Report Number: ICRR0024162

## 1. Project Data

| Project ID | Project Name |
|---|---|
| P154807 | Disease Surveillance & Response in WA |
| **Country** | **Practice Area(Lead)** |
| Western and Central Africa | Health, Nutrition & Population |

| L/C/TF Number(s) | Closing Date (Original) | Total Project Cost (USD) |
|---|---|---|
| IDA-58820,IDA-58830,IDA-58840,IDA-72270,IDA-D1290,IDA-D1300,IDA-D1310,IDA-E1330,TF-A2534,TF-B1239 | 31-Jan-2023 | 119,530,824.13 |
| **Bank Approval Date** | **Closing Date (Actual)** | |
| 28-Jun-2016 | 31-Aug-2023 | |

| | IBRD/IDA (USD) | Grants (USD) |
|---|---|---|
| Original Commitment | 114,064,168.00 | 13,024,899.00 |
| Revised Commitment | 121,729,883.59 | 10,271,372.76 |
| Actual | 119,563,497.62 | 10,271,372.76 |

| Prepared by | Reviewed by | ICR Review Coordinator | Group |
|---|---|---|---|
| Salim J. Habayeb | Maria De Las Mercedes Vellez | Susan Ann Caceres | IEGHC (Unit 2) |

## 2. Project Objectives and Components

### a. Objectives

The objectives of the project were: (i) to strengthen national and regional cross-sectoral capacity for collaborative disease surveillance and epidemic preparedness in West Africa, thereby addressing systemic weaknesses within the animal and human health systems that hinder effective disease surveillance and

response; and (ii) in the event of an Eligible Emergency, to provide immediate and effective response to said Eligible Emergency (Financing Agreement, October 28, 2016, p. 6).

Four Financing Agreements were entered into for this regional operation. One was signed between the International Development Association (IDA) and the Economic Community of West African States (ECOWAS), and three other agreements were signed between IDA and three countries (Guinea, Senegal, and Sierra Leone) participating in the first phase of the regional surveillance program (this project constitutes the first phase of the regional program).

**Explanatory note on the scope of the PDO statement and country selection:**

The Regional Disease Surveillance Systems Enhancement Program (REDISSE program) in West and Central Africa was designed to address epidemic preparedness and response and consisted of an interdependent series of projects developed between 2016 and 2019. The overall program included a total of 16 countries and was expected to benefit nearly half a billion people. It was planned to follow a phased approach through a 'series of projects' that allowed countries to join each phase of the program at their discretion. According to the PAD (p. 21), the above-listed three countries participating in the first phase of the program (i.e., this project) were ready for investing further in surveillance systems and preparedness. Following the Ebola Virus Disease (EVD) crisis, the influx of technical and financial assistance allowed these countries to assess their needs, identify priorities, and lay plans for further health system strengthening and epidemic preparedness.

At the regional level, ECOWAS assigned the West African Health Organization (WAHO), an affiliate organization of ECOWAS, to act as the technical regional coordinator of the overall program, including this project. Therefore, WAHO was expected to support the three countries participating in this first phase, as well as all other countries which would join the program in subsequent phases. This strategic arrangement was meant to prevent the fragmentation of the Bank's implementation support at the regional level by enabling WAHO to engage a single and stable team as a regional counterpart to all country teams rather than creating multiple regional teams across the program phases (ICR, p. 33).

**Justification for not applying a split rating methodology:** The project objectives did not change during the project cycle. However, reliable baseline data at entry were not available since the results of the first round of Joint External Evaluation (JEE) led by the World Health Organization (WHO) were not yet available. Therefore, preliminary baselines and targets were estimated through self-assessments carried out between December 2015 and February 2016 as part of project preparation. These were updated and revised downward when the externally validated JEE findings became available. The JEE findings, on which the revised baselines were based, constituted a more reliable and accurate estimation of baseline capacity than the preliminary and subjective self-assessments (Project Paper, Report No: PAD3395, November 20, 2019, p. 12). Even though some downgrading of PDO targets may have reflected a lower ambition (for example the indicator of "Progress in establishing indicator and event-based surveillance" updated its baseline from 0 to 1, suggesting a higher capacity than originally anticipated while the target was downgraded from 3 to 2 countries, in other instances the end value achievement met both the original and revised targets), a split rating methodology would not result in a different efficacy rating for any of the two objectives. Therefore, this ICR Review does not apply a split rating, as it would be inconsequential to deriving the overall outcome rating.

### b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

**Did the Board approve the revised objectives/key associated outcome targets?**
No

**c. Will a split evaluation be undertaken?**
No

**d. Components**

**I. Surveillance and Information Systems (Original Cost: US$27.9 million; Actual Cost: US$39 million).**

Component I aimed to enhance national surveillance systems and processes at the different tiers of the health system encompassing regional, national and sub-national surveillance of priority diseases, including emerging, re-emerging, and endemic diseases, and on timely reporting of human public health and animal health emergencies in line with the International Health Regulations (IHR 2005) and the World Organization for Animal Health (OIS) Terrestrial Animal Health Code and Performance of Veterinary Services. The Component would support (i) the establishment of appropriate linkages between animal health and human health surveillance information systems, and between national systems and regional/international disease surveillance and reporting systems; (ii) cross-border collaboration in surveillance; (iii) timely reporting by community-level surveillance agents and district health and veterinary facilities, with minimization of turnaround time from specimen collection to laboratory confirmation and reporting; and (iv) the use of surveillance data for risk analysis. There were three sub-components:

1. ***Support to coordinated community-level surveillance systems and processes across the animal and human health sectors.*** This would consist of improving community-level surveillance capacity for active, passive and rumor surveillance including in cross-border areas, and the development and implementation of a plan to ensure adequate territorial coverage for surveillance from the community to the central level.
2. ***Develop capacity for interoperable surveillance and reporting systems.*** This would include (i) assessment of existing human and animal health surveillance systems and networks; (ii) review and update of national and regional disease priorities, and review and development of harmonized guidelines, protocols and tools to enhance surveillance and reporting processes; (iii) development of common methodologies and protocols for efficient flow and utilization of surveillance data; (iv) development of information communication and technology (ICT) infrastructure to facilitate cross-sectoral interoperability of surveillance and reporting systems at the national and regional level; and (v) establishing the necessary linkage of surveillance and reporting systems to national incidence management systems.
3. ***Establish an early-warning system for infectious disease trend tracking and reporting.*** This included the use of Geographic Information Systems (GIS) to study infectious disease patterns and make predictions on the evolution of disease outbreaks, including zoonoses; and the identification of potential high-risk areas for disease outbreaks in the region. Activities would also support the monitoring of antimicrobial resistance and insecticide resistance, and the impact of climate change on infectious disease outbreaks in the region.

**II. Strengthening of Laboratory Capacity (Original Cost: US$17 million; Actual Cost: US$20.4 million).** The component aimed at addressing laboratory systems weaknesses and at fostering cross-country and cross-sectoral collaboration by establishing networks of efficient and quality public health,

veterinary, and private laboratories. It aimed at setting up a regional networking platform to improve collaboration for laboratory investigation, to align with internationally recognized practices, and to ensure prompt results. It had three sub-components:

1. ***Develop capacity for interoperable surveillance and reporting systems.*** This would include (i) the assessment of existing human and animal health laboratory facilities and networks; (ii) support to increasing laboratories services and their biosafety; (iii) support for improving's supply chain management, including the establishment of efficient inventory tracking and management systems; (iv) technical support for integrated laboratory information systems and the interoperability with disease surveillance and reporting systems; and (v) support to strengthening quality assurance systems for diagnostic services.
2. ***Improve data management and specimen management systems***, including streamlining the laboratory specimen referral process and improving the efficiency of specimen transport and disposal systems.
3. ***Enhance regional reference laboratory networking functions.*** This sub-component would provide support for networking and for improving quality assurance, notably (i) the development of common standards, quality assurance systems, procedures and protocols; (ii) the introduction of peer review mechanisms; (iii) the application of the World Health Organization – Africa Region (WHO/AFRO) five-step accreditation process and technical assistance to support accreditation of laboratories; and (iv) support inter-laboratory external quality assessments among participating countries and recruitment of experts to provide laboratory mentorship. The sub-component was expected to strengthen regional reference laboratories for specific diseases or diagnostic techniques; strengthen regional networking and information sharing between countries; and harmonize laboratory quality assurance policies across countries in the region, based on international standards.

**III. Preparedness and Emergency Response (Original Cost: US$26 million; Actual Cost: US$27.8 million).** This component aimed to support national and regional efforts to enhance capacities for infectious disease outbreak preparedness and response. It aimed at improving country and regional surge capacity to ensure a rapid response during an emergency. It had three sub-components:

1. ***Enhance cross-sectoral coordination and collaboration for preparedness and response*** by supporting: (i) partnership building activities, including the private sector, for outbreak preparedness and disaster risk management; (ii) improvement and harmonization of policies, legislation, and operating procedures with the involvement and representation from other relevant sectors including environment, customs/immigration, education, law enforcement; and (iii) exploring the establishment of national and regional financing mechanisms to support swift mobilization of resources for animal health and public health emergencies.
2. ***Strengthen capacity for emergency response*** by supporting the strengthening of emergency operations centers and surge capacity at the national and regional levels. Activities include: (i) establishment and management of a database of multidisciplinary rapid response teams that would be available for rapid deployment; (ii) development and management of regional stockpiling mechanisms to ensure availability of supplies to countries during an emergency response; and (iii) swift mobilization and deployment of resources in response to major infectious disease outbreaks.
3. ***Contingency Emergency Response (CERC) in the event an emergency***, whose objective was to improve government response capacities in the event of an emergency, following the procedures governed by OP/BP 10.00 paragraph 13 (Rapid Response to Crisis and Emergencies). There was a likelihood that, during the life of the project, one or more countries would experience an epidemic or

outbreak of public health importance or other health emergency which could cause major adverse health, economic, and social impacts. The CERC sub-component was included in anticipation of such events to facilitate World Bank support to mitigation, response, and recovery. The CERC would serve as a first line financing option during an emergency response, and an Emergency Response Operational Manual would be prepared by each country as a condition of disbursement. Disbursements would be made against an approved list of goods, works, and services required to support crisis mitigation, response and recovery.

**IV. Human Resource Management for Effective Disease Surveillance and Epidemic Preparedness (Original Cost: US$14.1 million; Actual Cost: US$14.5 million).** This component was cross-cutting and aimed to strengthen government capacity and ability to plan, implement, and monitor human resource development in related areas. It had two sub-components:

1. ***Healthcare Workforce mapping, planning and recruitment***, with due consideration to quantitative aspects, geographical distribution, and private actors.
2. ***Enhance Health Workforce training, motivation, and retention***, including training at the community level.

**V. Institutional Capacity Building, Project Management, Coordination, and Advocacy (Original Cost: US$29.1 million; Actual Cost: US$33.4 million).** This component focuses on all aspects related to project management and cross-cutting institutional support, and includes two sub-components:

1. ***Project coordination, fiduciary management, monitoring and evaluation, data generation and knowledge management.***
2. ***Institutional support, capacity building, advocacy and communication, including support to One Health coordination.***

## e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

**Costs and financing:** The project was processed as an Investment Project Financing Instrument with a combination of IDA Credits and Grants. The original cost for IDA (from both Country IDA resources and Regional IDA resources) was estimated at US$110 million equivalent with US$30 million allocated to each of the three countries, and US$20 million as a regional grant for ECOWAS/WAHO (PAD, p. 21).

IDA financing allocations at appraisal (in US$ million)

| Recipients | Country IDA | Regional IDA | Total |
|---|---|---|---|
| ECOWAS/WAHO | -- | 20.0 | 20.0 |
| Senegal | 15.0 | 15.0 | 30.0 |
| Sierra Leone | 10.0 | 20.0 | 30.0 |
| Guinea | 10.0 | 20.0 | 30.0 |
| Total | 35.0 | 75.0 | 110.0 |

In addition, a grant amount of US$4.1 million was financed by a Multi-Donor Trust Fund (MDTF) for supplementing activities under Component 1 (Surveillance and Information Systems). Hence, **the total estimated project cost at entry aggregated at US$114.1 million.**

During implementation, additional financing (AF) was introduced as follows: US$8.96 million under MDTF in 2019; an additional IDA Grant of US$5 million to WAHO; and an additional IDA Credit of US$7 million to Senegal in 2022 (see details below under restructurings), bringing the total estimated cost to US$135.1 million. In 2023, the cost was revised to US$121.7 million with cancellations of about US$6 million. Unutilized funds were recommitted to the countries' national portfolio budget allocation (ICR, p. 16). **The actual cost was US$119.6 million.**

**Dates:** The project was approved on June 28, 2016 (ICR, p. 2), and became effective on December 2, 2016. A Mid-Term Review was carried out on October 30, 2020. The project closing date was extended by an aggregate total of seven months. The original closing date was January 31, 2023, and the actual closing date was August 31, 2023.

**Restructurings:** The project underwent six restructurings:

**The first restructuring of November 20, 2019** (i) provided AF of US$8.96 million under MDTF from the Canadian Government in support of WAHO activities and for setting up additional Centers for Epidemiologic Surveillance; and (ii) revised the results framework mainly to update baseline data and targets based on the initial round of external JEE assessments

**The second restructuring of December 6, 2022** provided another AF in the amount of US$12 million: and IDA Grant of US$5 million for WAHO, and an IDA Credit of US$7 million to Senegal with the aim to (i) replenish funds used for COVID-19; (ii) complete planned regional and country activities; (iii) ensure that the systems introduced are institutionalized by the end of the project; and (iv) extend the closing date for Senegal and Guinea to August 31, 2013, and for Sierra Leone to June 30, 2023. The extension was necessitated by the delays in project implementation caused by the COVID-19 pandemic (ICR, p. 16) and was meant to allow the completion of pending activities.

**The third, fourth, fifth and sixth restructurings during the last year of the project** (January 30, 2023; June 9, 2023, June 29, 2023, and August 31, 2023) were required for extending the closing date of REDISSE I till August 31, 2023, and to reflect reallocation of funds during the post COVID-19 period. The actual closing date of August 31, 2023, was also aligned with the closing date of the second phase of the program (REDISSE II project that involved other countries).

## 3. Relevance of Objectives

### Rationale

Emerging and re-emerging diseases at the human-animal interface have been occurring with increased frequency. At the time of the REDISSE program planning, and according to WHO, out of 55 disease

outbreaks reported in Africa over the last decade, 42 outbreaks took place in West Africa, a region that continued to have one-third of the global disease burden affecting the human population. The region experienced expansion in human settlements, increased exploitation of natural resources, forest fragmentation, and intensification of agricultural and livestock production. The region remained at high risk for infectious disease outbreaks, including those of animal origin (zoonotic diseases). Commonly arising outbreaks included cholera, dysentery, hemorrhagic fevers (e.g., Ebola virus disease, Rift Valley fever, Crimean-Congo hemorrhagic fever, Lassa fever, and yellow fever), and meningococcal meningitis. West Africa also bears a disproportionate burden of malaria, tuberculosis, acquired human immunodeficiency syndrome (HIV/AIDS) and neglected tropical diseases, many of which have a potential for resurgence, including because of increasing drug and insecticide resistance (ICR, p. 6). At the global level, the world has witnessed one to three newly emerging infectious diseases annually over the last four decades. Among infectious diseases affecting humans, many were of animal origins, with more than 70 percent of emerging zoonotic infectious diseases coming from wildlife. Health and socio-economic impacts were often significant.

The project was prepared in the aftermath of the 2014-2016 West Africa Ebola crisis, which challenged weak surveillance systems and raged unabated for over eighteen months in the absence of rapid diagnostic tests, treatment or vaccine availability, and overall readiness. Previous efforts to strengthen health surveillance, preparedness and response systems in the West Africa region started in 2010, but they were very limited (ICR, p. 6). In 2013, a US$10.75 million trust fund-financed operation known as the West Africa Regional Disease Surveillance and Capacity Strengthening Project (WARDS, P125018) was initiated. It played an important role in identifying challenges in strengthening surveillance and preparedness capacities in the region and in developing the West Africa Health Organization (WAHO) capacity as an important regional partner for future development of surveillance systems.

The Ebola Virus Disease epidemic in West Africa highlighted the critical importance of strengthening national disease surveillance systems and inter-country collaboration to detect disease outbreaks earlier and to respond more swiftly and effectively to minimize the loss of human lives and economic costs. The overall economic impact of the Ebola crisis was estimated in billions of USD, and the economic impact outlasted the epidemiological impact. The Ebola epidemic demonstrated that there can be rapid spread and large spill-over effects, as Ebola emerged in a remote rural area of Guinea, but rapidly spread to populated urban centers within the country and to neighboring countries given interconnected communities along the borders (Liberia, Sierra Leone), and within the wider sub-region (Mali, Nigeria, Senegal), with further subsequent spread to other parts of the world given the prevailing commerce and transport activities.

Development objectives supported the ‘One Health Approach’ which aimed at integrating into human health aspects the improvement of animal health and wildlife conditions, as these were often the root cause from which zoonotic diseases tended to originate and spread. At both appraisal and completion, the PDOs were aligned with and built on International Health Regulations and guidelines, namely, the WHO International Health Regulations (IHR 2005, revised in 2007), the One Health Agenda, the Global Health Security Agenda, Universal Health Coverage, the World Organization for Animal Health (OIE - Office International des Epizooties) Terrestrial Animal Health Code and Manual, the Sustainable Development Goals, the US Government Global Health Security Agenda that was established in 2014 in partnership with the United States Centers for Disease Control and Prevention, and the United States Agency for International Development (USAID). At the regional level, the PDOs were aligned with the goals of ECOWAS Member States to design a robust regional and national One Health coordination mechanism.

According to the ICR (p. 18), objectives were and remained aligned with the Country Partnership Strategies and Frameworks (CPFs) for all three REDISSE I countries, as they focused on strengthening health systems capacity, including disease surveillance, to improve health outcomes and reduce vulnerability. The COVID-19 pandemic rendered the PDOs even more relevant, as REDISSE's activities aimed to strengthen regional and national surveillance systems, enabling better preparedness and response capacity to contain outbreaks. For Guinea, the PDOs were aligned with all four pillars of the CPF for the period FY18-23, namely: promoting good governance for sustainable development; sustainable and inclusive economic transformation; inclusive development of human capital; and sustainable management of natural capital. For Senegal, the PDOs were aligned with the main areas of focus of the CPF for the period FY20-24, namely: strengthening governance framework and building resilience, and improving service delivery. In the case of Sierra Leone, the PDOs remained aligned with the second focus area of the CPF for the period FY21-25, namely tackling human capital acceleration for inclusive growth.

Importantly, health security is bolstered by collective regional or global approaches for building preparedness and response capacities along with mutualization of resources rather than unilateral actions. Strengthening national, regional, and global systems for infectious disease outbreaks preparedness, alert, and response are global public goods that extend beyond the reinforcement of the first line of defense at the country level, but to the region and ultimately to the global level, as infectious disease outbreaks can transcend national borders.

**Rating**
High

## 4. Achievement of Objectives (Efficacy)

### OBJECTIVE 1

**Objective**
Strengthen national and regional cross-sectoral capacity for collaborative disease surveillance and epidemic preparedness in West Africa, thereby addressing systemic weaknesses within the animal and human health systems that hinder effective disease surveillance and response

**Rationale**
Surveillance and epidemic preparedness are closely interlinked, notably in aspects related to laboratory capacities, information systems, human resources, and overall purposes. They are also assessed in tandem by WHO JEE methodology (see below). Therefore, surveillance and preparedness are addressed under one objective. Concurrently, there are also close linkages with Objective 2, as Objective 1 promotes the overall capacities and readiness to respond to health emergencies.

**The theory of change (ICR, p. 11) envisaged the following:**

**that surveillance and information systems strengthening activities to:**

- harmonize protocols and guidelines;
- establish linkages between surveillance information systems (human and animal; sub-national, national and regional);
- develop/enhance early warning systems for surveillance, inc. analysis and predictions;
- implement collaborative activities in cross-border surveillance;
- train human and animal health community/field level staff for detection and reporting;
- conduct Field Epidemiology Training for staff at different levels and across sectors (human and animal health); and
- strengthen infrastructure and equipment of health facilities;

**would be reasonably expected to result in the following outputs and intermediate results:**

- improved collaboration and exchange of information across countries;
- strengthened community/local-level surveillance and response processes;
- establishment of event-based surveillance systems;
- better integration/ interconnection of surveillance and information/reporting systems across animal and human health sectors;
- improved surveillance processes across the human and animal health sectors (progress towards operationalizing the One Health approach);
- improved systems for effective reporting to relevant organizations; and
- improved capacity to analyze/predict epidemic trends;

**that laboratory capacity strengthening activities to:**

- improve laboratory infrastructure, equipment and supplies, and networks;
- increase laboratory services;
- strengthen laboratory information systems;
- strengthen the integration of laboratory information systems and reporting;
- improve sub-national, national and regional laboratory specimen referral and transportation; and strengthen quality assurance systems and accreditation processes;

**would be reasonably expected to result in the following outputs and intermediate results:**

- laboratory facilities upgraded and connected as a network;
- increased laboratory testing capacity for the detection of priority diseases;
- improved specimen management systems; and
- enhanced networking functions of regional reference laboratories;

**that preparedness and emergency response activities to:**

- develop/update National Emergency Preparedness and Response Plans;
- strengthen Emergency Operating Centers infrastructure;
- strengthen risk communication mechanisms;
- conduct simulation exercises; and

- deploy resources for outbreak response;

**would be reasonably expected to result in the following outputs and intermediate results:**

- multi-hazard emergency preparedness and response plans implemented;
- mechanisms for responding to known infectious zoonoses and potential zoonoses established and operational; and
- surge capacity of Emergency Operating Centers and stockpiling mechanisms established at national and regional levels;

**that human resource management for surveillance and preparedness to:**

- carry out HR mapping and gap analysis;
- train personnel in surveillance, preparedness, response, and One Health at central and decentralized levels; and
- recruit surveillance and laboratory staff,

**would be reasonably expected to result in the following outputs and intermediate results:**

- increased HR availability and capacity to implement IHR core capacities; and
- increased capacity and competency of public health and veterinary health workforce;

**and that Institutional capacity building, coordination, and advocacy activities** would be reasonably expected to result in the following outputs:

- One Health established and functional as an institutional collaboration mechanism;
- improved cross-border collaboration and information exchange; and
- strengthened regional public health institutions.

**All of the above outputs and intermediate results would plausibly contribute to the following outcomes that would be reflective of the PDOs:**

- Increased collaboration and integration for surveillance and preparedness across sectors, countries and the regional level.
- Increased effectiveness in disease surveillance, early detection, and reporting.
- Reduced systemic weaknesses in human and animal health sectors.
- Increased capacity for immediate and effective response to an eligible public health emergency at sub-national, national and regional levels.

The ICR noted that REDISSE I was expected to directly benefit 33.3 million people (12.3 million in Guinea, 14.7 million in Senegal and 6.3 million in Sierra Leone) whose livelihoods might be affected by disease outbreaks. It noted that REDISSE I would also benefit the populations of other countries participating in the REDISSE program through WAHO's regional interventions and technical support to the region at large. Secondary beneficiaries would include national and regional institutions involved in human and animal health, and public and private service providers.

The ICR suggested that, in the long run, the above outcomes would contribute to two long-term impacts: improved health outcomes and reduced vulnerability; and mitigation and reduction of human and economic burden of disease outbreaks.

**Explanatory note on WHO Joint External Evaluation Tool (JEE) used by the project:**

The international community coalesced around the notion that a more objective measure of country preparedness capacities had to be developed. In 2016, WHO, together with member states and partners, developed and launched a Joint External Evaluation Tool-International Health Regulations (JEE-IHR) to assess country capacity to prevent, detect, and respond to public health threats. The tool allows countries to identify the most urgent needs within their health security system, and to prioritize opportunities for enhancing preparedness and response actions. Through serial evaluations, JEE would help monitor country progress in implementing the IHRs (PAD, p. 5). Each core capacity is assessed using five levels of advancement ranging from no capacity to sustainable capacity. The countries were responsible for conducting annual self-assessments using JEE tools, complemented by OIE Performance of Veterinary Services, and were to be followed by JEE assessments carried out by external experts biennially to validate the findings of national self-assessments and the quality of their data.

The REDISSE program drew most of its results framework indicators from the JEE tool (ICR, p. 13). By adopting the JEE framework, the World Bank, development partners, and Client countries signaled their alignment to the JEE tool and their aim to support the achievement of higher JEE scores. The consensus among stakeholders was that JEE indicators were adequate to monitor progress and measure PDO achievement, and to facilitate the dialogue between partners contributing to the health security agenda.

Concurrently, the ICR (p. 13) stated that it was important to note that, while the project was expected to contribute to improved scores, higher scores cannot be attributed solely to the project, as there may be progress made by countries in health security regardless of the project. On the other hand, progress in some particular areas may not have been included in JEE scores. For instance, the project contributed to strengthening IHR core capacities related to military doctors, maritime health, and food safety personnel to support the regional and national integration of the One Health approach. Nevertheless, JEE elements reflect important core aspects of health security and are used as a suitable proxy to measure the overall level of preparedness. The JEE tool evolved over time. The second edition of the JEE tool in 2018 had minor adjustments. The third JEE edition of 2021 introduced changes in technical areas and various indicators, and it integrated equity considerations across several areas, making benchmarks more stringent to comply with (ICR, p. 95).

**Main outputs and intermediate results**

Note: As discussed above, JEE scores ranged from 1-5 levels of advancement.

Countries that achieve a JEE score of 3 for zoonotic disease surveillance: (developed capacity reflecting zoonotic surveillance systems in place for one to four zoonotic diseases/pathogens of greatest public health concern) or higher (five or more zoonotic diseases of greatest public health concerns): Starting from a baseline score of 1 or 2 (no capacity or limited capacity) in 2016, all three countries achieved a score of 4, exceeding the target.

Countries that achieve a JEE score of 4 for reporting to WHO and OIE (demonstrated ability to identify a potential threat and file a report to WHO or OIE within 24 hours): Starting from a baseline score of 3

(developed capacity to identify a threat and to report), all three countries achieved a score of 4, attaining the target.

Countries that achieve a JEE score of 4 (demonstrated capacity) or higher for an interoperable, interconnected, and electronic real-time reporting system: Starting from a baseline score of 2 and 3 (no capacity or limited capacity) in 2016, Guinea and Sierra Leone achieved a JEE score of 4 in 2023, and Senegal maintained its baseline score of 3 (developed capacity but not demonstrated yet).

Countries that achieve a JEE score of 4 for laboratory systems quality (demonstrated capacity reflecting mandatory licensing of all health laboratories in place and conformity to a national quality standard): In all three countries, there was no further progress in the JEE score beyond the initial baseline score that ranged between 2 and 3 (limited capacity or voluntary conformity to a national quality standard).

Countries that achieve a JEE score of 4 (demonstrated capacity) or higher in specimen referral and transport system: Starting from a baseline score of 3 in 2016, both Guinea and Senegal achieved a score of 4 in 2023, while Sierra Leone sustained its baseline score of 3 (developed capacity).

Countries that achieve a JEE score of 4 (public health workforce strategy developed and implemented) or higher in workforce strategy: Starting from a baseline score of 1 and 2 (no workforce strategy or a limited one), all three countries achieved a score number of 3 in 2023 (public health workforce strategy exists but not regularly updated or consistently implemented) in 2023.

Countries that achieve a JEE score of 4 (demonstrated capacity) or higher in applied epidemiology training program (Field Epidemiology Training Program) in place: all three countries achieved a score of 4.

The percentage of females trained in applied epidemiology was 24 percent, short of the target of 35 percent. (Note: The project aptly sought to promote and monitor women's participation in epidemiology training, but gender disaggregated data collection and reporting remained limited (ICR, p. 30). Prior to project closure, a two-day workshop was organized by the World Bank and Global Affairs Canada to introduce a Gender Toolkit to country representatives of the Ministries of Health of ECOWAS member countries. WAHO presented Western Africa epidemiological situation and the gender strategy developed by the ECOWAS Gender Development Center on integrating gender in health emergencies. WAHO is expected to continue to engage with regional and national stakeholders to mainstream gender issues in the ECOWAS region including sharing the gender toolkit).

Countries that achieve a JEE score of 4 (demonstrated capacity) or higher in veterinary human health workforce: All three countries achieved a score of 2 and 3 (limited capacity or less than half of sub-national levels), short of the target score of 4.

In all three countries, citizens and communities were involved in planning, implementation, and assessment of related project interventions.

In terms of the establishment of an active and functional regional One Health platform (measured on a 5-point Likert scale), and starting from a baseline level of 1 (no capacity) in 2016, a level 3 was reached (an action plan for regional collaboration is developed and endorsed) short of the target of level 4 (action plan is budgeted and endorsed).

- At the regional level, a regional One Health platform was established in 2017 as ECOWAS's institutional planning and decision-making body for human, animal, and environmental health sectors. WAHO also provided support to operationalize the Regional Animal Health Center, responsible for animal health. It also defined an action plan for cross-border collaboration and technical assistance endorsed and implemented by the participating countries.
- At the national level, the project supported the national establishment of One Health Permanent Secretariats, One Health inter-ministerial committees, One Health technical working groups and focal points in each sector with the aim to advance the One Health agenda. The project supported participating countries to transition to the One Health paradigm starting with no capacity at baseline to having a governance structure established. The countries also developed National Strategic Health Plans for 2019-2023 which integrated the One Health approach.

However, there were considerable challenges in the actual operationalization of the One Health approach in participating countries that persisted throughout the lifetime of the project. While the foundational elements, notably the institutional platforms for coordination, were set up, the project had inadequacies in the functionality of the "One Health" platform. Related issues are also discussed in section 5.

**Other region-specific outputs generated by WAHO:** At the regional level, WAHO'S main support included the following (other country-specific outputs were also listed in the ICR's Annex 1, pp. 64-71):

- WAHO provided continuous technical assistance and guidance to participating countries, including through 28 joint World Bank missions to the three project countries and other countries participating in the REDISSE program. WAHO also made arrangements to access health expertise that might otherwise have been unavailable;
- established a partnership with WHO and the International Air Transport Association (IATA) to ensure that all countries have at least one IATA-trained and certified person to approve air transportation of medical samples;
- developed a regional laboratory strategy and a regional emergency response strategy;
- established a network of biosafety associations and biobanks;
- established and implemented a laboratory certification process for 14 laboratories within the region, incorporating ISO1589 for human health and ISO7025 for animal health.
- organized cross-border simulation exercises;
- provided a master's level training in regional field epidemiology and laboratory training delivered in two centers of excellence, benefiting over 100 participants;
- supported the establishment of 40 additional Epidemiological Surveillance Centers to integrate laboratory and surveillance units in health districts: and
- facilitated: (i) the development of the 3rd edition of the Technical Guidelines for Integrated Diseases Surveillance and Response (IDSR3); (ii) training of focal points in surveillance throughout the countries' health pyramid on IDSR to detect public health threats;(iii) quarterly coordination meetings across sectors; and (iv) the operationalization of community-based surveillance of priority diseases and zoonoses under the One Health approach, including specific surveillance protocols for wildlife, animal health and the construction and equipping of border inspection posts.

**Outcomes**

**Countries that achieve a JEE score of 4 or higher in enhanced laboratory testing capacity for detection of priority diseases:** Compared with a baseline score of 3 (national laboratory system is capable of conducting 3-4 core tests (of ten), all three countries achieved the target of a JEE score of 4 in 2023, demonstrating capacity of conducting 5 or more (of 10) core tests.

National laboratories had enhanced capacities with upgraded equipment, trained staff, and improved processing time. Diagnostics took only 48 to 72 hours unlike previous patterns when samples had to be shipped out of the countries with results requiring several weeks to obtain (ICR, p. 21). Collaboration among national laboratories also improved as they organized themselves under a network of both human and animal health laboratories, including two Research Institutes (Pasteur Institute in Dakar and Abidjan). National laboratories were performing core tests for priority diseases while regional laboratories could detect Ebola, Lassa fever, Zika and Monkey pox. The region established a reference laboratory accreditation program along with a regional observatory to monitor antimicrobial resistance and a biobank in Pasteur Institute Abidjan in collaboration with Africa CDC, FAO, USAID and WHO. In Guinea, with the support of REDISSE and other development partners, the laboratory system achieved a high level of capacities for detection and surveillance. However, the ICR (p. 21) reported that the national veterinary laboratories in both of Guinea and Senegal were not upgraded due to land ownership issues and limited contractors' delivery capacity.

**Countries that achieve a JEE score of 4 or higher in terms of progress toward establishing an indicator and event-based surveillance systems**: All three countries achieved a JEE score of 4 in 2023, demonstrating capacity in place for establishing both an indicator and event-based surveillance systems to detect public health threats.

The intended outcome was facilitated by the development and implementation of a regional data warehouse and the District Health Information Software 2 led by WAHO in collaboration with WHO and the University of Oslo. The surveillance platform was interconnected to the national epidemiology surveillance databases within the first three years across participating countries and began to harmonize and to systematically consolidate outbreak data since 2020 at a national and sub-national level. Information was shared in user-friendly dashboards on a weekly basis regionally and worldwide. The ICR noted that this development proved to be valuable, especially for neighboring countries to help in confronting the evolution of the COVID-19 spread. Further harmonization and automatic data transfer process improvements followed. WAHO expanded data collection for epidemic prone diseases to strengthen the surveillance system in the region.

**Countries that achieve a JEE score of 3 or more in the availability of HR to implement IHR core capacity requirements**: Guinea and Senegal sustained their baseline score of 3 (developed capacity reflecting the availability of multidisciplinary HR capacity at national and intermediate levels), while Sierra Leone remained at its baseline score of 2 (limited capacity), short of the target score of 3.

Although JEE scores did not increase, including for reasons explained in the Rationale, the supply of skilled workers was substantially increased through training and hiring of professionals in human and animal health as shown under the intermediate results indicators. At project completion, all three countries had capacity in terms of HR availability to implement IHR core capacity requirements with field epidemiology training programs in place. However, while all countries also progressed in capacity building related to veterinary health workforce, there was a shortage of trained veterinary workers driven by an aging workforce and retirements following the COVID-19 pandemic and which could not be replaced fast enough (ICR, p. 22).

**Countries that achieve a score of 4 or higher in cross-border collaboration and exchange of information**:

- Guinea achieved a score of 4 (demonstrated capacity) in 2023 compared to a baseline score of 1 (no capacity) in 2016.
- Sierra Leone achieved a score of 2 (limited capacity) compared with a baseline score of 1 (no capacity) in 2016.
- Senegal remained at its baseline score of 2 (limited capacity).

Progress was facilitated by the exchange of data across countries and by harmonized approaches related to point of entry policy, sample collection, laboratory processing capacity, vaccination supply, and communications. Coordination with IATA and the presence of at least one IATA-trained and certified professional with the authority to approve air transportation of medical samples contributed to the reduction processing time for samples to reach regional reference laboratories. As noted earlier in the Rationale, JEE did not consider the full extent of progress made on cross-border collaboration, as it focused on a national perspective and not on a sub-national perspective where specific regions collaborated regularly along the borders. Also, JEE scope is limited to bilateral collaboration rather than multilateral collaboration that took place through WAHO (ICR, p. 23).

### Rating
Substantial

## OBJECTIVE 2
### Objective

In the event of an Eligible Emergency, to provide immediate and effective response to said Eligible Emergency

### Rationale
**The theory of change** is the same as that of Objective 1, complemented by actual responses. Also, both objectives have close linkages, as Objective 1 contributes to the readiness that facilitates prompt and effective responses to health emergencies under Objective 2.

Under this objective, the response to the COVID-19 pandemic was the most salient, and the project also supported other disease outbreaks discussed below.

**Main outputs and intermediate results**

Countries that achieve a JEE score of 4 or higher in established and functional mechanisms for responding to infectious zoonoses and potential zoonoses: starting from a baseline score of 1 (no capacity), all three countries achieved a score of 4 (demonstrated capacity reflecting timely and systematic information exchange between animal/wildlife surveillance units, human health surveillance units and other relevant sectors in response to potential zoonotic risks and urgent zoonotic events).

Establishment of regional surge capacity and stockpiling mechanisms (capacity based on 5-point Likert scale): In all three countries, there was no further progress beyond the initial baseline score level of 1 point (no capacity, i.e., no regional surge capacity and stockpiling mechanisms exist).

**Regional and country-specific outputs and intermediate results:**

**WAHO** undertook the following:

- pursued a coordinated approach in responding to the COVID-19 pandemic with harmonized approaches across countries ranging from setting minimum standards for testing to travel bans;
- facilitated the sharing of specialized assets such as regional reference laboratories, training institutions, and emergency stockpiling;
- supported a regional strategy to provide the three countries of REDISSE I and all 16 participating countries under the overall REDISSE program with capacities and resources to ensure prevention and early detection of COVID-19, including managing infectious cases and risk communication, fostering cross-border collaboration through systematic reporting regionally, nationally and sub-nationally as the One Health approach was being established; and
- ensured the prompt procurement of laboratory equipment and reagents, provision of protective gear, viral transportation media, training, and provision of technical support, including through joint supervision missions that took place between February 2020 and June 2022. Under REDISSE I, WAHO ensured that each member state had at least one intensive care unit specifically dedicated to the treatment of critical cases of COVID-19 with associated equipment, including ventilators and adequate inventory of testing kits and medicines.

**At the country level**, the project supported and enabled the following:

**In Sierra Leone:**

- activities across the six pillars of the National Coronavirus Immediate Preparedness Plan (January 2020) including the acquisition of crucial equipment to ensure an early detection of the COVID-19 pandemic;
- training of 960 trained collectors of COVID-19 samples to cover all district laboratories;
- rehabilitation of emergency centers and improved laboratory capacities to ensure timely clinical and surveillance processes;
- quarterly cross-border collaboration in seven Points of Entry (PoE) with information sharing and preparedness measures for epidemic-prone diseases;
- development of six Points of Entry standard operating procedures and Point of Entry policy between Sierra Leone, Guinea and Liberia;
- four table-top simulation exercises, and one Full Scale Rapid Deployment of Interim Treatment Facilities with the military.
- a pilot for an Integrated Laboratory Specimen Referral System for a period of 12 months at the sub-national level showing improvement in samples referral;
- development of a software system for coordinating emergency response for disease outbreaks; and
- enhancement of mobility through the provision of and 159 motor bicycles and four vehicles for chiefdom surveillance officers and Points of Entry staff.

**In Guinea:**

- heightened laboratory capacity for detection that reached a capacity of 1,000 PCR tests per day in 12 laboratories, including five laboratories capable of sequencing;
- strengthened surveillance activities by ramping up Regional, Prefectorial and Communal Alert and Response Teams during the COVID-19 pandemic;
- secured access to medicines to treat COVID-19 cases and provided logistical means among response teams to expand their geographical reach; and
- carrying out emergency simulation exercises on Lassa fever and yellow fever to test the level of the Regional and Prefectural/Communal Epidemic Alert and Response Teams.

**In Senegal:**

- development and validation of an integrated multi-sectoral preparedness and response plan for public health emergencies and disasters;
- implementation of outbreak action plans that triggered a series of interventions focused on strengthening coordination in disease surveillance and rapid response;
- risk communication management and community engagement to best control infection during the evolution of rising cases at COVID-19 onset;
- training of 158 Border Police Officers and 121 border services field agents on strategies for combating health risks at the borders (air, sea and land), and cross-border management of public health threats which was timely just before COVID-19 (ICR, p. 71);
- field simulation exercise involving 95 health professionals on the deployment of the mobile field hospital to assess the rapid response capacity of the army health services to respond to an epidemic or during disasters requiring mass casualty management;
- training of 23 maritime sanitary personnel in event-based surveillance to strengthen sanitary surveillance at Senegal's maritime gateways; and
- training of 34 officers from border inspection posts in epidemic prevention and control.

**Outcomes**

**Countries that achieve a JEE score of 4 or higher in the development and implementation of a plan for multi-hazard national public health emergency preparedness and response:**

- Senegal: Starting from a baseline JEE score of 2 (limited capacity) in 2016, Senegal achieved a score of 4 in 2023, attaining the target, and demonstrating capacity (procedures, plans or strategy in place to reallocate or mobilize resources from national and intermediate levels to support action at local response level, including capacity to scale up the level of response).
- Sierra Leone: Starting from a baseline JEE score of 1 in 2016 (no capacity -- national public health emergency preparedness and response plan is not available to meet the IHR core capacity requirements), Sierra Leone achieved a score of 4 in 2023, attaining the target (demonstrated capacity).
- Guinea: Starting from a baseline JEE score of 1 (no capacity) in 2016, Guinea achieved a score of 3 (developed capacity) in 2023.

**Countries that achieve a score of 4 or higher in cross-border collaboration and exchange of information:** This intended outcome was also used and discussed in the assessment of Objective 1, above.

**Actual response to eligible emergencies:**

In addition to the outputs described above, the ICR (p. 25) reported that the project was instrumental in responding to the COVID-19 pandemic, as it allowed participating countries to operationalize a fast response, given the availability of resources for health emergency response with systems and processes that were already in place through the ongoing work to strengthen surveillance and preparedness capacities initiated in 2016 before the spread of the COVID-19 in the early months of 2020. The ICR reported that the response in the three countries was timely, as funds, capacities, and HR were available and already moving forward on preparedness. WAHO coordinated with countries during the early period of COVID-19 in 2020 to monitor the situation and to share information. With REDISSE funds made immediately available to support the response, national health systems continued to be strengthened in related core capacities. The ICR noted that overall readiness prior to the emergency facilitated the actual response to the COVID-19 pandemic. In February 2020, there were only two laboratories with the capacity to test for COVID-19 in West Africa, and by September 2020, all countries established related aptitude, bringing the total capacity to 236 laboratories in the region.

The ICR (p. 26) reported that, in addition to COVID-19, REDISSE I also supported the response to several other outbreaks that were contained. In Senegal, the project established control action plans for bird flu and Crimean-Congo Hemorrhagic Fever in infected regions. In Guinea, the project supported the national response to several outbreaks, including Avian Flu, Lassa fever and rabies. The ICR noted that improvement of laboratory capacities was an important factor and a pre-requisite to detect and contain outbreaks because their availability ensured a reduced processing and identification time, and that enhanced data collection and analysis was another factor for early detection.

### Rating
Substantial

## OVERALL EFFICACY

### Rationale
Both objectives (to strengthen national and regional cross-sectoral capacity for collaborative disease surveillance and epidemic preparedness; and to provide immediate and effective response to an eligible emergency) were almost fully achieved, indicative of a Substantial rating for overall efficacy.

### Overall Efficacy Rating

Substantial

## 5. Efficiency

**The PAD's economic analysis** (pp. 29-33) presented strong arguments for investing in disease surveillance, response systems, and the benefits of reducing the threats of epidemics that extend beyond health benefits. Disease outbreaks affect economic activity by decreasing demand and supply, and they constrain labor, capital, and productivity which are major components of growth. The estimated forgone output due to the latest Ebola epidemics in Guinea, Liberia and Sierra Leone was over 12 percent of the countries' combined output. The regional loss of output due to slower growth rates was estimated at US$7.35 billion in 2014 (World Bank, 2014). Globally, the economic impact of severe pandemics was estimated at 4.8 percent of the global gross domestic product (GDP). Compared to the estimated required investments to build a well-functioning global disease surveillance system and response, the expected annual returns on investment of avoiding such large losses were estimated as high as 123 percent (World Bank, 2012).

The PAD noted that the rationale for public sector financing had several arguments. The first is simply the overwhelming economic burden that infectious diseases, individually and collectively, place on the region, constraining regional and national economic development. For example, tuberculosis causes approximately US$12 billion in annual losses to the global economy. Malaria inhibits economic growth by 1.3 percent per year in malaria-endemic countries. Epidemics continue to make costly disruptions to trade and commerce in various regions of the world. A pandemic risk has an annual expected value of an order of magnitude of $US30 billion (Pandemic risk, Jonas 2013, World Bank). On the animal health side, the OIE estimates that around 10 percent of animal production is lost through diseases in countries with poor performing veterinary services, and most of these diseases could be prevented and/or controlled in a cost-efficient manner. The second argument rested on the status of disease surveillance as a global public good, going beyond national borders with benefits accruing to all countries. The third argument was based on the sharing of resources to enhance efficiency, including reference laboratories, research institutions, and training facilities thus avoiding duplications.

**PAD's modeling of potential disease outbreak impacts:** To overcome the uncertainties around the value of key parameters (probability of pandemics and associated economic damage), the PAD's economic analysis used a simulation model. The likely impacts of the project were treated as random variables with hypothesized distributions. More specifically, 1,000 simulations for the next 50 years (2016-2065) were developed using an annual probability of a pandemic in West Africa within a range 0.01 to 0.03, which covers the possibility of a mild, moderate, and severe pandemic (World Bank, 2012; and Jonas, 2013). The analysis assumed the total economic impact in a given year would affect the GDP within a range between -0.07 and -4.8 percent, which also covers the estimated impact of mild, moderate and severe pandemics. The total annual benefit of controlling an outbreak in West Africa was, on average, estimated to be equal to US$7.2 billion. The estimated losses resulting from mortality were about US$864 million (12 percent), the estimated productivity losses due to morbidity and absenteeism were about US$2 billion (28 percent), and the expected losses resulting from behavior change to avoid infection were equal to US$4.32 billion (60 percent).

Assuming a constant rate of disbursement, and applying a three percent annual discount rate, the net present value was estimated at US$230 million. A benefit-cost ratio equal to US$108.7 was calculated, i.e. for each US$1 invested through the project, there would be an expected return of about US$109. The PAD (p. 33) noted that the estimate was high, but that it was also based on parameters subject to high variability. The PAD noted that a more precise measure would have been a 5-year time frame, and that such a calculation would yield an even higher benefit-cost ratio of US$631. A sensitivity analysis suggested cost-effectiveness under different scenarios with a combination of different probabilities and outbreak severity.

**The ICR's economic analysis** also presented arguments about economic losses from infectious disease outbreaks and emphasized the potential returns on investment in improving preparedness, noting that investing in pandemic preparedness was crucial for the following reasons:

- Positive impact on health outcomes resulting from improved lives and overall livelihoods by decreasing mortality, morbidity, and social and psychological impacts.
- The costs associated with epidemics and pandemics far exceed those of preventive measures. The Ebola experience was a reminder that responding to outbreaks was far more expensive than investing in preparedness.
- Investing in preparedness ensures that health systems can respond swiftly and effectively to emerging threats, safeguarding lives and livelihoods. A well-prepared health system can maintain essential services while contributing to mitigate economic disruptions and to reduce long-term societal impacts. Related investments also provide significant co-benefits for the health sector, as the synergistic relationship between preparedness and overall health system investment reinforces the need for dedicated resources to strengthen public health capabilities, which are often overlooked in favor of investments with more immediate and visible returns (*From Panic and neglect to Investing in Health Security: Financing Preparedness at a National Level. World Bank, 2017*).
- Global health security: Related investments contribute to enhancing regional and global health security.

In addition to the general economic justifications, the regional approach underscored the importance of collective action and cross-border cooperation in countries with limited capacity, such as Guinea and Sierra Leone. Regional coordination mechanisms established by the project were effectively activated, facilitating information sharing and the use of standardized protocols, which bridged knowledge gaps and improved response time. In addition, the coordination of regional procurement efforts through WAHO benefited all countries. The collective provision of public goods was more efficient and cost-effective than if individual countries attempted to produce them independently.

In terms of operational design, and as noted in section 4, the regional and networking approach contributed to project efficiency by facilitating the sharing of specialized assets such as regional reference laboratories, training institutions, and emergency stockpiling while reducing duplications. Regional coordination led by WAHO helped in setting standards for the region, by developing and sharing regional guidelines, regulations, policy frameworks, and by providing rapid technical assistance to participating countries.

Concurrently, there were implementation aspects that moderately reduced project efficiency. While the adoption of the One Health paradigm provided opportunities to improve human and animal health, it also created challenges, as it necessitated bringing together key ministries (Health, Agriculture and Environment) that had not yet collaborated in harnessing mutual resources. The One Health approach required a shift from competition for budgets to close cooperation. In the context of competition among sectors, yearly planning became overly ambitious and regularly contentious, delaying annual plans and budget approvals. Mutualization of resources became a struggle for most institutions. The desired integration was slow and mixed given the complexities facing coordination and cooperation efforts across sectors sub-nationally, nationally and regionally. A steep learning curve for all stakeholders was needed. The evolution of enabling environments to adapt to the One Health paradigm and cross-sectoral collaboration was challenging throughout the whole project lifetime (ICR, p. 34). The Borrower's comments also reported challenges in surveillance systems interoperability for monitoring human and animal diseases, including at WAHO (ICR, p. 87), and the lack of interoperability between human and animal health surveillance systems (DHIS2 & EMPRES-i) in Guinea (ICR, p. 89).

The ICR (p. 35) noted that weak governance was observed at the Project Implementation Units (PIUs) and it was necessary to reinforce the teams over time as most of PIUs had to manage several operations, including REDISSE I and COVID-19. The ICR mission identified common threads contributing to PIU staff turnover, including: (i) the constantly increasing workload; (ii) the leadership style of some coordinators that did not foster a collegial environment; and (iii) the lack of recognition in the form of incentives, including salaries that were not adjusted to inflation throughout the implementation period. Also, the transition to the new STEP system for procurement impacted the speed and efficiency of procurement activities during the transition period.

Apart from the recognized advantages of the regional approach, the regional reach of the project was associated with some disadvantages to WAHO. Given that each country had its own Project Financing Agreement with the World Bank, the responsiveness of country teams to WAHO' regional leadership was variable, notably for the timely sharing of data and progress reports, or for planning country visits. WAHO and Bank Teams exerted additional efforts to regularly facilitate information sharing and organized regional workshops to foster cooperation.

The onset of the COVID-19 pandemic itself stressed the regional and country systems in 2020 and caused disruptions that slowed implementation of activities during that year. Nevertheless, the project teams and the Bank Team worked diligently according to the ICR (p. 35) to catch up on key activities between 2021 and 2023. The project closing date was extended by seven months, from January 31, 2023, to actual closing on August 31, 2023.

### Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

| | Rate Available? | Point value (%) | *Coverage/Scope (%) |
|---|---|---|---|
| Appraisal | | 0 | 0<br>☐ Not Applicable |
| ICR Estimate | | 0 | 0<br>☐ Not Applicable |

* Refers to percent of total project cost for which ERR/FRR was calculated.

## 6. Outcome

Relevance of objectives was rated high, as objectives supported a regional public good by addressing disease threats and preventing their negative impact. Objectives remained consistent with the Country Partnership Frameworks of participating countries. They were aligned with the World Bank Strategy "Putting Pandemics

Behind Us: Investing in One Health to Reduce Risks of Emerging Infectious Disease, 2022", and with the World Bank vision to achieve progress on global public goods that are critical to global stability, poverty reduction, public health capacity, and equitable growth, and in reducing the incidence of diseases of poverty. Efficacy was rated substantial, as project objectives were almost fully achieved. Efficiency was rated substantial in view of high value for money, but with some negative aspects of implementation that moderately reduced overall project efficiency. These findings are consistent with a satisfactory overall outcome rating.

### a. Outcome Rating

Satisfactory

## 7. Risk to Development Outcome

Several factors can positively influence the sustainability of development outcomes, mainly (i) the establishment of a regional approach with continued strengthening of WAHO's technical and financial capacity to coordinate, supervise and support countries with methodologies, tools and best practices; (ii) capacity and competency building of key country-level institutions in charge of carrying out cross border cooperation and cross-sectoral collaboration; (iii) strengthened national surveillance systems and preparedness; (iv) motivation and ownership of trained HR; and (v) the World Bank's support to the deployment of the Health Security Program in Western and Central Africa Project (P179078), signaling a continued commitment to invest in regional health security.

Concurrently, there are risks that development outcomes may not be maintained, and contributing factors include gaps in national budgetary resources to pursue recurrent activities and limited cross-sectoral authority of the operation. While it is desirable to pursue an effective financial and technical transition from the project toward sustained public services, there is a common complaint about the lack of funding for keeping project teams functional and for maintaining the acquired equipment, whether logistical, scientific or digital in nature. The above issues may be easier to address at the sub-national level, as the ICR team observed that regional governors have more authority across sectors given that they virtually represent a whole government within their region. St. Louis in Senegal was considered as an illustrative example whereby the governor managed to marshal resources and to ensure collaborative efforts across sectors to contain the yearly avian flu outbreak, three years in a row (ICR, p. 43).

## 8. Assessment of Bank Performance

### a. Quality-at-Entry

Project preparation was facilitated by a widespread commitment to disease surveillance and epidemic preparedness in view of the past history of infectious disease outbreaks in the region. The Bank Team led a participatory and inclusive preparation process by ensuring adequate engagement of major stakeholders, including national and global players. The Team worked closely with WAHO and participating country governments to involve sectoral stakeholders and to ensure engagement from the inception stage. Lessons learned from regional and global operations were considered and incorporated in the project design, including from the WARDS project (see section 3), the 2014 EVD outbreak in West

Africa, the East Africa Public Health and Laboratory Network Project, and the Regional Sahel Pastoral Support Project (PAD, p. 22). A comprehensive literature review of existing regional disease surveillance and response, including networking arrangements, was undertaken to examine the experience of various regions, including the Pacific Island Region, the Mekong basin, the Middle East Consortium for Infectious Disease Surveillance, and the South Africa Center for Infectious Disease Surveillance Network. Best practices and lessons learned were derived from international initiatives such as the Global Health Security Agenda, USAID operations, Zika virus epidemics, severe acute respiratory syndrome (SARS) and MERS, cholera and meningitis. The Global Program for Avian Influenza Control and Human Pandemic Preparedness and Response that was developed to address the H5N1 spread and rolled out in 62 countries offered particularly pertinent lessons to REDISSE. Main lessons were captured in a 2014 World Bank IEG evaluation (Responding to Global Public Bads – Learning from evaluation of the World Bank experience with Avian Influenza 2006-2013). In addition to technical aspects, lessons also included the need to build institutional capacity at both national and regional levels, addressing weaknesses in M&E, improving cooperation across sectors, and promoting ownership and sustainability.

The Bank Team emphasized the importance of a regional approach to reinforce access to shared resources to support the achievement of a regional public good and emphasized WAHO's pivotal role as a catalyst in the development of the health security agenda and a provider of technical support to ensure that none of the ECOWAS countries would be left behind in pursuing that agenda.

Apart from One Health issues discussed below, institutional and implementation arrangements were well prepared both at regional and national levels and included capacity building. At the regional level, overall governance was provided by a Regional Steering Committee that included representatives of involved Ministries from the three countries, and regional implementation was to be led by WAHO which hosted a Regional Project Implementation Unit that served as the secretariat for the Regional Steering committee (PAD, p. 24).

Country-level implementation arrangements included several institutions, including ministries of health, agriculture, and environment, national laboratories, and other centers involved in disease control. In all countries, a PIU would coordinate day-to-day implementation across sectors. Additional country-specific arrangements were also put in place. For example, Guinea established a One Health and Agriculture Steering committee, Senegal had a multi-sector steering committee through the Prime Minister's Office, and Sierra Leone had an inter-ministerial committee on disease surveillance, epidemic preparedness and response (PAD, p. 26).

M&E arrangements built on recent existing arrangements for JEE assessments guided by WHO. The residual financial management risk was substantial in the three countries and moderate for WAHO. Safeguards arrangements were adequately prepared, and they focused on waste management and pest management.

There was insufficient preparation and readiness for the operationalization of the One Health approach and no effective mitigation measures to address related risks, even though its centrality to the project and to improving health security was recognized, with the Task Team leading the cross-sectoral dialogue during preparation to reinforce the approach, as collaboration between the players in human health, animal health and the environment was not yet commonplace (ICR, p. 40). Challenges to inter-sectoral planning and collaboration materialized at the outset, slowed the start of project implementation, and continued to create challenges throughout the project's lifetime (ICR, p. 34). In its lessons and recommendations, the ICR (p. 44) noted the need for clarifying the roles of each key institution, for

encouraging cooperative learning by doing through pilot activities before scaling up, and opting for a phased approach of change management rather than the project's 'big bang approach' to the modus operandi that each sector was used to.

### Quality-at-Entry Rating
Moderately Satisfactory

## b. Quality of supervision
According to the ICR (p. 41), the Bank Team was proactive in supervision and implementation support to regional and national stakeholders to maximize the intended development impact. The Bank Team reportedly adapted to the countries' emerging situations and their requests for reallocations, revisiting priorities in annual plans, proposing technical assistance across functions, and addressing HR challenges. The Bank team supported the Clients in dealing with arising challenges during project implementation, the COVID-19 pandemic, and from external factors and events such as the government change in Sierra Leone in 2019, and the coup d'état in Guinea in 2021 along with OP7.30 process that ensued.

The World Bank had two Task Team Leaders (TTLs) at Headquarters. It further strengthened its field presence and supervision by assigning co-TTLs in each country (ICR, p. 37). At the onset of the COVID-19 pandemic, the Bank shifted most of its supervision activities to online platforms with weekly virtual interactions. Monitoring and supervision, including support to fiduciary, environmental and social safeguards. The Bank Team was in constant liaison with WAHO at the regional level and undertook joint supervision and implementation support missions with WAHO to participating countries. Team members emphasized cross-fertilization of knowledge and experience among participating countries.

The Bank Team reportedly provided quality reporting. Back-to office reports, Implementation Status & Results Reports, and Aide memoires provided adequate assessments on the progress made toward the achievement of PDO and arising challenges (ICR, p. 41). The World Bank maintained its cooperation with international development partners to work in a complementary manner.

While most PIUs considered the World Bank 'no-objection process' to be tedious and lengthy (ICR, p. 42), the process was necessary to verify related budgets and to mitigate risks associated with the proposed activities. The double-checking process was required to safeguard the Bank's fiduciary role from any potential threats. Also, the Clients' terms of reference were often in need of improvement, especially when technical sector experts had to be consulted.

### Quality of Supervision Rating
Satisfactory

### Overall Bank Performance Rating
Moderately Satisfactory

## 9. M&E Design, Implementation, & Utilization

### a. M&E Design

Objectives were clearly stated. The design of the M&E system of the project and the overall REDISSE program was aligned with WHO's JEE tool (see section 4) that was meant to assess national capacities to prevent, detect, and respond to public health emergencies, in line with IHRs. The evaluation tool was also relevant as participating countries were entering the REDISSE operation at different levels of capacity and with different baseline levels in terms of IHR capacities and related JEE scores.

Baselines were based on preliminary self-assessments that were to be updated upon the completion of external JEE assessments. A detailed theory of change was constructed and well-illustrated by the ICR, as it was not required at the time of appraisal, although the PAD clearly defined main activities, results, and outcomes under each component.

There were ongoing activities undertaken by national governments and development partners that would contribute to improving health security, therefore, it was understood by the preparation team, the ICR team, and the Clients that the project would contribute to achieving JEE scores without consideration of full attribution aspects. In fact, the ICR (p. 36) noted that the overall REDISSE program was meant to contribute to JEE scores by complementing other operations that sought to upgrade health security preparedness and response capacities following the consequences Ebola crisis.

### b. M&E Implementation

M&E implementation was essentially carried out as planned. There were transitory disruptions in 2020 during the early stages of the COVID-19 pandemic, and there were some challenges in capturing cross-sectoral information, in the multiplicity of layers of subnational coverage, and in tracking the wide range of zoonotic diseases. According to the ICR (p. 35), the regional reach of the project was associated with some disadvantages to WAHO. Given that each country had its own Project Financing Agreement with the World Bank, the responsiveness of country teams to WAHO' regional leadership was variable, notably for the timely sharing of data and progress reports, or for planning country visits. WAHO and Bank Teams exerted additional efforts to regularly facilitate technical information sharing, and they organized regional workshops to further foster cooperation between countries.

M&E implementation also benefited from the recently established national process for JEE. Self-assessments of IHR core capacities were conducted by individual countries based on established arrangements guided by WHO. Self-assessments were conducted on a yearly basis (and reported every year to the World Health Assembly). Self-assessments were followed by validation through external JEE assessments. The alignment with the JEE process reduced the need for additional data collection requirements. The existing prior arrangements for the JEE process started prior to the REDISSE I project effectiveness and functioned independently of the project but were aligned to its objectives and informed its M&E, thus reducing the burden on the countries for setting up another M&E system (ICR, p. 37). Therefore, both M&E design and implementation were well embedded institutionally.

At the country level, PIUs regularly monitored the results framework's indicators and provided updates to the Bank during supervision missions. PIUs had an M&E specialist. The World Bank and WAHO joint supervision missions were organized to assess the level of implementation of activities, gather data, document difficulties encountered, and make recommendations for improvements. Similarly, joint

supervision missions (human, animal and environmental health) were organized. The World Bank sponsored Geo-Enabling (GEMS tool) for monitoring and supervision, including through smartphones and tablets. This tool allowed all stakeholders to track REDISSE project interventions and to facilitate supervision during mobility restrictions imposed by the COVID-19 pandemic.

At the regional level, WAHO developed dashboards to capture internal and external M&E processes and data. Internal processes included: (i) weekly, monthly and annual work planning and monitoring; (ii) mid-yearly and yearly reviews; (iii) weekly and monthly PIU achievements reporting, mid-yearly and yearly progress reporting, including for countries and project implementation partners (WHO, OIE, CCISD, Mérieux Foundation, and the Universities of Ouagadougou, Ghana and Oslo). External processes focused on biannual project supervision missions to countries, World Bank supervision missions to WAHO, and evaluation of partners' interventions.

As previously noted in section 4, the adoption of JEE indicators was needed for objective assessments. The adoption of JEE indicators was also appropriate in the context of JEE global rollout and alignment between countries and development partners. However, it presented some limitations for M&E, as JEE scores alone did not always reflect the full progress made by countries in strengthening their capacities. Scores were dependent on reaching a specific benchmark used as a proxy to determine the level of progression without considering all achievements that may have taken place. Hence, some of the progress made by countries was not considered for meeting the criteria for a higher score (ICR, p. 37).

### c. M&E Utilization

M&E findings were used throughout the implementation period to track progress and were widely shared with stakeholders. Benchmarking between countries motivated those with weaker performance in certain areas. According to the ICR (p. 38), comparisons of M&E findings supported the learning curve needed by stakeholders and contributed to enhance collaborative approaches and to improve mutualization of resources at various levels.

In addition, the ICR (p. 38) reported that the project and its M&E: (i) benefited and impacted the regional, national and sub-national actors in their preparedness to confront actual real life health emergencies and events, including the COVID-19 pandemic and other outbreaks such as Lassa fever, avian flu, and rabies; (ii) highlighted the importance of health security as a priority for global and regional economic agendas among governments and international development partners; and (iii) contributed to long-term commitment for sustaining investments in institutions, systems and HR to further operationalize the One Health approach.

### M&E Quality Rating

Substantial

## 10. Other Issues

### a. Safeguards

The project was classified as Environmental Assessment Category B. While positive impacts were expected from strengthened surveillance and containment of diseases, there were potential risks related to the rehabilitation and upgradation of health facilities, pest management, and medical and animal waste management. Hence, the project triggered safeguards policies for Environmental Assessment (OP/BP 4.01) and Pest Management (OP 4.09). Each country developed a National Healthcare Waste Management Plan, an Integrated Pest and Vector Management Plan, and an Environmental and Social Management Framework which were disclosed within the countries, at WAHO's regional website, and at the World Bank InfoShop (PAD, p. 36).

There was a discrepancy between the ICR reporting on full compliance by project closure and the Operations Portal that showed an Overall Safeguards Rating of Moderately Satisfactory for the last three ISRs of January 17, 2023; July 31, 2023, and the final ISR dated September 7, 2023.

The ICR (p. 39) reported that, during implementation, the project introduced a Grievance Redress Mechanism (GRM) that was operational in all three countries. (i) Sierra Leone established a GRM for both REDISSE I and COVID-19 Emergency Preparedness and Response within the PIU where there was a dedicated safeguards unit that included staff for environmental aspects and a gender and social specialist. According to the ICR, GRM implementation initially lagged, but was operational by project closure. (ii) Guinea had a strategy that involved employing the services of the GRM committees of the National Agency for Finance supported by a toll-free number. The PIU trained five regional GRM committees out of eight committees. A cascade training also intended to reach the GRM committees at the prefecture level. (iii) In Senegal, the PIU established a functional GRM mechanism through a digital platform and a toll-free number for three health projects (REDISSE; Investing in Maternal, Child and Adolescent Health; and COVID-19 Response Project).

WAHO adopted and disseminated a regional roadmap for operating a 'sustainable management of healthcare waste in West Africa'. This roadmap was developed during a regional workshop organized by WAHO with the support of the World Bank in November 2018 in Burkina Faso. Two major activities of the roadmap were initiated at the regional level in 2019: (i) the development of a regional strategic plan to strengthen the management of healthcare waste; and (ii) the development of a directive for the harmonization of regulations on the sustainable management of healthcare waste in West Africa. The latter directive was adopted as a regulation by the 22nd Ordinary Meeting for the Assembly of Health Ministers in ECOWAS in 2021 (ICR, p. 39)

### b. Fiduciary Compliance

The ICR (p. 40) reported that all countries complied with legal covenants. In terms of financial management, overall audit reports were presented on time, without auditors' observations, for all three countries and WAHO. A financial management assessment was conducted in December 2022 along with a follow-up mission in May 2023 to track progress on the December 2022 action plan which particularly addressed an issue related to fixed assets inventory allocations. Mission findings noted that financial teams were in place and interim financial reports were deemed acceptable; external audits were completed; but that internal audits of executing agencies had been partially implemented. According to the ICR, the latter contributed to a Moderately Satisfactory rating for financial management.

Procurement processes were also compliant with World Bank Guidelines. The ICR reported that procurement planning was timely, but that processes were slow and with issues observed in contract management. These were explained by gaps in capacity, staff turnover, and cross-sectoral consultations. Nevertheless, the ICR (p. 39) reported that procurement shortcomings were overcome with time and with further training.

### c. Unintended impacts (Positive or Negative)

None reported.

### d. Other

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## 11. Ratings

| Ratings | ICR | IEG | Reason for Disagreements/Comment |
|---|---|---|---|
| Outcome | Satisfactory | Satisfactory | |
| Bank Performance | Satisfactory | Moderately Satisfactory | Lack of readiness in managing the operational changes required by the One Health approach and lack of risk mitigation for its operationalization, which remained challenging throughout the whole project lifetime. Also, in its lessons learned, the ICR recommended opting for a phased approach. |
| Quality of M&E | Substantial | Substantial | |
| Quality of ICR | --- | Substantial | |

## 12. Lessons

The ICR (pp. 44-45) offered several important lessons and recommendations, including the following lessons restated by IEG Review:

**Health security is borderless and can be bolstered by regional and global approaches for capacity development in preparedness and response rather than unilateral actions.** Under the project, collective national actions and regional coordination to confront the COVID-19 pandemic

contributed to the ability of participating countries to cope with the pandemic, supported by the project's regional platform that facilitated joint planning and harmonization, preparedness and response measures, and mutualization of limited resources.

**The One Health approach encompassing human health, animal health and environmental aspects requires time and an enabling environment.** Under REDISSE, an operational paradigm shift was needed to progressively foster collaborative work among sectors. Clarifying the roles of key institutions, encouraging cooperative learning, and opting for a phased approach of change management appeared to be better options rather than a big bang approach to the modus operandi that each sector was following. In this context, the advancement of One Health was found to be easier to implement at the sub-national level where governors had the authority to direct resources across sectors and to promote joint work.

**Health security requires investment tradeoffs between regional and national levels, between sectors, and between sub-national regions.** Under the project, the national yearly planning exercise often became a contentious period mainly where sectoral budget contests required further reviews to prioritize annual activities, delaying the start of implementation cycles.

## 13. Assessment Recommended?

No

## 14. Comments on Quality of ICR

The ICR provided a detailed account of project performance. It articulated a comprehensive theory of change with logical links between activities, outputs, and intended outcomes. Its analysis and conclusions were supported by adequate evidence. It provided valuable insights on the Joint External Evaluation Tool and on attribution aspects. It offered specific lessons derived from project experience.

The ICR had some moderate shortcomings, including lapses in clarity and a lengthy main text. Nevertheless, this ICR Review took into account the amount of information required to encompass the project's wide regional scope.

### a. Quality of ICR Rating

Substantial