly infectious diseases. Mosquito nets (left) are one of the most effective preventive measures against malaria.

Access to WASH services is essential to prevent infectious diseases, including respiratory infections. Frequent hand washing with soap for at least 20 seconds is key to limit the spread of COVID-19. However, in Sub-Saharan Africa one third of the population does not have access to an improved water source.

Understanding the relationship between respiratory infections and WASH services in Africa could guide the international response to the COVID-19 pandemic, prioritising interventions in the most vulnerable countries.

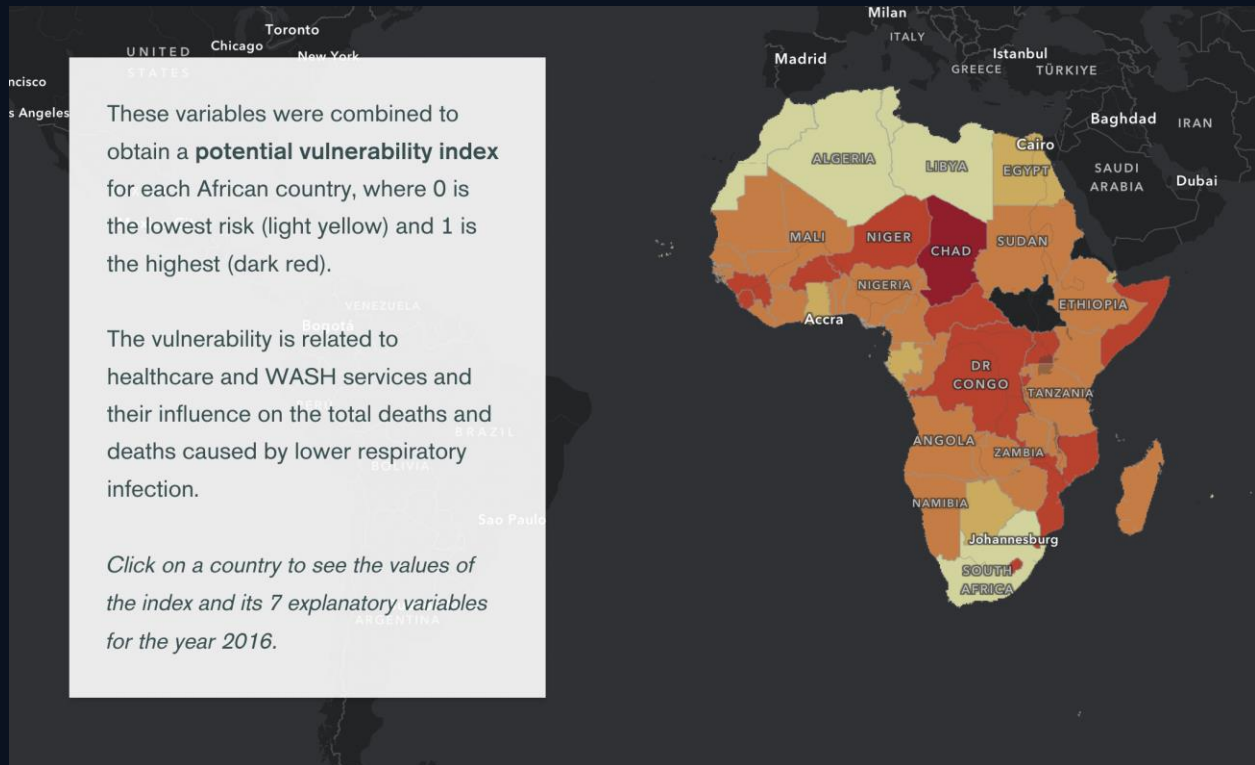


School girls in Madagascar wash their hands using a makeshift device made out of used water bottles.

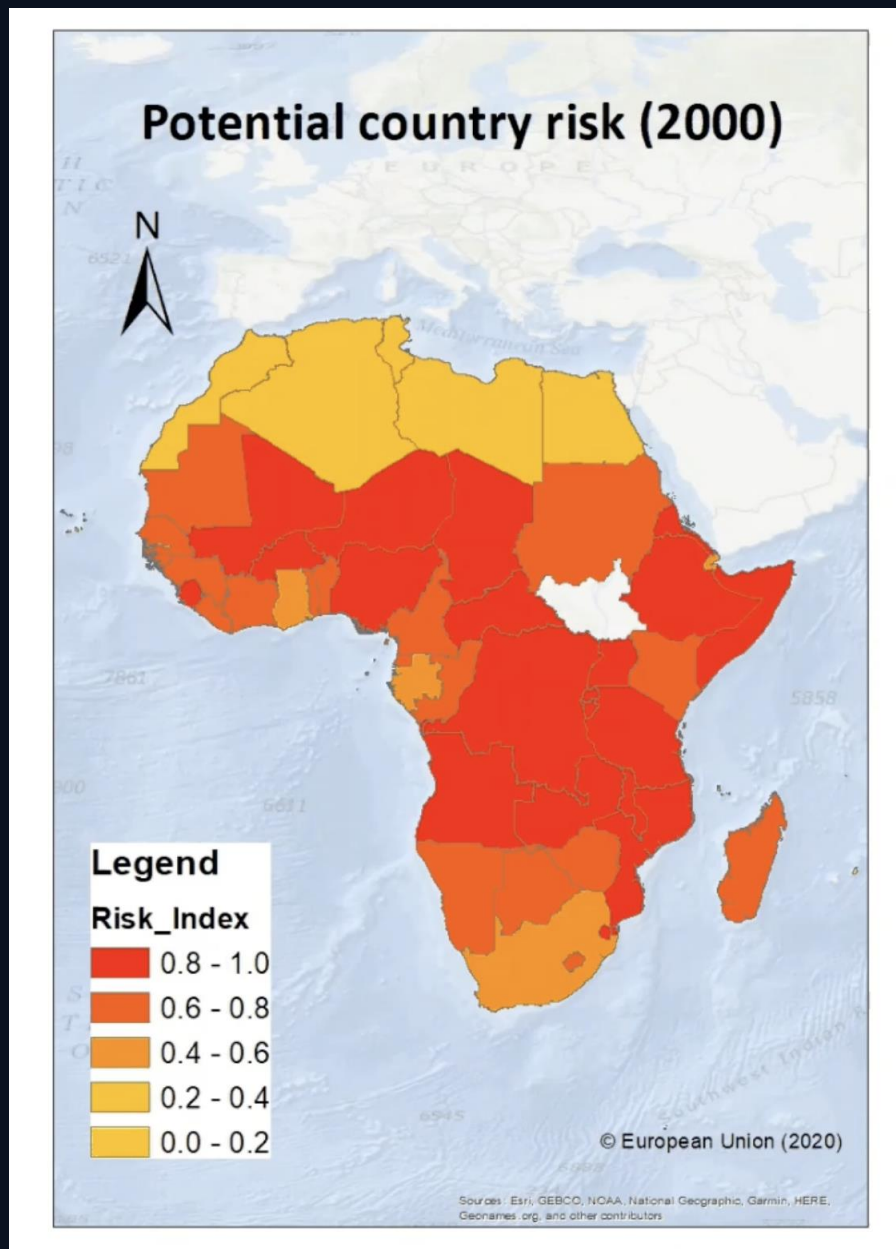
Countries potential vulnerability to respiratory infections

The JRC conducted a study to outline African country profiles for the period 2000-2016 by linking the development of WASH services with formal and informal investments, and respiratory diseases. The objective was not to analyse the full multi-causality of low respiratory infections (LRI), but rather to assess the potential vulnerability of African countries to COVID-19 due to weak healthcare and WASH systems. Out of the 16 variables considered (that also included socio-economic aspects like population density, GDP or Official Development Assistance), the study identified 7 most relevant variables to assess the countries potential vulnerability to face LRI mortality:

- Access to and quality of the healthcare system
- Access to WASH services
- Migrant remittance inflows
- Life expectancy at birth
- Population age
- Mortality due to LRI
- Urban population



Since 2000, the vulnerability to respiratory infections has decreased for the overall African continent. But it remains high, with 916,851 deaths caused by LRI across the continent in 2016 (10.4% of total deaths).



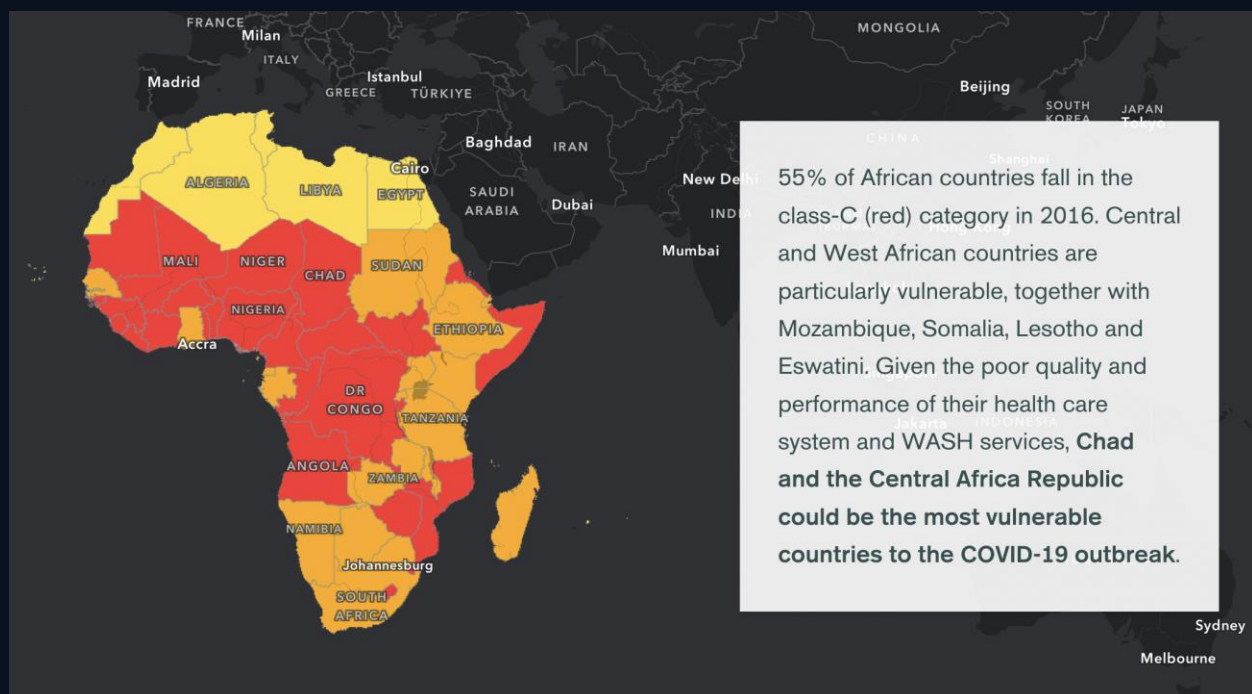
Country profiles

African countries could be divided in three groups, regarding the mortality due to low respiratory infections (LRI) and the links between the development of water, sanitation and hygiene (WASH) services and both formal and informal investments:

Class A countries show the highest life expectancy, strongest healthcare system and WASH services, lowest mortality rate and highest rates of urbanization and migration remittance inflow. They are likely to be in a better position to tackle public health emergencies.

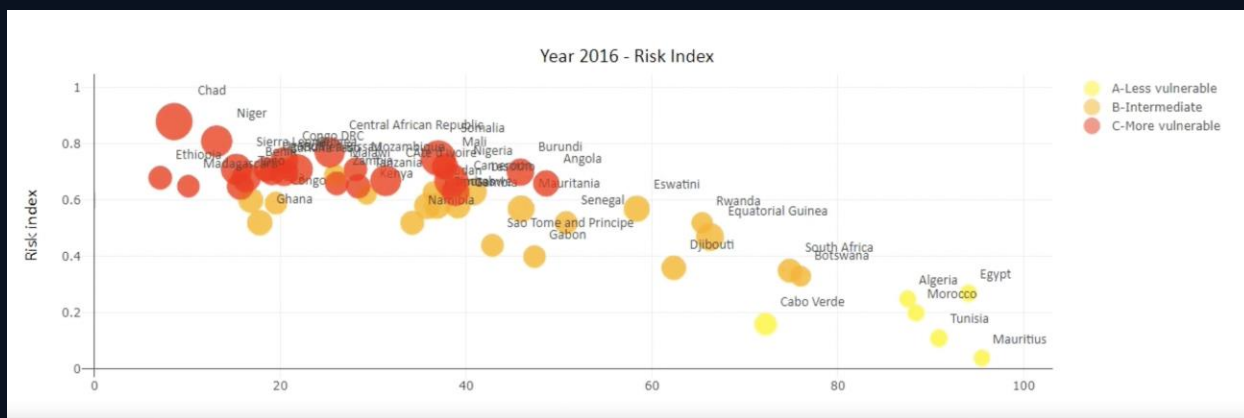
Class B countries show intermediate values for these variables.

Class C countries show the lowest life expectancy, weakest healthcare system and WASH services, highest mortality rates and lowest rates of urbanization and migration remittance inflow. They are likely to be more vulnerable to LRI outbreaks.



Frequent hand washing with soap and water is crucial to limit the spread of COVID-19. Access to basic handwashing facilities is then a key factor to consider. In Ghana for example, 16,7% of the population does not have handwashing facilities at home, whilst 42% have limited handwashing facilities and 41% basic handwashing facilities.

While some countries significantly improved their access to sanitation services over the period 2000-2016 (such as Cabo Verde, or South Africa where the population with access to basic sanitation services rose from 59% in 2000 to 75% in 2016), others underwent little or no improvements (e.g. Democratic Republic of the Congo and Chad).



Key messages

The vulnerability of the African continent to respiratory diseases has globally decreased from 2000 to 2016. However, the potential risk remains high for many countries that are still unable to manage endemic diseases, especially lower respiratory infections (LRI).

Reductions in disease related mortality (including LRI related mortality) are associated with increased investments in basic WASH services (basic drinking water services, sanitation services, and handwashing facilities including soap and water).

If investment in WASH services is essential, Official Development Assistance (ODA) does not appear to be associated with reduced vulnerability to infectious diseases at country level. But it could have a positive impact at smaller scale, and help fight COVID-19 in the short term and increase life expectancy in the long term.

On the other hand, migrant remittances –money sent home by migrants– have a clear positive impact on improving WASH services in African households and communities.



Public health depends on the security of water resources for all. Yet there are still 3 billion people –40% of the world's population– who do not have access to basic handwashing facilities at home. Expanding access to water is essential to create more resilient African communities. Efforts to increase access to water, sanitation and hygiene services as a response to the COVID-19 pandemic could also limit the spread of other prevalent diseases that contribute to high rates of mortality in Africa.



<https://africa-knowledge-platform.ec.europa.eu/>

This document has been originated from a StoryMap compiled in the context the European Commission's Africa Knowledge Platform.<https://africa-knowledge-platform.ec.europa.eu/>

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Images

School girls fetching water by Tucker Tangeman on Unsplash

Masked man by Tai's Captures on Unsplash

Man demonstrating how to set a mosquito net by Andre Roussel (USAID) on Pixnio

Ebola virus by Cynthia Goldsmith (USCDCP) on Pixnio

Malagasy school girls washing hands by Crystal Thompson, USAID on Pixnio

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Based on: Healthcare and WASH versus COVID-19 outbreak in Africa

Further reading: COVID-19 pandemic in Africa: Is it time for water, sanitation and hygiene to climb up the ladder of global priorities?