



POLIO Environmental Surveillance Bulletin



POLIO GLOBAL
ERADICATION
INITIATIVE

Quarter 3

2025

ENVIRONMENTAL SURVEILLANCE IN CONSEQUENTIAL GEOGRAPHIES OF THE AFRICAN REGION

Generally, “Consequential geographies” refers to regions where spatial and social processes intersect to create or maintain justice or injustice. It is also used to draw attention to specific geographical areas with a significant impact on a larger issue, such as the impact of urban development on immigrant communities into the public consciousness.

In the Global Polio Eradication Initiative, “Consequential geographies” refers to specific geographical areas that hold key to the success of polio eradication. These areas are characterized by high numbers of un- or under-immunized children (the “zero-dose” children), often with complex humanitarian situations, such as insecurity and

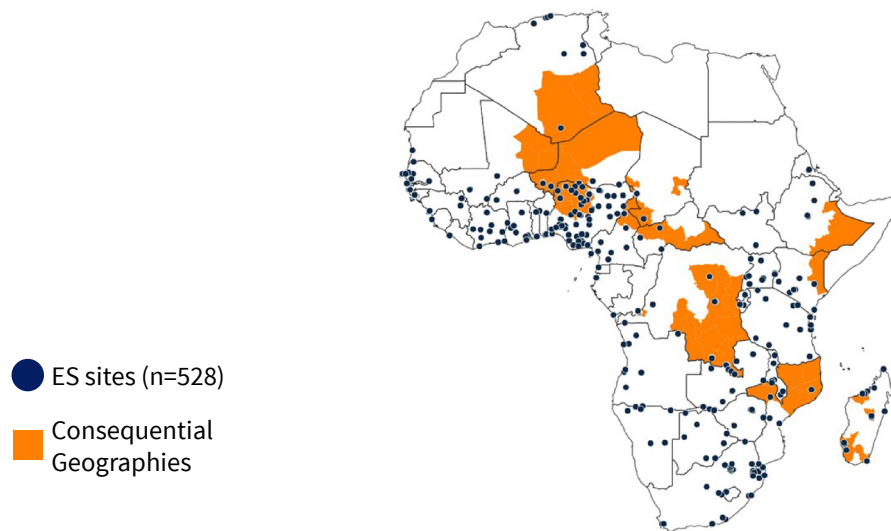
conflict, making it challenging to reach marginalized and under-vaccinated communities. These areas are considered “consequential” because reaching zero-dose children in these specific locations is essential for achieving the global goal of interrupting poliovirus transmission entirely. Polio surveillance is also crucial in these areas to timely identify all remaining area of transmission.

Consequential geographies for polio eradication in recent years have included eastern Afghanistan, southern Khyber Pakhtunkhwa (Pakistan), northern Nigeria, the eastern Democratic Republic of Congo, northern Yemen, southern Somalia, and the Tete province in Mozambique.

The Environmental Surveillance (ES) network in the African region has prioritized all polio high-risk areas including 64 provinces that fall within the consequential geographies. Currently a total of 35 consequential provinces have no ES site. These provinces form our blind spot for ES and have been prioritized for ES

expansion. However, the challenge being faced here is the availability of suitable infrastructure that supports ES, such as wastewater treatment plants (WWTPs), suitable open drains and the required logistics support to enable effective implementation and adequate coverage of these areas.

Distribution of ES sites in consequential geographies



OPTIMIZATION OF ENVIRONMENTAL SURVEILLANCE IN THE REGION

In line with the main objectives of the Global Polio Surveillance Action Plan (GPSAP 2025-2026), Environmental Surveillance optimization activities were supported during the third quarter of the year by the AFRO ES Consultants in Equatorial Guinea, Gambia, and Ghana. The main activities conducted in these countries include capacity building of country teams, ES sample collectors and supervisors.

Advocacy sessions were undertaken to elicit support and sustainability. Field visits were conducted to review sites and identify additional sites for expansion. In addition, electronic data tools were applied to document sites and their profiles as well as to onboard country teams and supervisors for effective oversight including supervision.



Capacity building in Equatorial Guinea



Assessment of Gambia ES sites

Review of Ghana ES sites



STRENGTHENING PARTNERSHIPS AND COLLABORATION

The African Region's poliovirus environmental surveillance network has begun establishing collaboration and partnerships with other wastewater surveillance bodies and institutions to advance multipathogen detection from wastewater.

The region has collaborated with the United Nations Environment Programme to build capacity of country teams on wastewater surveillance and with the The European Commission's Health Emergency Preparedness and Response Authority (HERA) to strengthen multipathogen detection from wastewater in The Democratic Republic of Congo, Senegal, Uganda and Zambia. In addition, a delegation from the U.S. Congress, on a learning visit to Ethiopia, toured an environmental surveillance sampling site in Addis Ababa in August 2025 to better understand how the system operates and how it contributes to polio monitoring and multi-pathogen research.

The delegation observed a sampling session at the Bole wastewater treatment plant, located on the edge of the city's industrial park. During the visit, officials discussed the implementation context, progress achieved, and the challenges facing the program. Environmental surveillance was launched in Ethiopia in 2017, after the country was certified free of wild poliovirus, to provide stronger evidence of the absence of silent transmission.

The main challenge remains the lack of strong financial partnerships, with WHO continuing to be the primary funding source. In addition, the country is currently facing an outbreak of type 2 variant

poliovirus, making the diversification of partnerships critical to the success of the response. Moving forward, it is recommended to strengthen and sustain these surveillance activities to maintain a low risk of poliovirus transmission in Ethiopia and across the African Region.



Visit to the environmental monitoring site



Discussion sessions

Innovation in Environmental Surveillance

Environmental surveillance is currently implemented at 528 sites across the African Region. Of these, 63% are located in open settings, while only about one-third operate within closed facilities. By the end of the third quarter, 68% of the sites had achieved enterovirus detection rate of at least 50%.

This remains below the regional target of 80%, and many sites in several countries continue to show insufficient performance, posing a significant challenge to the system. To improve these results, the regional surveillance network has begun introducing innovative technologies. Auto-samplers are currently undergoing pilot testing in Brazzaville to assess their added value in composite sample collection and potential higher enterovirus yield prior to large-scale deployment to underperforming sites.

This approach represents not only a promising opportunity to strengthen system efficiency, but also a critical step in the fight against poliomyelitis in the Region.



Testing the auto-samplers

However, quality ES site selection is essential in polio environmental surveillance for ensuring accurate and sensitive detection of poliovirus. Appropriate site selection based on sewage properties and consistent, timely sample collection are crucial for building a robust and effective surveillance system.

Good quality sites lead to higher enterovirus rates, improve the ability to track transmission in a community, and inform the decision to launch effective vaccination response. High-quality sites,

such as those with specific characteristics that increase sensitivity, can detect poliovirus in areas where it circulates, even when no cases of acute flaccid paralysis (AFP) are reported. By detecting virus in wastewater, quality sites can provide early warnings of poliovirus circulation, giving public health officials time to implement a rapid response.

ENVIRONMENTAL SURVEILLANCE PERFORMANCE IN THE AFRICAN REGION, Q3 2025

Key performance indicators for environmental surveillance, in accordance with global guidelines, are regularly monitored. Four of these indicators are highlighted in the table below. The proportion of sites with an enterovirus isolation rate of $\geq 50\%$ is 72% in Q3 2025, representing an improvement from the 65% recorded in Q2 2025.

Also, 88% of countries have more than 80% of samples arriving at the laboratory in good condition. The number of countries with 80% of samples arriving at the laboratory within three or seven days of collection has increased from 81% to 83%. Finally, 59% of countries have at least 80% of their collected samples supervised by ODK compared to only 48% of countries achieving this indicator in Q2, 2025.

S/N	Country	No of ES sites	No of samples received in the Lab	% of samples reaching the lab ≤3/ ≤7 days	% of samples reaching the lab in good condition	% of sites with ≥ 50% EV isolation	% of collections supervised with ODK
1	Algeria	10	100	94%	93%	100%	-
2	Angola	11	99	5%	100%	55%	97
3	Benin	7	63	78%	100%	43%	100
4	Botswana	8	62	92%	100%	88%	91
5	Burkina Faso	10	106	95%	100%	50%	100
6	Burundi	7	63	86%	100%	100%	51
7	Cabo Verde	2		-	-	-	-
8	Cameroon	17	204	97%	100%	100%	96
9	Central African Republic	6	50	92%	98%	50%	42
10	Chad	5	82	49%	100%	80%	95
11	Cote d'Ivoire	24	208	85%	79%	100%	68
12	Democratic Republic of Congo	25	236	68%	97%	8%	99
13	Equatorial Guinea	6	42	29%	100%	67%	95
14	Eritrea	2		-	-	-	-
15	Eswatini	4	25	96%	100%	100%	100
16	Ethiopia	7	49	100%	100%	100%	100
17	Gabon	4	32	78%	78%	50%	19
18	Gambia	3	33	82%	100%	67%	97
19	Ghana	14	141	98%	99%	79%	86
20	Guinea	9	67	100%	100%	89%	99
21	Guinea Bissau	6	30	60%	100%	0%	47
22	Kenya	24	199	99%	99%	63%	91
23	Lesotho	3		-	-	-	-
24	Liberia	2	22	82%	100%	100%	68
25	Madagascar	30	268	94%	100%	70%	45
26	Malawi	11	119	46%	90%	73%	95
27	Mali	6	54	87%	100%	50%	85
28	Mauritania	2	40	85%	100%	50%	95
29	Mauritius	4	12	100%	100%	100%	100
30	Mozambique	11	97	65%	100%	64%	90
31	Namibia	8	89	88%	100%	100%	63
32	Niger	16	192	81%	100%	38%	68
33	Nigeria	100	1006	100%	100%	81%	95
34	Republic of Congo	5	54	100%	100%	0%	44
35	Rwanda	4	20	100%	60%	75%	75
36	Senegal	7	69	100%	100%	100%	59
37	Seychelles	2	16	100%	100%	0%	-
38	Sierra Leone	5	55	27%	98%	80%	36
39	South Africa	23	171	85%	100%	61%	36
40	South Sudan	7	74	74%	45%	29%	11
41	Tanzania	19	141	89%	43%	84%	89
42	Togo	4	48	92%	98%	75%	98
43	Uganda	11	99	100%	95%	91%	-
44	Zambia	16	157	89%	99%	94%	90
45	Zimbabwe	9	73	60%	99%	100%	69
	Total African Region	508	4734	83%	95%	72%	77%

The WHO Regional Office for Africa

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Africa is one of the six regional offices throughout the world, each with its own programme geared to the particular health conditions of the Member States it serves.

Member States

Algeria	Lesotho
Angola	Liberia
Benin	Madagascar
Botswana	Malawi
Burkina Faso	Mali
Burundi	Mauritania
Cabo Verde	Mauritius
Cameroon	Mozambique
Central African Republic	Namibia
Chad	Niger
Comoros	Nigeria
Congo	Rwanda
Côte d'Ivoire	Sao Tome and Principe
Democratic Republic of the Congo	Senegal
Equatorial Guinea	Seychelles
Eritrea	Sierra Leone
Eswatini	South Africa
Ethiopia	South Sudan
Gabon	Togo
Gambia	Uganda
Ghana	United Republic of Tanzania
Guinea	Zambia
Guinea-Bissau	Zimbabwe
Kenya	

World Health Organization

Regional Office for Africa

Cité du Djoué

PO Box 6, Brazzaville

Congo

Telephone: +(47 241) 39402

Fax: +(47 241) 39503

Email: afrgocom@who.int

Website: <https://www.afro.who.int/>