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Report No: PAD4363

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROGRAM APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US$130 MILLION

TO THE

STATE OF PARANA

FOR A

PARANA PUBLIC SECTOR MODERNIZATION AND INNOVATION FOR SERVICE DELIVERY OPERATION (P168634)

APRIL 7, 2022

Health, Nutrition, and Population Practice
Latin America and the Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective April 1, 2022)

Currency Unit =	Brazilian Real (BRL)
BRL 1 =	US$0.21
US$1 =	BRL 4.70

FISCAL YEAR

January 1 - December 31

ABBREVIATIONS AND ACRONYMS

ACG	Anti-Corruption Guidelines (*Diretrizes de Anticorrupção*)
BACEN	Central Bank of Brazil (*Banco Central do Brasil*)
CAPAG	Payment capacity (Capacidade de Pagamento)
CBA	Cost-Benefit Analysis (*Análise de Custo Benefício*)
CC	Governor's Chief of Staff Secretariat (*Casa Civil*)
CDG	Governmental Development and Priority Projects Division (*Coordenação de Desenvolvimento Governamental e Projetos Estruturantes*)
CGE-PR	State Comptroller General of Paraná (*Controladoria Geral do Estado do Paraná*)
CIB	Bipartite Intermanagerial Comission (*Comissão Intergestores Bipartite*)
CMU	Country Management Unit (*Unidade de Gestão do País*)
CPF	Country Partnership Framework (*Quadro de Parceria com o País*)
DC	State Coordination of Civil Defense (*Coordenadoria Estadual da Defesa Civil*)
DFIL	Disbursement and Financial Information Letter (*Carta de Informações Financeiras e de Desembolso*)
DLI	Disbursement-Linked Indicator (*Indicador Vinculado ao Desembolso*)
DLR	Disbursement-Linked Result (*Resultado Vinculado ao Desembolso*)
E&S	Environmental and Social (*Ambiental e Social*)
EMS	Environmental Management System (*Sistema de Gestão Ambiental*)
ESCP	Environmental and Social Commitment Plan (*Plano de Compromissos Ambientais e Sociais*)
ESF	Environmental and Social Framework (*Quadro Ambiental e Social*)
ESMS	Environmental and Social Management System (*Sistema de Gestão Ambiental e Social*)
ESS	Environmental and Social Standards (*Normas Ambientais e Sociais*)
ESSA	Environmental and Social Systems Assessment (*Avaliação dos Sistemas Ambientais e Sociais*)
FAF	Fund-to-Fund (*Fundo para fundo*)
FM	Financial Management (*Gestão Financeira*)
FMIS	Financial Management Information System
GDP	Gross Domestic Product (*Produto Interno Bruto*)
GHG	Greenhouse Gas (*Gases de Efeito Estufa*)
GoB	Government of Brazil (*Governo do Brasil*)
GRS	Grievance Redress Service (*Serviço de Reparação de Queixas*)

HRM	Human Resource Management (*Gestão de Recursos Humanos*)
IAT	Water and Land Institute (*Instituto Água e Terra*)
IBGE	Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*)
IBRD	International Bank for Reconstruction and Development
ICMS	Tax on the Commercialization of Goods and Services (*Imposto sobre Circulação de Mercadorias e Serviços*)
ICR	Implementation Completion and Results Report (*Relatório de Conclusão de Implementação e Resultados*)
ICU	Intensive Care Unit (*Unidade de Cuidado Intensivo*)
IFR	Interim Financial Report (*Relatório Financeiro Intermediário*)
IPARDES	Paraná Institute of Economic and Social Development (*Instituto Paranaense de Desenvolvimento Econômico e Social*)
IPF	Investment Project Financing (*Financiamento de Projeto de Desenvolvimento*)
IPSAS	International Public Sector Accounting Standards (*Normas Internacionais da Contabilidade do Setor Público*)
IVA	Independent Verification Agency (*Agência de Verificação Independente*)
LDO	Budget Guidelines Laws *(Lei de Diretrizes Orçamentárias)*
LOA	Annual Budget Law (*Lei Orçamentária Anual*)
M&E	Monitoring and Evaluation (*Monitoramento e Avaliação*)
MoH	Ministry of Health (*Ministério da Saúde*)
PAP	Program Action Plan (*Plano de Ações do Programa*)
PDO	Program Development Objective (*Objetivo de Desenvolvimento do Programa*)
PEE	National Energy Efficiency Program (*Programa Nacional de Eficiência Energética*)
PforR	Program-for-Results (*Programa para Resultados*)
PHC	Primary Health Care (*Atenção Primária à Saúde*)
PIM	Public Investment Management (*Gestão de Investimento Público*)
PMU	Program Management Unit (*Unidade de Gestão do Programa*)
PNADC	Continuous National Household Sample Research (*Pesquisa Nacional por Amostra de Domicílio Contínua*)
POM	Program Operational Manual (*Manual Operacional do Programa*)
PPA	Medium-Term Plan (*Plano Plurianual*)
RG	Management Report (*Relatório de Gestão*)
SAMU	Mobile Emergency Medical Service (*Serviço de Atendimento Móvel de Urgência*)
SEAP	State Secretariat of Public Administration (*Secretaria de Estado de Administração e Previdência*)
SEDEST	State Secretariat of Sustainable Development and Tourism (*Secretaria de Desenvolvimento Sustentável e do Turismo)*
SEFA	State Secretariat of Finance (*Secretaria de Estado da Fazenda*)
SEP	Stakeholder Engagement Plan (*Plano de Envolvimento das Partes Interessadas*)
SEPL	State Secretariat of Planning and Structured Projects (*Secretaria de Estado de Planejamento e Projetos Estruturantes*)
SESA	State Health Secretariat (*Secretaria de Estado de Saúde*)
SIAF	Financial Management Information System (*Sistema Integrado de Administração Financeira*)
SIGARH	Information System for Environmental and Water Resources Management (*Sistema de*

	Informações para Gestão Ambiental e de Recursos Hídricos)
SIGMA-PP	System for Management, Monitoring and Evaluation of Programs and Projects *(Sistema de Gerenciamento, Monitoramento e Avaliação de de Programas e Projetos)*
SISMAAD	System for Monitoring, Alert and Alarm of Disasters (*Sistema de Monitoramento, Alerta e Alarme de Desastres*)
STA	Single Treasury Account (*Conta de Tesouraria Única*)
STC	Secondary and Tertiary Care (*Cuidados Secundários e Terciários*)
SUS	Unified Health System (*Sistema Único de Saúde*)
TA	Technical Assistance (*Assistência Técnica*)
TCE-PR	State Audit Court of Paraná (*Tribunal de Contas do Estado do Paraná*)
ToR	Terms of Reference (*Termo de Referência*)
UCM	Multi-Professional Care Unit (*Unidade de Cuidado Multiprofessional*)
UN	United Nations (*Organização das Nações Unidades*)
WA	Withdrawal Application (*Cancelar Aplicação*)

Regional Vice President:	Carlos Felipe Jaramillo
Regional Director:	Luis Benveniste
Country Director:	Paloma Anos Casero
Practice Manager:	Michele Gragnolati
Task Team Leader(s):	Daniela Pena de Lima, Roberto F. Iunes, Kjetil Hansen

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name		
Brazil	Parana Public Sector Modernization and Innovation for Service Delivery Operation		
Project ID	Financing Instrument	Does this operation have an IPF component?	Environmental and Social Risk Classification (IPF Component)
P168634	Program-for-Results Financing	Yes	Moderate

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[ ] Fragile State(s)
[ ] Contingent Emergency Response Component (CERC)	[ ] Fragile within a non-fragile Country
[ ] Small State(s)	[ ] Conflict
[ ] Alternate Procurement Arrangements (APA)	[ ] Responding to Natural or Man-made Disaster
[ ] Hands-on Enhanced Implementation Support (HEIS)	

Expected Project Approval Date	Expected Closing Date
28-Apr-2022	31-Oct-2027

Bank/IFC Collaboration

No

Proposed Program Development Objective(s)

The Program development objectives are to respond to the COVID-19 pandemic and improve the efficiency of health and other priority public services.

Organizations

Borrower :	State of Parana
Implementing Agency :	Secretariat of Planning and Structured Projects
Contact:	Nestor Bragagnolo

Title: Director
Telephone No: 554133136294
Email: nestor@sepl.pr.gov.br

COST & FINANCING

SUMMARY

Government program Cost	4,544.30
Total Operation Cost	130.00
Total Program Cost	120.50
IPF Component	9.50
Total Financing	130.00
Financing Gap	0.00

Financing (USD Millions)

International Bank for Reconstruction and Development (IBRD)	**130.00**

Expected Disbursements (USD Millions)

Fiscal Year	2022	2023	2024	2025	2026	2027	2028
Absolute	0.00	51.10	22.65	25.50	19.00	11.15	0.60
Cumulative	0.00	51.10	73.75	99.25	118.25	129.40	130.00

INSTITUTIONAL DATA

Practice Area (Lead)

Health, Nutrition & Population

Contributing Practice Areas

Digital Development, Environment, Natural Resources & the Blue Economy, Governance

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Moderate
6. Fiduciary	Substantial
7. Environment and Social	Moderate
8. Stakeholders	Moderate
9. Other	
10. Overall	Moderate

COMPLIANCE

Policy

Does the program depart from the CPF in content or in other significant respects?

[ ] Yes [✔] No

Does the program require any waivers of Bank policies?

[ ] Yes [✔] No

Legal Operational Policies

	Triggered
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Sections and Description

The Borrower shall establish, and thereafter operate and maintain, at all times during the execution of the Operation, a Program Management Unit (PMU) within the State Secretariat of Planning and Structured Projects (SEPL) to implement, coordinate, monitor and report on the execution of the Operation, with qualifications, functions, key staff, capacity and resources, all satisfactory to the Bank, as further detailed in the Operational Manual.

Sections and Description

No later than forty-five (45) days after the Effective Date, the Borrower shall establish, and thereafter, operate and maintain, throughout the implementation of the Operation, a Steering Committee (the "Steering Committee"), responsible for Operation oversight and coordination, with the composition, functions and resources set forth in the Operational Manual.

Sections and Description
For purposes of carrying out Part 1 (a) of the Program, the Borrower, through the State of Health Secretariat (SESA), shall enter into an agreement with each of the Participating Municipalities (the "Commitment Agreement"), under terms and conditions acceptable to the Bank, including the obligation to: (i) carry out the activities which fall within their administrative jurisdiction under the Program; and (ii) comply with the pertinent provisions of the Legal Agreement, including complying with the provisions of the Operational Manual and the Anti-Corruption Guidelines.

Sections and Description
The SEPL shall appoint and thereafter maintain, at all times during the implementation of the Program, an independent verification agency with terms of reference (ToR) acceptable to the Bank ("Independent Verification Agency"), to verify the data and other evidence supporting the achievement of one or more Disbursement-Linked Results (DLR).

Sections and Description
The Borrower, through SEPL, shall undertake the actions set forth in the Program Action Plan in a manner satisfactory to the Bank.

Sections and Description
The Borrower, through SEPL, shall ensure that the Project is implemented in accordance with the Environmental and Social Commitment Plan ("ESCP"), in a manner acceptable to the Bank.

Sections and Description
The Borrower shall furnish to the Bank each Program Report and Project Report not later than ninety (90) days after the end of each calendar semester, covering the calendar semester.

Conditions

Type	Financing source	Description
Effectiveness	IBRD/IDA	The Operational Manual referred to in Section I.C of Schedule 2 of the Legal Agreement has been prepared, approved, and adopted in a manner acceptable to the Bank.
Effectiveness	IBRD/IDA	The Implementation Agreement referred to in Section I.B of Schedule 2 of the Legal Agreement has been entered into between the Borrower, through SEDEST, and IAT, in form and substance acceptable to the Bank.

Type	Financing source	Description
Disbursement	IBRD/IDA	Notwithstanding the provisions of Part A of Section IV of the LA, no withdrawal shall be made: (a) on the basis of DLRs achieved prior to the Signature Date, except those withdrawals up to an aggregate amount not to exceed $30,125,000 may be made on the basis of DLRs achieved prior to this date but on or after December 7, 2020; and (b) for any DLR under Categories (1) to (5) until and unless the Borrower has furnished evidence satisfactory to the Bank that said DLR has been achieved in form and substance acceptable to the Bank, as further detailed in the Verification Protocol.
Type	Financing source	Description
Disbursement	IBRD/IDA	Notwithstanding the provisions of Part B.1 of Section IV of the LA, the Borrower may withdraw an amount not to exceed $6,025,000 as an advance under the Loan; provided, however, that if the DLRs, in the opinion of the Bank, are not achieved (or only partially achieved) by the Closing Date, the Borrower shall refund such advance (or portion of such advance) to the Bank promptly upon notice thereof by the Bank. Except as otherwise agreed with the Borrower, the Bank shall cancel the amount so refunded. Any further withdrawals requested as an advance under any Category shall be permitted only on such terms and conditions as the Bank shall specify by notice to the Borrower.
Type	Financing source	Description
Disbursement	IBRD/IDA	Notwithstanding the provisions of Part B.1 of Section IV of the LA, if any of the DLRs under Categories (1) through (5) has not been achieved, the Bank may, as applicable, by notice to the Borrower: (a) authorize the withdrawal of such lesser amount of the unwithdrawn proceeds of the Loan then allocated to said Category which, in the opinion of the Bank, corresponds to the extent of achievement of said DLR, said lesser amount to be calculated in accordance with the formula set forth in the Verification Protocol; (b) reallocate all or a portion of the proceeds of the Loan then allocated to said DLR to any other DLR; and (c) cancel all or a portion of the proceeds of the Loan then allocated to said DLR.

Type	Financing source	Description
Disbursement	IBRD/IDA	Notwithstanding the provisions of Part B.1 of Section IV of the LA, the Bank may, after consultation with, and by notice to the Borrower, adjust from time to time the targets set forth for specific DLRs.
Type	Financing source	Description
Disbursement	IBRD/IDA	Notwithstanding the provisions of paragraph B.1 of Section IV of the LA, no withdrawal shall be made for payments made prior to the Signature Date.

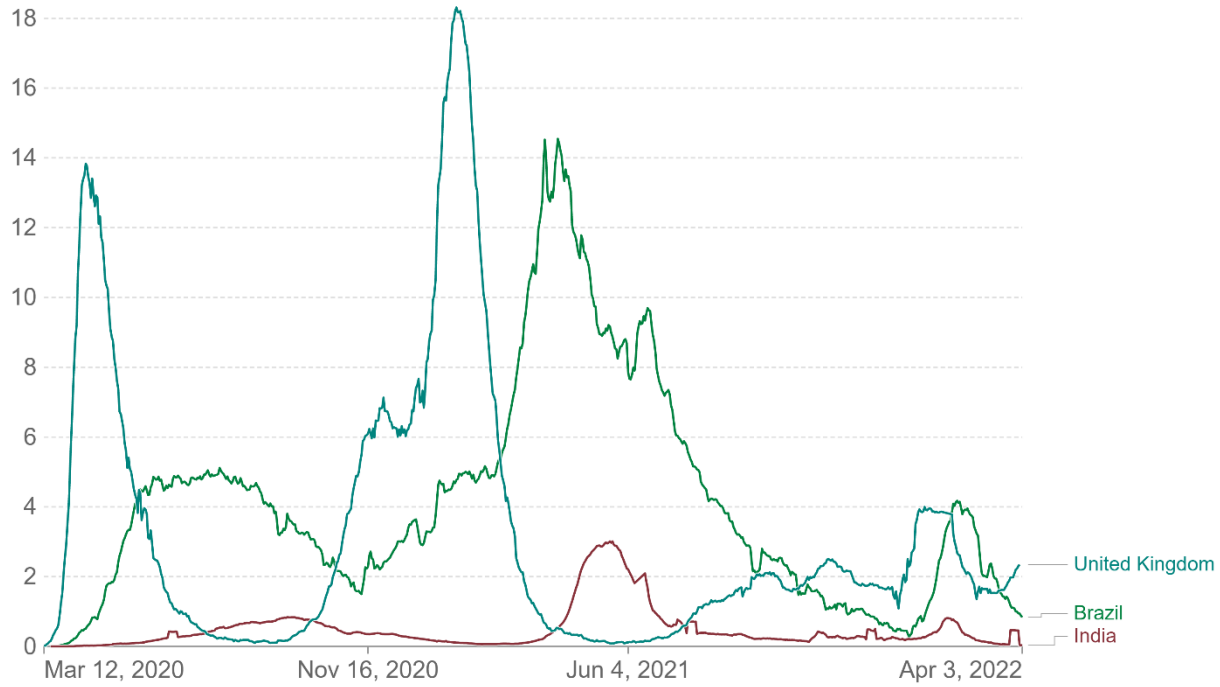
I. STRATEGIC CONTEXT

A. Country and State Contexts

Brazil Context

1. **The COVID-19 pandemic hit Brazil hard, and the country still faces a worrying pandemic situation.** As of April 1, 2022, Brazil had the second-largest number of COVID-19 cumulative deaths (more than 660,000, only behind the United States) and third-largest number of cumulative cases (almost 30 million, behind the United States and India). While deaths and cases are well below the peak registered in April 2021, Brazil still accounts for 10.9 percent of all recorded COVID-19-related deaths worldwide since then. Brazil currently ranks 14th place of confirmed COVID-19 deaths per million people. The latest wave in Europe and the Omicron variant, which has a much higher infection rate when compared to Delta, bring additional uncertainty to future pandemic scenario in Brazil and the world. Situation is still of concern, considering possible new waves of infections like the one experienced in March–May 2021, when 20 out of 27 Brazilian states faced over 90 percent of intensive care unit (*unidade de cuidado intensivo*, ICU) bed occupancy rate and acute shortages of critical supplies such as oxygen and sedatives.[1]

Figure 1. Daily COVID-19 Deaths per Million People (7-Day Average, top five population countries)



Source: Johns Hopkins University, Center for Systems Science and Engineering (CSSE) COVID-19 Data.

[1] Johns Hopkins University, Center for Systems Science and Engineering (CSSE) COVID-19 Data.

2. **Brazil has established a diverse strategy for vaccine acquisition and deployment.** Given the uncertainties in the international market for vaccines, Brazil's strategy was not only to engage in agreements with different manufacturers but also secure the domestic production of vaccines. Approximately 49 percent of the population coverage would come from international purchases (enough to cover the entire population over 18 years of age) and 51 percent from domestic production.[2] At the beginning of vaccination effort, the National Vaccination Plan defined a series of priority groups, ranked according to vulnerability to the disease, that represented approximately 38 percent of the total population. The vaccine hesitance levels are low among Brazilian population, but the states and municipalities still need to pursue measures to promote actual vaccination. As of April 1, 2022, 75.5 percent of Brazilians were fully vaccinated (first and second doses), and 36.8 percent received the booster vaccine.[3] Children aged 5 to 11 years old started getting vaccinated in mid-January 2022.

3. **The Government of Brazil (GoB) responded to the COVID-19 health crisis with a large countercyclical fiscal response in 2020 and 2021.** As of December 2021, the increase in spending allocated to the health sector in 2020 and 2021 was equivalent to US$20.9 billion, of which US$15.6 billion was of a discretionary nature. This COVID-19 supplemental spending includes expenses directly executed by the Ministry of Health (*Ministério da Saúde*, MoH), as well as transfers to states and municipalities, which represented 22 percent of the total transfers in 2020 and 2021 (US$33.0 billion in regular transfers and US$9.3 billion in COVID-related transfers). Transfers to subnational governments in 2021 amounted to US$17.2 billion (regular transfers) and US$2.8 billion (COVID-related). Most of the COVID-19 supplemental spending in 2021 was allocated to vaccine purchases (US$3.8 billion, two-thirds of supplemental spending).[4]

4. **The COVID-19 pandemic led to an economic recession with a gross domestic product (GDP) decline of 4.1 percent in 2020**. Early signs of economic recovery for 2021 were confirmed with a GDP growth of 4.6 percent in 2021,[5] however, the pandemic and the recent Russia-Ukraine events continue raising uncertainty in the economic outlook for 2022. Even though Brazil's GDP has recovered to pre-crisis levels in 2021, the pace of the rebound is heterogeneous among the economic sectors, as services are still struggling with the consequences of social distancing measures.

5. **Labor income and unemployment have been affected by the pandemic.** From a pre-pandemic level of 11.6 percent in February 2020, the unemployment rate peaked at 14.6 percent in the semester that ended in May 2021. There were signs of economic recovery between June and December 2020, with the workforce participation rate increasing by 1.5 percentage points, 4 million people returning to the labor market,[6] and 142.690 new formal jobs being created.[7] Nonetheless, with the second wave of the pandemic, job creation was not enough to compensate for job losses. According to PNADC by the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística* - IBGE), the

[2] Vaccines are centrally purchased by the Ministry of Health (*Ministério da Saúde*, MoH) and distributed to all states.
[3] https://localizasus.saude.gov.br/
[4] Based on budget data. COVID-19 resources include expenditures directly executed by the Federal Government and transfers to subnational governments.
[5] System of Quarterly National Accounts 4th trimester 2021 – Brazilian Institute of Geography and Statistic (Sistema Nacional de Contas timestrais, 4º trimestre, IBGE).
[6] Continuous National Household Sample Research (*Pesquisa Nacional por Amostra de Domicílio Contínua,* PNADC) 2nd and 4th semester—55.3 in June and 56.8 in December 2020.
[7] General Registry for the Employed and Unemployed 2020 (*Cadastro Geral de empregados e desempregados,* CAGED).

unemployment rate continues to affect 12.0 million workers—11.1 percent unemployment—in the fourth quarter of 2021 and is expected to remain high during 2022 given the prolonged COVID-19 crisis.

6. **The poor and vulnerable have been disproportionally affected by the COVID-19 pandemic.** About half of Brazil's population either lives in poverty or is vulnerable to falling into poverty. The poor are more likely to be employed in face-to-face sectors, and this has put them at higher risk of contracting COVID-19.[8] Workers in low-skilled service sectors represent the largest share of the reported COVID-19 fatalities in Brazil. Vulnerable people with no schooling, at the lower end of the income distribution, represent 14 percent of all COVID-19 deaths (despite representing about 5.2 percent of the overall population). Afro-descendants were also disproportionately affected by the COVID-19 pandemic. The unemployment rate of Afro-descendants increased from 13.5 percent in the last quarter of 2019 to 17.2 percent in the last quarter of 2020, a 3.7 percentage points difference, while the unemployment rate of white workers went from 8.7 percent in the last quarter of 2019 to 11.5 in the last quarter of 2020, a 2.8 percentage points difference.[9] According to PNADC, fourth quarter (2021) data, Afro-descendants' unemployment rate is 13.6 percent while white workers' unemployment rate is 9.0 percent.

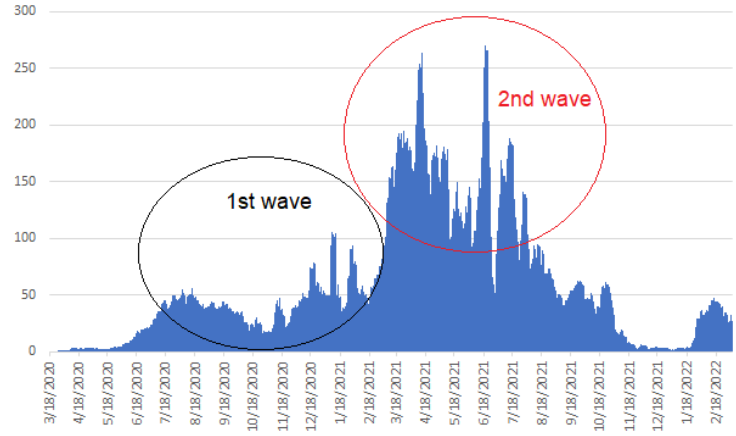
The State of Paraná Context

7. **The COVID-19 pandemic has represented an unprecedented health challenge to the state of Paraná.** As of April 1, 2022, the state had the fifth-highest number of COVID-19 cumulative deaths per capita, and third-highest number of COVID-19 cumulative cases among the 26 Brazilian states and the Federal District. In absolute numbers, there were more than 2.35 million cases and approximately 42,477 deaths (a 6.5 percent of the national deaths share). After a decline in the number of cases between October and November 2020, the state faced a second wave with much higher daily deaths than in the first wave, particularly in the early to mid-2021 period (figure 2), and the incidence of cases and deaths in the state is persistently higher than the Brazilian average (figures 3 and 4).

[8] World Bank. 2020. Brazil Covid-19 Rapid Assessment.

[9] PNADC is a household survey and the main source of information for households in the country. It contains information about employment and household characteristics, and it is published every three months. Reports can be found here: https://biblioteca.ibge.gov.br/index.php/biblioteca-catalogo?view=detalhes&id=72421 .

Figure 2. The Second COVID-19 Wave in Paraná: Increase in the Number of Daily Deaths (7-Day Average)



Source: Fiocruz.

Figure 3. Daily COVID-19 Cases per Million People (7-Day Average)

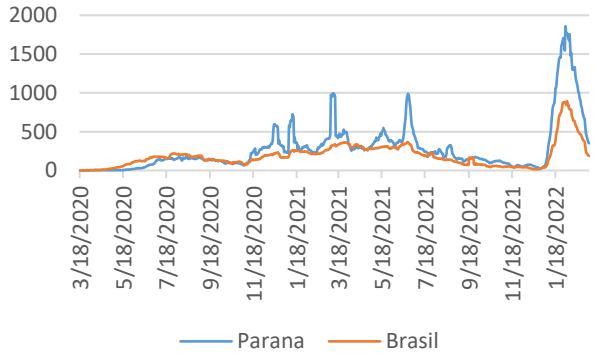
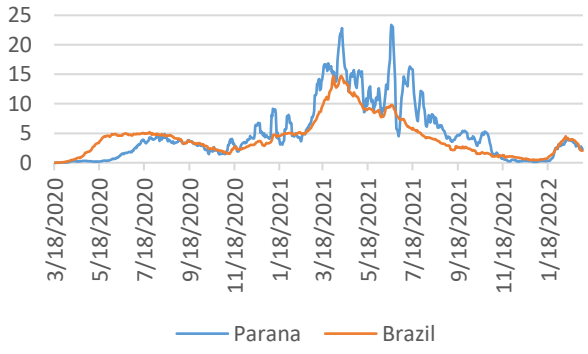


Figure 4. Daily COVID-19 Deaths per Million People (7-Day Average)



Source: Fiocruz e IBGE.

8. **As of April 1, 2022, 87.3 percent of the state's total population had been vaccinated with the first dose against COVID-19 and 78.2 percent of Paraná's population was fully immunized**.[10] The increase in vaccination coverage is contributing to sharp reductions in the number of cases and deaths in the state, but the pandemic is yet to be contained and coping with its short- and medium-term impact—health and economic related—remains a challenge.

9. **The economy of the state of Paraná has been severely affected by the COVID-19 pandemic.** The state had just recovered from the 2015/16 economic crisis when COVID-19 struck, reducing Paraná's GDP by 1.65 percent in 2020—a reduction of 3.49 percent in the service sector and a decrease of 3.14 percent in the industry sector were defining factors. The negative variation in services resulted mainly from the

[10] IBGE; Coronavirusbra; portalcovid no Brasil and Covid19br.

contraction in hospitality and food services consumption.[11] A GDP rebound of 3.7 percent is expected for 2021 (supported by 2.8 percent growth in household consumption, 8.5 percent in investment, 3.4 percent in services, and 2.6 percent in industrial activity), followed by 3.2 percent GDP growth in 2022.[12] These projections are highly dependent on the impact of new waves of COVID-19 and the pace of vaccination, particularly on those subsectors that are more dependent of face-to-face interactions, such as tourism and restaurants.

10. **The pandemic has also severely affected labor market outcomes, particularly among vulnerable groups and in economically lagging regions of Paraná.** In the second quarter of 2020, the unemployment rate of Afro-Brazilian workers in Paraná was 14.8 percent compared to 8.5 percent for the white population. Afro-Brazilians confronted a sharp decline in labor force participation (by 7.9 percent compared to 2.5 percent for the white population). Women in the labor market were also more affected: in the first two quarters of 2020, male unemployment rose from 6.2 percent to 7.6 percent while unemployment among women rose from 8.6 percent to 11.9 percent. These differences in labor outcomes aggravate preexisting inequalities.[13] Before the COVID-19 crisis, Afro-Brazilian workers already earned 32 percent less than the average white worker, while female workers earned 25 percent less than the average male worker.[14] Several lagging regions have been particularly affected and the state government has launched an effort to identify actions to relaunch productive activities and job creation.

11. **The pandemic has worsened the poverty profile in Paraná.** In 2019, over 1 million people, 9.5 percent of the population, lived under the US$5.5 poverty line, and 257,000 people, or 1.5 percent of the population, lived under extreme poverty (US$1.9 poverty line). Poverty is higher in rural areas (13.2 percent at US$5.5 and 2.5 percent at US$1.9 poverty lines) than in urban areas (9.0 percent at US$5.5 and 1.3 percent at US$1.9). Poverty is also higher among households where the head is a non-white person (18.9 percent) rather than a white person (9.9 percent). With the Federal Government's *Auxílio Emergencial* (emergency aid) extended for seven months during 2021, the poverty rate in Paraná is projected to stay 1.4 percentage point beneath the 2019 level (8.1 percent), while extreme poverty for 2021 is roughly projected to increase by 0.8 percentage point (2.3 percent).

Table 1. Poverty Estimates by Share of Households: Paraná and Brazil, by Characteristic of Household Head, 2019 (%)

	Poverty US$1.9					Poverty US$5.5				
	Total	**White**	**Non-White**	**Male**	**Female**	**Total**	**White**	**Non-White**	**Male**	**Female**
Curitiba	**0.8**	0.6	1.1	0.7	0.8	**6.6**	4.9	10.5	4.5	8.5
Paraná - urban	**1.3**	0.8	2.2	0.8	2.0	**9.0**	6.4	13.2	6.9	11.2
Paraná - rural	**2.5**	1.8	3.6	3.0	1.4	**13.2**	9.9	18.9	12.8	13.9
Paraná - total	**1.5**	**0.9**	**2.4**	**1.1**	**1.9**	**9.5**	**6.8**	**13.8**	**7.8**	**11.4**

[11] *Instituto Paranaense de Desenvolvimento Econômico e Social* (IPARDES), http://www.ipardes.pr.gov.br/Pagina/PIB-Trimestral-do-Parana.

[12] GDP official data for subnational governments go up to 2018. Thus, the macroeconomic framework for Parana is nested in a subnational State Comptroller General (*Controladoria Geral do Estado*, CGE) model for Brazil, which is consistent with the national macroeconomic framework presented here (national data for 2018 and 2019 as well as World Bank projections from 2020 and beyond). Given the severity of the pandemic in Parana, the economic impacts may have been worse than estimated in this framework.

[13] PNADC (IBGE 2012–2020).

[14] The global evidence suggests that the recovery for disadvantaged groups may take longer (Tavares and Bettis 2021).

	Poverty US$1.9					Poverty US$5.5				
	Total	**White**	**Non-White**	**Male**	**Female**	**Total**	**White**	**Non-White**	**Male**	**Female**
Brazil - urban	**3.2**	1.5	4.5	2.3	4.2	**16.4**	8.8	22.0	12.9	20.0
Brazil - rural	**13.1**	6.9	15.8	12.1	15.0	**39.2**	23.2	46.2	37.4	42.8
Brazil - total	**4.6**	**2.1**	**6.4**	**4.1**	**5.2**	**19.6**	**10.3**	**26.0**	**17.2**	**22.2**

Source: Socio-Economic Database for Latin America and the Caribbean (SEDLAC) harmonized PNADC 2019.

B. Institutional Context and Challenges

12. **The government of Paraná has requested the World Bank's assistance for the implementation of its COVID-19 recovery plan, encompassing the health and other priority public services.** In 2020, the government launched the COVID-19 recovery plan (*Plano Estadual de Retomada e Desenvolvimento Econômico* 2020–21),[15] in which interventions aim to better respond to the COVID-19 pandemic (short term) and improve efficiency of the state's priority public services, including health, environmental and disaster risk management, and public sector management (medium to longer term). Given fiscal constraints, the state government seeks to improve these selected areas while reducing gaps in access to public services through service delivery and management reforms and the use of information technology. The state's development strategy is laid out in its medium-term plan (*Plano Plurianual*, PPA) which together with the COVID-19 recovery plan constitute the basis for the proposed Program (see section II).

13. **The COVID-19 crisis has created fiscal challenges that were only temporarily offset by the Federal Government's emergency fiscal support in 2020.** The state has maintained fiscally prudent policies. It approved a pension reform in 2019 and is limiting wage adjustments to 1.5 percent per year in 2021 and 2022. However, while state tax revenues declined by 1.2 percent in real terms in 2020 due to lower consumption during the recession, the state's health spending increased by about 18 percent over the original health budget for 2020 to cope with the COVID-19 outbreak. A federal debt moratorium allowed Paraná to reduce debt repayment by about BRL 370 million in 2020. Fiscal challenges persist in 2021 due to the end of the temporary federal assistance and debt repayment postponements, especially considering the impact of the new wave of the pandemic in the first semester of 2021. However, based on current economic projections, the state is expected to maintain its creditworthiness in 2021 as tax revenues recover and personnel expenditures remain under tight control.

14. **In the first quarter of 2020, the State Health Secretariat (*Secretaria de Estado de Saúde*, SESA) prepared a Public Health Emergency Response Plan and standardized protocols and procedures to respond to COVID-19.** The state expanded its public hospital capacity to treat COVID-19 cases, adding 889 adult ICU beds and 47 pediatric ICU beds (in addition to 1,635 outpatient beds for suspected and mild cases of COVID-19). To this end, in 2020, part of the regular state health budget was also allocated to finance the activities to respond to the pandemic. In 2021, a discretionary budget line to account for COVID-19 expenses was created, in the amount of US$46.2 million, which represents 4.52 percent of total state health budget in the year. Despite the state's rapid response, the pandemic has put additional pressure on its publicly financed health system, which is the primary source of health care for about 75 percent of the population, particularly the poor and disadvantaged groups.

[15] A decree establishing a task force to discuss and implement the state recovery plan was published in April 2020.

15. **In February 2021, SESA reported an ICU average occupancy rate of 96 percent across public hospitals, in the five health macro regions, designated to treat COVID-19 adult patients**.[16] Although that percentage decreased to 30 percent in November 2021, the situation may still worsen with the variants of the SARS-CoV-2 already circulating in the state, including P.1, Delta (B.1.617), and Omicron which are more contagious and have higher viral load. This will continue putting pressure on the state's existing ICU capacity in the short term (longer stay combined with more cases) and the health system as a whole in the long term.

16. **In addition to its short-term impact, the ongoing COVID-19 pandemic will have lasting consequences on the public health system due to delayed diagnosis and treatment for other ailments and new chronic conditions for those affected by COVID-19 ('long COVID haulers').** It is estimated that 50,000 new cases of cancer went undiagnosed since the beginning of the pandemic in Brazil. There is also emerging evidence of long-term sequelae (for example, post-infectious fatigue, persistent reduced lung function, and inflammation of the heart) in a considerable proportion of COVID-19 patients after recovery, as a variety of organ systems are affected. In addition, the presence of other chronic conditions has been shown to be a main determinant for complications and even death by COVID-19.[17]

17. **The combination of an increase in the demand for health services with an important fiscal constraint places particular relevance to efficiency improvements if the state of Paraná is to achieve a strong post-pandemic recovery.** The COVID-19 pandemic has exacerbated structural weaknesses of Paraná's public health system (*Sistema Único de Saúde,* SUS) that need to be addressed for an effective COVID-19 response and recovery. A recent World Bank study points to large inefficiencies in the SUS hospital network, which operates with high idle capacity (such as low hospital bed occupancy rates), diseconomies of scale due to small volume of services, and limited coordination across providers and primary and hospital care. Paraná has 150 Small Hospitals[18]—62 percent of Paraná's SUS hospitals have less than 50 beds (55 percent nationally) and 82 percent have less than 100 beds (77 percent nationally).

18. **Existing Small Hospitals provide low complexity services at higher costs and operate at low occupancy rates.**[19] Paraná plans to convert several Small Hospitals into Multi-professional Care Units (*Unidades de Cuidado Multiprofissionais,* UCMs)[20] and improve state health information management

[16] State COVID-19 bulletin, https://www.saude.pr.gov.br/Pagina/Coronavirus-COVID-19.

[17] Chronic noncommunicable diseases are the state's main determinants of morbidity, disability, and mortality. The diseases of the circulatory system and cancers are the first two main causes of death in Parana. The state is the second in the country with the highest rate of premature mortality—318.20 per 100,000 inhabitants. Between 2014 and 2018, the chronic noncommunicable diseases were responsible for 58.83 percent of all deaths in Parana, out of which 42 percent were adults ages 30–69 years. In 2018, the cancer mortality rate among men within the same age group was 151.56 per 100,000 inhabitants, while among women it was 121.55 per 100,000 inhabitants.[17]

[18] Small Hospitals for the purposes of this operation means any municipal health care facility directly managed by the Participating Municipalities offering five to 50 clinical beds, named "*Hospital de Pequeno Porte*" (HPP), as further defined in the SESA 'Resolution' and acceptable by the World Bank.

[19] Small Hospitals tend to treat less severely ill patients and concentrate on simple emergency services. See La Forgia, Gerard M., and Bernard F. Couttolenc. 2008. *Hospital Performance in Brazil: The Search for Excellence.* Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/6516. These facilities were not prepared and did not have the role to respond to the COVID-19 emergency and particularly to treat those patients with more serious cases of the disease.

[20] An UCM is a health care facility that operates within the primary care space. It is a 24-hour health care unit with multi-professional approach and professionals, including a more prominent role for nurses. It provides an intermediate level of care for patients who do not require hospitalization but still cannot receive care at home. Patients must be linked to a Family Health team. Under the operation, the conversion of the HPP into an UCM will be made based on SESA 'Resolution'.

systems and health digital services. The UCMs are expected to improve coordination of care (across primary, secondary, and tertiary care levels) with a focus on the needs of those with chronic conditions, including the elderly population and those suffering from post-COVID sequalae.

19. **Climate change will also affect the state's health sector.** Climate and environmental change are expected to worsen the frequency, intensity, and impacts of some types of extreme weather events such as floods, droughts, and tropical storms and are likely to lead to increase the incidence of climate-sensitive vector-borne diseases and the emergence of new diseases previously not present in the state. Addressing the challenges imposed by this context is essential to increase the health system's resilience and ability to face future shocks. For the state to move toward an environmentally and climate change-ready health care system, significant changes are required. First, the environmental and climate data need to be responsive, of high quality, synthesized, and easy to access and use. Climate change is a key driver of the Paraná's environmental health challenges.[21]

20. **Hydrometeorological disasters affected 53 percent of the state population directly or indirectly between 1991 and 2019.**[22] These events resulted in 81 deaths and caused almost 390,000 people to lose their homes. Furthermore, 84 percent of the Paraná municipalities are classified as infested regarding the presence of yellow fever mosquito (*Aedes aegypti*). The World Health Organization points out that infectious diseases such as schistosomiasis, helminthiasis and dengue may be linked to environmental changes such as damming of water bodies and formation of canals, intensification of agricultural systems, unplanned urbanization, deforestation, and reforestation.[23] In this context, the use of georeferencing data that feed into the state's health risk maps is essential for public health policy decision-making. These maps are critical to inform, recommend, and adopt measures for health promotion and prevention as well as for the monitoring of disease risk factors.

21. **In this regard, improvements to Paraná's environmental management system (EMS) will support improvements not only to the identification of climate risks but also to health surveillance.** The challenges to Paraná's institutional system (including the health system and delivery of public services), natural environment, and physical assets are exacerbated by observed and anticipated impacts of climate change. The lack of near-real-time cartographic data and measurement of air and water quality hinders effective disease prevention and response. Likewise, geospatial risk mapping and high-resolution space-time stochastic models for precipitation are crucial for hydrological applications related to flood risk and water resources management that mirror the risk of waterborne disease incidence. Such systems are unavailable in Paraná.

22. **An effective and efficient implementation of Paraná's post-pandemic recovery, including for the sectors prioritized under this operation, requires strengthening the state's planning and public investment management (PIM).** The state has implemented, in addition to the provision of health services, support measures for households and businesses, including deferment of payment of the major

[21] https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health.
[22] In the country as a whole, 2,395 natural disaster events were recorded between 1991 and 2019, and more than 4 million people were affected. Federal University of Santa Catarina. Center for Studies and Research in Engineering and Civil Defense (CEPED/UFSC), with support from the World Bank. 2020. *Report on Material Damage and Damage Resulting from Natural Disasters in Brazil (1995–2019)*. relatoriodedesastres.ceped.ufsc.br.
[23] "Climate Change and Infectious Diseases." In *Climate Change and Human Health: Risks and Responses.* https://www.who.int/globalchange/summary/en/

state tax on the commercialization of goods and services (*Imposto sobre Circulação de Mercadorias e Serviços*, ICMS), deferment or flexible payment for water, electricity and mortgages for low-income households, and the establishment of low-interest credit lines for individuals and small and medium enterprises. In addition, a statewide initiative to prepare development plans in lagging regions has been launched, aimed at identifying public initiatives and investments that would increase productivity and job creation. This will require a broad engagement with stakeholders across the public and private sectors to solicit their views and inputs and eventually their resources to finance the initiatives identified in these plans. Complementary to this, the public sector needs to address some weaknesses to make it more efficient and able to effectively implement the state's recovery program, particularly in the following areas:

a) **Planning and PIM.** There is limited planning across jurisdictional boundaries, hindering a coordinated response to challenges such as integration of producers and markets, water management, informal urbanization, environmental degradation, and infrastructure development. To overcome this problem Paraná started preparing integrated development plans in 2018. In part linked to these weaknesses in planning, the state has a limited portfolio of high impact public investment projects ready for implementation. Paraná had the fifth-lowest investment spending of Brazilian states at just over 4 percent of net current revenue in 2018 and 3.3 percent in 2019. The execution rate of public investment spending at about 50 percent reflects weaknesses in project preparation, with long delays in preparing technical specifications and bidding documents. Projects are often prepared and approved without adequate economic, environmental, and social viability studies or verification of alignment with strategic plans, priorities, and budgets. Weak project preparation, management, and monitoring arrangements contribute to time and cost overruns and hinder the implementation of the state's post-pandemic recovery plan.[24]

b) **Maintenance and operational expenditures on unused or underutilized real estate assets.** The public sector maintains a larger than necessary real estate footprint in the state. Of the 8,186 properties belonging to the state, over 300 are currently vacant while the state spends over BRL 37 million a year on rent of office space. The fiscal pressure brought by the COVID-19 pandemic has revealed the need to undertake a strategic real estate asset assessment to examine current and future real estate needs for the public sector, alternative options such as subcontracting of transport or maintenance services, and consolidation of real estate including rental options and continued sale of unused properties through public auctions.[25]

c) **Human resource management.** Rigid human resource management (HRM) and recruitment practices limit opportunities for building new skills and career advancement. SEAP does not currently conduct strategic workforce planning, aligning these with existing or needed skills and recruitment plans. Also, gender disparities need to be addressed: while women account for over 60 percent of employees across the state government, they occupy only 27 percent of the highest leadership positions.[26] Introducing clear gender objectives into the state's human resources and talent management, training and recruitment practices will be critical

[24] State Secretariat of Planning (*Secretaria de Estado de Planejamento e Projetos Estruturantes*).
[25] State Secretariat of Public Administration (*Secretaria de Estado de Administração e Previdência*, SEAP).
[26] SEAP.

to closing this gap over time. Identifying adequate replacement rates and skill sets and improving gender equity is critical for an effective implementation of the state's post-COVID-19 recovery plan.

C. Relationship to the CPS/CPF and Rationale for Use of Instrument

23. **The proposed operation is consistent with the priorities of the World Bank Group's Country Partnership Framework (CPF) for the Federative Republic of Brazil for FY18–FY23 (Report No. 113259-BR), discussed by the Executive Directors on May 16, 2017.** The Program will directly support Focus Area 1: Fiscal consolidation and government effectiveness and is aligned with objective 1.1. "Strengthen fiscal management at all levels of the government" and objective 1.4. "Increase effectiveness of service delivery in health." Objective 1.1 supports Government efforts to adopt key policy reforms necessary to reestablish fiscal stability, improve fiscal management, and expand access to quality public services. Objective 1.4 seeks to improve the efficiency of health spending, strengthen Government capacity, and promote improved service delivery through improving the targeting of policies, increasing accountability for results, and thereby supporting the shift from expanding access to increasing quality. The Program contributes to these objectives by supporting (i) the strengthening of health service delivery, (ii) the collection of robust environmental and disaster risk data, and (iii) the strengthening of public administration through management reforms and the better use of information technology. The Program can also promote peer-to-peer exchanges with other Brazilian states and Latin American countries in the design and implementation of institutional reforms, with World Bank support as relevant. This builds on Paraná's track record as a laboratory for reforms that have then been adopted by other states (see box 1).

Box 1. Public Sector Innovation and Transfer of Knowledge: Examples from Paraná

The new tax system implemented in Paraná in 2019 for the collection of the quasi-value added tax, vehicle tax, and inheritance tax has been presented to the states of Mato Grosso do Sul and Rio de Janeiro which are in the process of updating their own systems.

The Disaster Management Center established in 2014 has been replicated in other parts of Brazil including Espírito Santo, Minas Gerais, São Paulo, and Rio Grande do Sul. The disaster risk information system received a United Nations (UN) award for the best information system in Latin America in 2015.

The Emergency Care Network was presented to the National Council of Health Departments - CONASS and the Maternal and Child Care Network (*Mãe Paranaense*) at national and international events.

The Information System for Environmental and Water Resources Management (*Sistema de Informações para Gestão Ambiental e de Recursos Hídricos*, SIGARH) was presented at the 2019 National Meeting of Hydrographic Basin Committees. Several states have expressed interest in the system and terms of reference (ToRs) have been shared.

The system for land use design and mapping has generated significant interest and has been shared with several states.

24. **The Program will also contribute to the World Bank Group's corporate priorities embedded in the CPF.** The CPF supports Brazil's effort to reach its Nationally Determined Contribution, which aims to reduce total net greenhouse gas (GHG) emissions by 37 percent by 2025 and by 43 percent by 2030 and climate neutrality (net-zero emissions) in 2060. The national strategy lays out a transition to a cleaner energy mix, lower exposure to floods in urban and rural areas, increased use of climate risk management

approaches, and promotion of climate-friendly urban mobility. The Program will strengthen Paraná's resilience and climate change adaptation by improving environmental and disaster risk data, ensuring the state's business continuity and its ability to operate remotely, and expanding its capacity to provide digital government services, including vulnerable populations, such as the elderly and indigenous peoples, in the event of climate-related and other disasters. The Program includes support to gender equity in public sector management and will also support activities for greater economic opportunities for women in targeted areas, aiming at reducing gender gaps in wages and unemployment risks, protecting their human capital, and increasing their resilience to shocks.

25. **The Program is aligned with the World Bank Group's COVID-19 Crisis Response Approach Paper[27] Pillar 1: "Saving Lives," Pillar 2: "Protecting the Poor and the Vulnerable," and Pillar 4: "Strengthening Policies, Institutions, and Investments for Rebuilding Better" and with the Integrated Policy Responses to COVID-19.**[28] Health interventions supported by the Program aim to mitigate the impacts of the public health emergency and protect welfare and human capital of vulnerable segments of the population affected by COVID-19. The Program will strengthen medium-term recovery through its focus on reforming public sector services prioritized under the operation. The Program will have longer-term impacts through improvements in public sector efficiency, equity, and inclusion in public services.

26. **The Program-for-Results (PforR) instrument was selected as the most suitable instrument to support the existing government program and improve the efficiency and effectiveness of expenditures, under the current PPA.** The proposed Program will support multisectoral interventions at the state level, which will also benefit its municipalities, having the health sector as the intersection factor. Disbursements against agreed and verified results will support the government to add a qualitative dimension to budgeted expenditures. It is expected that the government benefits from institutional capacity strengthening to implement its long-term programs in a more efficient and effective way. The government of Paraná has experience in implementing a results-based operation financed by the World Bank. An Investment Project Financing (IPF) component will finance technical assistance (TA) for consultancies, studies, and assessments in critical cross-cutting public sector management areas that are of strategic importance to the post-COVID recovery and implementation of the interventions supported by the proposed operation. The IPF component will rely on World Bank procurement rules, which allow for access to the best quality national and international expertise.

27. **The proposed Program builds on results and lessons from the previous SWAp for Paraná Multi-sector Development Project (P126343)**,[29] which focused on strengthening the health, environment, and public sector management institutions to increase public sector efficiency and delivery, with a more selective focus on fewer sectors and activities (annex 3 presents a summary of lessons learned and considered in the design of the proposed Program). While the previous project included results-based disbursements, the current PforR modality provides greater flexibility in the design of disbursement-linked indicators (DLIs) to incentivize specific results in priority government programs. A strong

[27] World Bank. 2020. Saving Lives, Scaling-up Impact and Getting Back on Track: World Bank Group COVID-19 Crisis Response Approach Paper.
[28] World Bank. 2020. Protecting People and Economies: Integrated Policy Response to COVID-19.
[29] The project closed in November 2019 and its objectives were to: (i) increase the survival rate in the final cycle of fundamental education; (ii) improve maternal and emergency health care services; (iii) promote business initiatives and improve natural resources management in rural areas; and (iv) contribute to building capacity in public administration, and environmental and disaster risk management.

partnership with the Secretariats of Health, Environment, and Planning, based on previous technical dialogue around similar topics, forms a strong basis for a focus on agreed results.

II. PROGRAM DESCRIPTION

A. Government Program

28. **The Paraná PPA was approved in December 2019 and covers the four-year period 2020–2023.** It includes 16 sectoral and five cross-cutting programs to support the economic, social, and environmental development of the state in a sustainable and transparent way. The plan includes short- and medium-term targets and indicators to measure progress. In total, there are 60 indicators, 342 initiatives, and 177 goals involving 24 entities and 90 budget units. The PPA is fully integrated with the annual state budget, which links expenditures to activities and targets, allowing for expenditure tracking and reporting in line with the plan's objectives. The PPA is monitored on an annual basis through the state's Integrated Management and Monitoring System (*Sistema Integrado de Gestão, Avaliação e Monitoramento Estadual*).

29. **The PPA was prepared with the involvement of the entire state government apparatus and several external research institutions, civil society, and private sector organizations through virtual and in-person public consultations.** The overarching objective of the PPA is to make the state machinery more efficient and effective in delivering quality services to the population, including drawing on private sector innovation capabilities and the use of new technologies in the public sector. Resources for immediate response to the COVID-19 pandemic, although not in the PPA, were included in the 2020 and 2021 budgets to allow related service delivery. Although the PPA covers a shorter period compared to the duration of the proposed Program, it is a well-established and mandatory instrument in the Brazilian public sector. Given the structural nature of the programs selected to be part of this PforR, they will be included in the new PPA, covering 2024–2027, to be approved by end-2023.

30. **The COVID-19 recovery plan (*Plano Estadual de Retomada e Desenvolvimento Econômico* 2020–21) serves as a filter to prioritize programs in the PPA, focusing on targeted recovery measures aimed at relaunching the economy, protecting jobs, and strengthening public services.** The recovery plan prioritizes the following activities: high-impact public investments in health, urban, water and sanitation, and education infrastructure; expansion and strengthening of critical digital services to ensure service continuity in future crises; job creation through local agricultural production and business start-up acceleration support; entrepreneurs' access to professional advice and credit; export promotion through focusing on higher-value-added goods; promotion of science and innovation using local capacities to build back better. The authorities have also started preparation of regional productive development plans as an instrument to identify strategic investments for post-COVID-19 recovery efforts in the poorer regions of the state through a consultative process.

31. **Within the PPA, four government programs were selected to be supported by the World Bank:**

a) **Health Sector Innovation in Paraná (*Saúde Inovadora para um Paraná Inovador* - program 03).** This program aims to improve efficiency and quality of public health services through the reorganization of the state's health service delivery network and the integration of SESA's health information system. The program supports the reorganization of the health

service delivery network, including conversion of Small Hospitals into UCMs and the integration of health sector information systems (financial, administrative, service delivery data) to improve management at different levels of SESA. It also includes activities related to the mobile emergency medical service (*Serviço de Atendimento Móvel de Urgência*, SAMU) connectivity. In addition, a specific budget line for the COVID-19 response was included under program 03 for FY20 and FY21. Thus, within this program, health interventions are under three selected budget lines. The total program cost is estimated at US$5.6 billion, of which US$4.3 billion (76 percent) refers to the budget lines to be supported by this Operation.[30]

b) **Future Paraná: Sustainability and Tourism (*Paraná do Futuro: Sustentabilidade e Turismo* - program 02).** This program aims to promote sustainable and healthy development and the prevention and minimization of the impacts of extreme weather events and climate change through the management of multiuse, high-accuracy geospatial database; management of water resources and solid waste ensuring water supply and the impacts of extreme weather events and climate change; coordinating of the execution of civil protection and defense actions and operations derived from natural, mixed, or man-made disasters in the prevention, preparation, mitigation, response, and recovery phases; and management of natural resources and protected areas; environmental registration and regularization of rural landholdings, supporting the restoration of legally defined on-farm protected areas; and land regularization on behalf of small-scale farmers. One budget line is supported under this program. The total program cost is estimated at US$246 million, of which US$129 million (52percent) refers to the budget lines to be supported by this Operation.

c) **Public Management, Transparency, and Compliance (*Gestão Pública, Transparência e Compliance* - program 40).** Led by SEAP, this program aims to strengthen the operational efficiency of the state administration through more efficient administration and personnel policies. The program supports, among others, the adoption of good practices on HRM and procurement and improvements in the quality and availability of the digital services through the state digital platform (*Plataforma de Inteligência Artificial*). Three budget lines are supported under this program. The total program cost is estimated at US$1.0 billion, of which US$121.5 million (12 percent) refers to the budget lines to be supported by this Operation.

d) **Planning for Paraná (*Planeja Paraná* - program 44).** The program aims to improve systems and data for public policy planning and decision-making, strengthen institutional capacity for public sector planning through targeted training, and prepare regional productive development plans in the more challenged areas of the state. Two budget lines are supported under this program. The total program cost is estimated at US$7.0 million, comprising both budget lines (100 percent) to be supported by this Operation.

32. **The rationale for the selection of the programs to be supported by the proposed operation is based on the following criteria:**

a) The strategic relevance for the Paraná authorities, reflected as priorities in the state's PPA

[30] See annex 4 for a comprehensive chart on the government's PPA programs ('p'), the programs to be supported by this PforR ('P'), including budget lines, and the World Bank financing share (loan proceeds).

and the COVID-19 response and recovery plan.

b) The strategic relevance for the World Bank, reflected as priority areas of engagement in the Brazil CPF and in the World Bank's commitment to (i) address short- and medium-term challenges associated with the COVID-19 pandemic, with special focus on the poor and vulnerable populations; (ii) address climate change challenges (with a special focus on the links between public health and environmental risks and public sector management improvements); and (iii) support institutional strengthening and implementation of innovative practices that could be replicated in other states of Brazil and other countries. The reorganization of the state health system, digitalization of health services, and the integration of environmental and disaster risk data with health surveillance are among the innovations supported by this Program that could be replicated elsewhere.

B. Theory of Change

33. **The Program is structured to address Paraná's inefficiencies in the delivery of health and other priority public services and to support an effective implementation of the state's pandemic recovery plan in response to the short- and long-term impacts of the COVID-19 pandemic.** It also focuses on the environmental determinants of health and cross-cutting key areas of public sector management, HRM reforms such as strategic workforce planning and recruitment, and public sector planning and investment management, including digital solutions and systems. The Program will improve public sector capacity to build back better, close equity gaps in access to public services, and generate efficiency savings, which are particularly important in the context of recovery from the COVID-19 pandemic (see figure 5).

34. **Health service delivery.** The financing of COVID-19 clinical and intensive care beds will allow for the appropriate treatment of patients infected by the SARS-CoV-2. The reorganization of the service delivery network through the transformation of Small Hospitals into UCMs, with services provided by multi-professionals, will improve coordination of care and reduce fragmentation across health care, thus allowing for the more efficient management of chronic diseases in a context of increased demand (treatments postponed during the pandemic and COVID sequalae). Improved and integrated health systems will also contribute to better health service delivery. Implementing structural changes to the health service delivery and monitoring capacity will help mitigate the impacts of the COVID-19 pandemic in the short and medium term. These reforms will also improve the cost-effectiveness of public health services and long-term sustainability of SUS in Paraná—which is the main source of care for 98 percent of those at the bottom income decile of the state's population.[31]

35. **Environmental and disaster risk management information systems to improve service delivery.** Improving digital collection, curation, and access to responsive environmental and geospatial data will allow faster identification of environmental and health risks, more accurate mapping of potential environmental impacts on health outcomes in space and time, and an assessment of where to place and how to safeguard health assets.

36. **Planning and PIM.** The inclusive and transparent preparation of productive development plans in economically challenged regions and the application of updated public investment standards in line with

[31] National Health Survey 2019.

good international practice will support a more effective and sustainable post-COVID recovery in the state of Paraná.

Figure 5. Program Results Chain

Results Areas	Activities	Intermediate Results	Outcomes	PDO	Higher-Level Impacts
HEALTH SERVICE DELIVERY	Support to COVID-19 response	Hospital beds available to treat COVID-19 patients	Patients treated for COVID-19	To respond to the COVID-19 pandemic and improve the efficiency of health and other priority public services	Equitable and fiscally sound public services improvements
	Reorganization of public health service delivery	Small Hospitals converted into Multiprofessional Care Units, and improved healthcare delivery system	Patients treated under a new and more effective model of care		
ENVIRONMENTAL AND DISASTER RISK MANAGEMENT INFORMATION SYSTEMS	Deployment of online intelligent platform for environmental management containingm key health surveillance information and key disaster information	Air, hydrological and monitoring networks updated and spatial information on environmental health and health surveillance available	Data-informed decision making and response to environmental health risks		
PLANNING AND PUBLIC INVESTMENT MANAGEMENT	Regional diagnostics finalized; regional plans approved and published; investment projects ready and appraised; new PIM law issued; digital platform for PIM prepared and functional	Use of investment methodologies to strengthen project quality and readiness; use of PIM platform for monitoring and transparency	Productive investments in lagging regions and increased investment efficiency in the state		
Technical Assistance activities supporting Program implementation					

Underlying assumptions: A reorganization of the health service delivery system is critical for an appropriate and efficient response to the health needs of the population in a post-pandemic context, in which the impact of the COVID-19 emergency will continue to be felt in the foreseeable future. A robust geospatial information is critical for the protection of the environment, and the mitigation of and adaptation to climate-related and other natural risks. Finally, improving public sector capacity to build back better, close equity gaps in access to public services, and generate efficiency savings are particularly important in the context of recovery from the COVID-19 pandemic.

C. PforR Program Scope

37. **The PforR component financing (US$120.5 million) will support nine budget lines within the four government programs in the PPA, with a focus on activities that strengthen health services delivery, including for COVID-19 response, and effectiveness through institutional strengthening and**

the use of information technologies. Activities include support to clinical and ICU beds (adult and pediatric) at a critical moment of the pandemic and to municipalities to adhere to a proposed reorganization of the state health system. Cross-cutting interventions will benefit the health sector of the entire state territory through strengthened central environmental management and public sector efficiency. The main beneficiaries are the state's residents who depend upon the public services prioritized in this Operation. This includes 75 percent of the state's population, including the poorest, who depend exclusively on the SUS to access health services, in addition to policy makers who will benefit from better databases/information on health surveillance for decision making and service improvements. Beneficiaries also include populations living in risky urban areas who are more vulnerable to vector-borne diseases and to climate change and disaster events. The Operation will also benefit up to 60 percent of the state government's employees who are women, through promoting gender equity in public sector management. Other beneficiaries include investors, academics, researchers and students who will have access to better public data through an integrated data platform. The activities are detailed in the following paragraphs under three results areas.

Results Area 1: Health Service Delivery (US$4,287 million of which US$79.36 million IBRD) [32]

38. **This results area will expand hospital capacity to deliver COVID-19-related treatment, restructure public health service delivery, and support adoption of new technologies to rationalize the hospital network and strengthen coordination of care across different levels of care.** This results area has three activities.

39. **Activity 1: Support to COVID-19 response.** This activity will support the efforts of the state in expanding SESA's hospital bed capacity to respond to the increased demand for COVID-19 treatment. This activity is expected to allow disbursements related to prior results associated to the clinical and ICU beds available to treat COVID-19 patients, adults, and children.

40. **Activity 2: Reorganization of health service delivery.** This activity will support the reorganization of the state's SUS through the conversion of Small Hospitals into UCMs. UCMs will improve coordination of care across primary, secondary, and tertiary care levels, with a particular focus on the health needs of the patients who have been affected by COVID-19 and the state's growing elderly population. It is expected that reorganized facilities will provide an integrated team approach to health care in accordance with the patient's clinical needs and appropriate and efficient use of the type of health care professional required. In this context, the evaluation of treatment options and treatment planning are collaborative processes involving different health care professionals (physicians, nurses, psychologists, and so on), together with the patient and the patient's family. A draft 'Resolution'[33] has already been submitted to the World Bank and its adoption has been included as a DLR to be complied with during the first year of Program implementation. The state's support may be used to finance (a) investments to rehabilitation of existing facilities and equipment, (b) training of health and administrative professionals, and (c) recurrent costs associated with health service provision.

[32] The Program budget and World Bank support for the three results areas were included in Table 3, and Figure 4.3 in annex 4.
[33] The 'Resolução' includes criteria that the health care facility needs to comply with to benefit from the state's support and rules and procedures for implementation, including the World Bank Anti-Corruption Guidelines (ACG) clause. It will be issued and published in the State's Official Gazette and SESA's webpage.

41. **Small Hospitals that will be converted into UCMs[34] will have to comply with the principles and guidelines of Brazil's National Energy Efficiency Program (*Programa Nacional de Eficiência Energética,* PEE)**.[35] The Program includes the use of energy efficient designs and improvements in insulation. Municipalities will sign a Commitment Agreement describing the technical and operational characteristics of an UCM as well as the financial transfer agreements with the state. The regulatory norms that define the requirements for UCM conversion will include mandatory compliance with the PEE.

42. **Activity 3: New technologies for the state health system.** This activity will support the development and rollout of an integrated digital strategy and operational plan of the state, with a focus on specific health sector digital solutions, including the ambulance management system ('SAMU Mobile'). A diagnostic of existing digital systems and gaps in the health sector will be carried out and a plan of action will be prepared to build an integrated health information system. Post-COVID recovery and the health system as a whole will benefit from the adoption of these new technologies. It is expected that, once operational, these integrated health information systems will allow for a better coordination of services across different levels of care.

Results Area 2: Environmental and Disaster Risk Management Information Systems (US$134.10 million, of which US$25 million IBRD)

43. **This results area will support the development of information systems to improve environmental and climate and disaster risk data to inform public decision-makers about** key health surveillance information and key disaster risk information. The results area has two activities.

44. **Activity 1: Strengthening geospatial information for environmental and disaster risk monitoring including for the health sector.** This activity seeks to provide input for improved monitoring, early warnings to mitigate damage to property and people, and to generate geospatial data for the elaboration of public policies. The use of georeferencing data integrated with data from environmental health surveillance and disaster risks is considered essential to support decision-making in the health sector. The data will allow for a better understanding of the spatial distribution of environmental, climate, and health threats as well as the identification, quantification, and assessment of the physical structures and population at risk. The data can also help identify and map disaster risks to prioritize natural hazards management to support health emergency planning and guide for risk assessment and management on a range of health-relevant topics.

45. **Activity 2: Strengthening the emergency warning system for disaster risk and environmental management systems.** Early warning systems are increasingly applied to mitigate the risks posed by natural hazards. More accurate space-time stochastic models for precipitation are crucial for hydrological applications related to flood risk and water resources management. This activity will support environmental innovation consisting of new or modified processes, techniques, systems, and products to provide accurate, accessible, timely, updated, and location-specific information. More concrete

[34] The UCMs will be implemented by the municipalities through an adherence process. By providing financing incentives, the state will endeavor efforts so they can be implemented based on environmental-friendly practices. However, the Brazilian procurement legislation, applicable to the operation (PforR), may limit some requirements if they lead to a significant increase in costs.
[35] The PEE was created in 2000 through Law no. 9.991, and Decree 9864 of June 27, 2019, regulates the "the maximum levels of energy consumption or minimum levels of energy efficiency of energy-consuming machines and appliances manufactured or marketed in the country, and of buildings constructed therein."

environmental innovations include the establishment of geospatial technologies, interactive webmaps, digital sensors, automatized analyses, web platforms, interpolation application and internet-based services. These technologies will not only improve the ability of public authorities to manage natural resources and land use, but will also push the boundaries for civic engagement and public awareness.

Results Area 3: Planning and Public Investment Management (US$123.20 million, of which US$16.14 million IBRD).

46. **This results area will support the preparation and implementation of regional productive development plans and a new PIM system in support of post COVID economic recovery.** The results area 3 has one activity.

47. **Activity 1: Deployment of regional productive development plans and a new PIM system in support of post COVID economic recovery.** This activity will support post-COVID recovery through the preparation and approval of regional productive plans in eight lagging regions within the state, with a focus on productive activities. It will also support the identification and preparation of low complexity investment projects identified in the plans up to and including appraisal. Activities will also include the development and implementation of a new PIM system with updated processes and procedures, including updated tools for the screening of climate change risks of planned investments in line with evolving good practices.

48. **An IPF component (US$9.5 million IBRD) will finance TA for cross-cutting public sector management areas that are critical for the post-pandemic recovery effort and implementation of the government program.** The proposed TA will be focused on three main technical areas, detailed in annex 8:

a) **HRM (US$2.185 million).** Development of strategic workforce plans; establishment of a talent pool and talent management system; modernization of human resource recruitment and competency assessment; strengthening HRM practices in compliance with the state HRM legal framework; and assessment of the civil service health insurance program (*Sistema de Assistência à Saúde*) and options for alternative, cost-saving solutions. The HRM strategy and practices will help strengthen opportunities for the mobility of women and underrepresented groups in the public sector and identify their training needs.

b) **Digital innovation (US$1.7 million).** Design and implementation of an open data platform to leverage the use of public data including national and local statistics, academic research, environmental and geospatial data, market research, and public sector data in user-friendly formats for multiple purposes, including to facilitate public planning, academic research, and identifying market and private investment opportunities.

c) **Public investment and asset management (US$3.095 million).** Provision of technical assistance to support: (1) the design and implementation of procedures for public investment project preparation in line with international good practices; (2) the update of the legal framework for PIM; (3) the preparation of manuals, guidelines, and tools to support public investment decisions, considering environmental, climate, and social management and climate risks in the screening and selection of projects; (4) the design of an internal digital platform and database for managing investment projects complemented with a public platform to facilitate stakeholder feedback and increase transparency. The modernization

of PIM will integrate climate change, poverty, and gender considerations in procedures for the selection, appraisal, and evaluation of investment projects. Finally, technical assistance will be provided to carry out an assessment of public real estate use and a plan to strengthen real estate efficiency.

49. **Implementation support (US$2.52 million IBRD).** In addition, the IPF component will support Program Management Unit (PMU) operational costs, basic equipment, and office supplies. It will finance the development and deployment of a Governance Risk Assessment System to identify possible fraud in public expenditures and the Spend Analysis System for strategic procurement. It will support capacity building including on internal controls and verification of DLIs. The Project will also support the implementation of the Stakeholder Engagement Plan (SEP) and the PforR Environmental and Social Action Plan; and minor studies for participating agencies in line with emerging needs.

D. Program Development Objective(s) (PDO) and PDO Level Results Indicators

50. **The Program Development Objectives are to respond to the COVID-19 pandemic and improve the efficiency of health and other priority public services.** Successful achievement of the PDO will be measured with the following outcome-level indicators:

a) Number of SUS hospital beds available to treat COVID-19 patients during the peak of the pandemic in the state.

b) Number of Small Hospitals converted into Multi-professional Care Units (UCMs).

c) Deployment of online intelligent platform for environmental management containing key health surveillance information and key disaster risk information.

d) New public investment projects prepared, screened, and approved using the new PIM guidelines and system.

E. Disbursement-Linked Indicators and Verification Protocols

51. **Program resources will be disbursed based on the achievement of five DLIs.** DLIs have been selected based on the following criteria: the achievement of critical milestones toward the PDO, alignment with government priorities under its PPA and COVID-19 response and recovery plan, and potential to offer incentives for implementing entities to coordinate toward achieving results. In line with the World Bank guidance, DLIs provide predictable financial disbursement while supporting the needed inputs and outputs required to produce outcomes and results. The weighing of resources across DLIs reflects their importance in achieving the program results, with the allocation intended to incentivize action necessary for expected results. Resources allocated to the DLIs do not represent the total financial outlay required, which will be reflected in the program expenditure framework. Program resources will be channeled through the state treasury, which will commit to allocate resources to implementing entities involved in the Program. Table 2 details the DLIs and their allocated funding from the World Bank financing. A complete DLI matrix is provided in annex 2.

Table 2. DLIs and Allocated World Bank Financing

Results Area	DLI[36]	Responsible Agency	Amount (US$)
Health Service Delivery	1. Number of SUS hospital beds available to treat COVID-19 patients during the peak of the pandemic in the state	SESA	30,125,000
	2. Number of Small Hospitals converted into Multi-professional Care Units (UCMs)	SESA	40,000,000
	3. Production Rate of selected Multi-professional Care Units (UCMs)	SESA	9,235,000
Environmental and Disaster Risk Management Information Systems	4. Deployment of online intelligent platform for environmental management containing key health surveillance information and key natural disaster risk information	IAT/DC	25,000,000
Planning and Public Investment Management	5. Deployment of regional productive development plans and a new public investment management system in support of post COVID economic recovery	CC/SEAP SEPL	16,140,000
Total			**120,500,000**

Note: IAT = Water and Land Institute (Instituto Água e Terra); CC = Governor's Chief of Staff Secretariat (*Casa Civil*); SEPL = State Secretariat of Planning and Structured Projects (*Secretaria de Estado de Planejamento e Projetos Estruturantes*).

52. **The achievement of all DLIs will be reviewed and confirmed by an independent verification agency (IVA).** The PMU will be responsible for reporting the results toward the achievement of the DLIs. The Paraná Institute for Economic and Social Development (*Instituto Paranaense de Desenvolvimento Econômico e Social*, IPARDES) will conduct third-party verification for all DLIs to be submitted as part of an Annual Program Report or in response to demand. The World Bank retains the right to make the final decision on whether a DLI or target has been achieved and may undertake independent quality assurance checks of selected DLIs to ensure continued robustness of the system. Verification protocols are detailed in annex 2. IPARDES will deploy a suitable methodology depending on the results area, which may include desk review of documents, baseline survey and follow on, physical inspection, and field visits among others. The World Bank shall approve the methodology beforehand, and the ToRs will be included in the Program Operational Manual (POM). All disbursement requests to the World Bank will be submitted with the results of the independent verification. The World Bank worked with IPARDES under the previous SWAp for Paraná Multi-sector Development Project (P126343) where IPARDES supported the methodology and preparation of the monitoring system including the logical framework and indicators for the project and provided support to the review of results under the rural development component. The institute has the necessary technical capacity to conduct independent verification.

Results Area 1: Health Service Delivery

53. **DLI 1: Number of SUS hospital beds available to treat COVID-19 patients during the peak of the pandemic in the state.** This DLI captures the state's efforts to respond to and mitigate the effects of the

[36] See definition and methodology for data collection for indicators in the applicable tables in the annexes.

COVID-19 pandemic, particularly during its most severe period (between February and July of 2021),[37] through the expansion of public ICU and clinical capacity for patients (adults and children) with suspect or confirmed cases of COVID-19. This DLI refers to prior results expected to be achieved between the approval of the Program's Concept Note (December 7, 2020) and the signing of the Loan Agreement.[38]

54. **DLI 2: Number of Small Hospitals converted into Multi-professional Care Units (*Unidades de Cuidados Multiprofissionais*, UCMs).** This DLI captures the adoption by municipalities of the legal, financial, operational, and health procedures and norms that are necessary for the transformation and establishment of existing health care facilities into UCMs (*Resolução*) as well as the number of Small Hospitals that are converted into UCMs. This regulatory and operational framework defines the conditions that allow for the UCMs to be established and start providing health services according to the new legal framework. The fulfillment of the normative framework is also a condition for the municipalities to receive financial incentives to reorganize this level of care, which is situated between primary health care (PHC) and those services that provide medium-complexity care. UCMs will enhance the ability of the state's health system to manage climate-related conditions in addition to their primary focus. The resulting strengthened case management capabilities will also enable the system to better respond to future climate-related health impacts from extreme weather events. This will also strengthen the systems' capacity to deal with the expected day-to-day increases in climate-related health burdens, for example, from increased cardiovascular and respiratory diseases. By complying with the PEE, the UCM conversion represents a climate-smart expansion for the state's health sector.

55. **DLI 3: Production Rate of selected UCMs.** This DLI measures the volume of health services produced by an UCM in relation to its total production capacity. It captures the effective production and, therefore, utilization of the services provided at the new UCMs. This DLI will help assess whether the model of care proposed by the UCMs is used by the population and is more efficient than the Small Hospitals they replace, which tend to be inefficient with low occupancy rates. The measurement of this indicator will be applied to 10 out of the first 15 UCMs that have been converted in year 2 and followed throughout the Program, as detailed in the indicator protocol.

Results Area 2: Environmental and Disaster Risk Management Information Systems

56. **DLI 4: Deployment of online intelligent platform for environmental management containing key health surveillance information and key natural disaster risk information.** This DLI supports a digital platform that provides inputs and early warnings to prevent damage to property and people that is exacerbated by climate change, in addition to providing geospatial data for the elaboration of health policies that protect people from emerging disease burdens from environmental and climate change and health assets from disaster risk. The intelligent platform is a set of tools and computer interface that provides management and monitoring capabilities. It includes the interface with (a) the GeoPR, (b) the i9 platform, and (c) the System for Monitoring, Alert and Alarm of Disasters (*Sistema de Monitoramento, Alerta e Alarme de Desastres,* SISMAAD). This indicator monitors the deployment of the intelligent

[37] See reference to wave 2 in Figure 2.

[38] Since the need for beds (ICU or clinical beds) to treat COVID-19 patients varies according to the evolution of the pandemic, so does the number of COVID-19 beds allocated by the state. It must also be noted that COVID-19 beds are assigned exclusively for patients infected (or suspected to be infected) by the SARS-CoV-2 virus. In this regard, the indicator measures the average number of beds available in hospitals that provide services to SUS in Parana that are assigned exclusively for the treatment of COVID-19 patients within the peak period of the pandemic in the state (February 1 and July 31, 2021).

platform, GeoPR, the i9 Portal, and the interface with the SISMAAD system. GeoPR corresponds to the Spatial Data Infrastructure (IDE) of Paraná. GeoPR includes information generated by the following products: panel of health surveillance, mapping of the Planialtimetric Base in a scale of 1:10,000, Portal i9 comprises a platform for online access to data, information, services, and products with applied geographic intelligence and integration with GeoPR. Portal i9 includes information generated through the air network. In addition to allowing access to SISMAAD, the Civil Defense Disaster Alert System, and GeoPR, the use of georeferencing data for health surveillance and disaster risk management is considered essential for supporting health decision-making. A portal (GeoPR) aggregating all available geospatial data will be set up to facilitate the search and use of organized and standardized information by the public sector. This DLI supports the improvement in the timeliness, targeting, and reliability of the state's early warning system in issuing risk warnings to reduce material and health damages from extreme weather events in the state.[39] The proposed intelligent platform will be (a) progressively implemented with a scalable data set size and high dimensionality; (b) demand-driven incremental computation; and (c) capable of providing aesthetically appealing layouts, an important consideration when developing visual user interfaces for dynamic web applications.

Results Area 3: Planning and Public Investment Management

57. **DLI 5: Deployment of regional productive development plans and a new PIM system in support of post COVID economic recovery.** This DLI supports the preparation and approval of regional productive plans and their investment projects and the approval and issuance of a new PIM system to strengthen territorial planning and investment preparation and management which is necessary to increase the targeting of public investments and their efficiency for post COVID recovery. This DLI includes the following targets and activities: (i) all eight regions identified for the regional productive plans have completed the diagnostic phase for the preparation of the plans; (ii) the eight regional productive development plans approved and published; (iii) eight short term investment projects (one under each of the eight Regional Productive Development Plans) appraised and with implementation started; (iv) Decree establishing the PIM System; and (v) the PIM System deployed.

III. PROGRAM IMPLEMENTATION

A. Institutional and Implementation Arrangements

58. **Implementing Agencies.** The SEPL will be responsible for coordinating, monitoring, and reporting on Program activities and results. SESA will be responsible for implementing results area 1. The State Secretariat of Sustainable Development and Tourism (*Secretaria de Desenvolvimento Sustentável e do Turismo*, SEDEST) will sign an implementation agreement with the Institute of Water and Land (IAT) to execute results area 2, in partnership with the State Coordination of Civil Defense (*Coordenadoria Estadual da Defesa Civil,* DC). The Governor's Chief of Staff Secretariat (*Casa Civil*, CC), SEPL, and SEAP will be responsible for implementing results area 3. With the exception of the CC, these implementing

[39] Reliability is defined as the "ability of an item to fulfill a required function under stated conditions for a stated period." The system reliability is classically represented by the probability of detection and probability of false alarms. The program defines a framework to quantify the reliability of alarm systems for natural hazards accounting for both technical failures and the inherent system ability.

agencies are familiar with World Bank rules and procedures. SEPL will also be in charge of implementing the IPF component.

59. **In addition to the implementing agencies, other governmental agencies will also have a role in the Program implementation and E&S risk management of Program activities**, such as the State's Comptroller General (*Controladoria Geral do Estado do Paraná,* CGE) and its General Ombudsman Office (*Ouvidoria Geral do Estado*), and the General Superintendence of Dialogue and Social Interaction (*Superintendência Geral de Diálogo e Interação Social*, SUDIS). The coordination with these agencies will be made by SEPL.

60. **A government decree will create a PMU in the Governmental Development and Priority Projects Division (*Coordenação de Desenvolvimento Governamental e Projetos Estruturantes*, CDG) in SEPL to manage this Operation.** The PMU will comprise a core team including a project coordinator, a deputy coordinator, a financial management (FM) lead, a procurement lead, a monitoring and evaluation (M&E) specialist, and an E&S specialist. Additional personnel from within the existing structure of SEPL will provide support on these areas as required. A focal point within the PMU will be assigned to each of the participating agencies to facilitate coordination and monitoring of results and activities. The procurement of all activities under the IPF component will be carried out by SEPL. The ToRs will be prepared in coordination with the respective agencies. Given the expressive amount of the TA component, a PMU is fully justified.

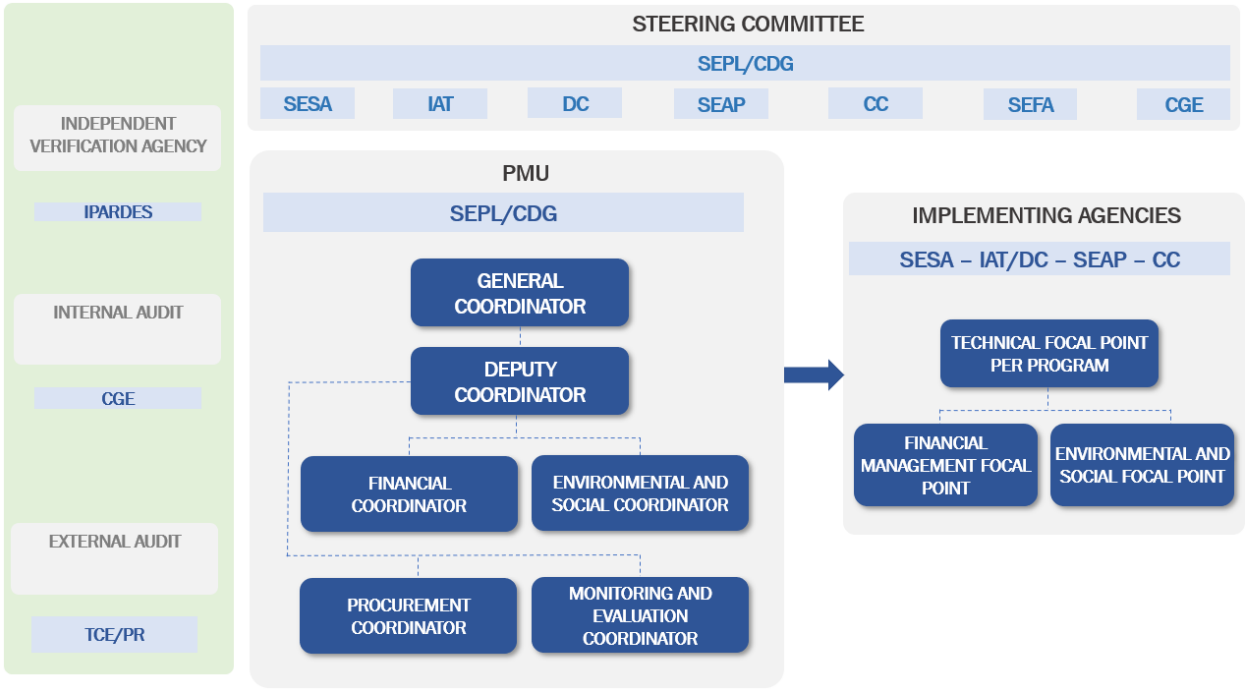
61. **A Steering Committee (*Comitê Gestor do Projeto*) will be established through a state decree.** The Steering Committee will provide strategic direction, guidance, and oversight for implementation; promote internal coordination among institutions; monitor achievement of results; and recommend and take actions to resolve bottlenecks when necessary. The Steering Committee will comprise the secretaries, directors, or their designated representatives from SEPL, CC, IAT, DC, SESA, SEAP, State Secretariat of Finance (SEFA, *Secretaria de Estado da Fazenda*), and CGE, as described in the POM.

62. **Decentralized activities under the health sector will follow SUS' established responsibilities for each level of government.** Municipalities are responsible for handling the delivery of goods and services involved in health promotion, preventive care, health care, and rehabilitation. To this end, besides their own revenues, they receive financing from the federal and state levels to deliver public health services. The decentralized activities under the Program, namely the implementation of UCMs, will be based on a state 'Resolution' including the technical, operational, and financing criteria for municipalities' participation. The state will provide financial incentives (grants) to the municipalities to convert the model of care of Small Hospitals into UCMs. The eligible Small Hospitals to participate in the Program are municipal ones. This means that once the 'Commitment Agreement' is signed, funds will be transferred from the State Fund to the municipal funds (fund-to-fund transfer). The municipalities are in charge of implementing the conversion and fulfill the terms included in the 'Commitment Agreement', including the compliance with the ACG Clause as per World Bank policy and requirements. Once the calendar year is over, the municipalities will be held accountable for the activities performed and the resources spent under their control/execution. In accordance with the federal legislation applicable to the state,[40] the state prepares a Management Report (*Relatório de Gestão,* RG), which, according to the SUS Planning Manual, is the instrument that presents the results achieved under the Health Annual Plan (and the use

[40] Complementary Law 141, 2012.

of resources transferred). The RG must be sent by March 30 of the following financial year to the respective Health Council for analysis, which will then issue a conclusive opinion regarding the document. The state's 'Resolution' also establishes requirements that anti-fraud and corruption provisions are included in contracts and agreements and, as condition of transfer or contracting, that contractors must agree and authorize the World Bank and/or persons formally appointed by the World Bank to inspect the place of contract execution and all documents and records related to the bidding and other contract-related requirements. A fiduciary assessment in a sample of municipalities, including the capital city, was conducted as part of the appraisal to check municipalities' readiness to implement expected activities. The conclusion of such assessment was that the municipalities' FM systems and processes in place can adequately record and report on the Program's transactions with no additional fiduciary risks arising from the Program's decentralized execution.

Figure 6. Institutional Arrangements



B. Results Monitoring and Evaluation

63. **The results indicators comprise a mix of outcome and output indicators across results areas with annual targets to be achieved by the respective agencies.** Overall, responsibility for Program M&E will lie with the PMU in SEPL, which will be required to coordinate with all participating agencies for timely reporting on indicators and results. The SWAp for Paraná Multi-sector Development Project (P126343) demonstrated that the state has the capacity to design and effectively monitor indicators, collect data, and carry out impact evaluations. A Program and Project Management, Monitoring and Evaluation System (SIGMA-PP) that was developed for the previous operation includes an M&E module that will be used for monitoring, evaluation, and reporting of all indicators under the Program in addition to a set of supporting

indicators used by the government. SIGMA-PP is currently the system used to manage and monitor all international and national-financed projects in Paraná.

C. Disbursement Arrangements

64. **The state has a robust Financial Management Information System (*Sistema Integrado de Administração Financeira* - SIAF) and controls on the transfer of financial resources are adequate.** The government's actual expenditures are greater than the amount to be disbursed by the World Bank over the life of the Operation. The Program will provide funds to the state of Paraná based on five DLIs selected by the authorities and agreed with the World Bank. The DLIs are fully aligned with state priorities and designed to be challenging but achievable, so that the financial incentive attached to each DLI will lead to the intended impacts while also allowing for a predictable flow of funds. Most DLIs are scalable: designed to disburse proportionally to the quantitative achievement of the results. For execution at the decentralized level (municipalities), resources are transferred from the State Health Fund for Municipalities to carry out health services as well as service network and health care and hospital coverage investments.

65. **Funds under the PforR component will be disbursed in Brazilian Reais into an account indicated by the borrower and acceptable to the World Bank based on achieved DLIs and are not dependent on or attributable to individual transactions or expenditures of the Program.** Up to US$30,125,000 of the PforR component will be disbursed upon verification of the achievement of prior results under DLI 1 between the date of the Program Concept Review and the date of the signing of the Legal Agreement. The World Bank may agree to make an advance payment (following the effectiveness of the Legal Agreement) of up to 25 percent of the PforR component for one or more DLIs that have not yet been met ('advance') to provide resources to allow a Program to start or facilitate the achievement of DLIs. When the DLIs for which an advance has been disbursed are achieved, the advance amount is deducted (recovered) from the amount due to be disbursed under such DLIs. The advance amount recovered by the World Bank is then available for additional advances ('revolving advance'). The World Bank requires that the borrower refund any advances (or portion of advances) if the DLIs are not met (or have been only partially met) by the Program Closing Date. The combined amount of the prior results financing and advances for the PforR component will not exceed 30 percent of the total World Bank financing under the Program.

66. **The IPF component's fiduciary arrangements will rely on the same procedures and systems for planning and budgeting, accounting, internal controls, funds flow, financial reporting, and auditing as the PforR component.** The disbursement of TA funds will be processed in accordance with World Bank procedures as stipulated in the Legal Agreement and Disbursement and Financial Information Letter (DFIL). During implementation, the following disbursement methods will be available for use under the IPF component: reimbursement and advances.

D. Capacity Building

67. **In addition to the comprehensive capacity-building program supported under the PforR, the IPF component will finance training programs and other capacity-building activities for the PMU and participating agencies.** These will include training on the World Bank Environmental and Social Framework (ESF) for PMU staff and personnel from other institutions working on PIM and regional

productive development plans to ensure that these activities consider relevant Environmental and Social Standards (ESS); tools for internal controls and achievement and verification of DLIs for the internal controller, external audit agencies, PMU, and IVA (IPARDES); and the use information systems and platforms developed.

IV. ASSESSMENT SUMMARY

A. Technical (including program economic evaluation)

68. **Strategic relevance.** The Program is of strategic relevance to the authorities and in alignment with the current focus on responding to the immediate COVID-19 crisis and with the state PPA. The PPA provides the overall framework, while the COVID-19 recovery plan provides a filter for selecting the most urgent investments for the post COVID-19 recovery. The reorganization of the state health system is a priority for the state to provide targeted and high-quality support to individuals and improve the system's capacity to respond to the increased demand that will be generated by treatments that have been postponed during the pandemic and/or by COVID-19 patients who have survived the disease but were left with long-term sequelae. The integration of environmental and disaster risk data with environmental health and surveillance represents a significant innovation in assessing health risks and determinants of diseases. The adoption of the health lens in all policies approach should allow health sector decision-makers to better respond to population health needs that tend to remain undetected until they become more serious problems, improve the response time to environmental disasters, and increase the resilience of health facilities to these events. Improvements in the integration of digital services and data platforms, combined with improved public sector management, should help both service providers and users. In particular, the improvements in ambulance services should decrease the response time to urgent care and promote a better integration with emergency services.

69. **Expenditure program.** The total amount in the state's PPA for the selected state government programs is US$6.928 billion, in which US$4.544 billion (65.6 percent) refers to the total proposed Program to be supported by this Operation (table 3). The World Bank will finance US$120.5 million, which is equivalent to 2.65 percent of the total PforR cost. The World Bank Operation (US$130 million) has two complementary components: a results-based financing component (PforR) of US$120.5 million (92.6 percent of the Operation) and a TA component of US$9.5 million (7.4 percent of the Operation). The programs' expenditure framework is reasonable to support the PforR Operation. The state government programs are distributed in budget lines reflected in both PPA 2020–2023 and a forecast for 2024–2026 and in the Annual Budget Law (*Lei Orçamentária Anual,* LOA) that concentrates on key areas to improve public administration and delivery of public services with a focus on pandemic mitigation and economic recovery.

Table 3. Expenditure Framework (US$, millions)

	Total Program Budget	World Bank Support
PforR	**4,544.30**	**120.50**
Results area 1: Health Service Delivery	4,287.00	79.36
Results area 2: Environmental and Disaster Risk Management Information Systems	134.10	25.00
Results area 3: Planning and Public Investment Management	123.20	16.14
IPF TA	**0.0**	**9.50**
Total	**4,544.30**	**130.00**

70. **Technical soundness.** The government PPA is generally well designed, with a clear line of sight between objectives, activities, and expected results and outcomes. Activities under the Program are sufficient to reach its objectives. The Program has identified cross-cutting constraints to service delivery across various sectors and is aimed at addressing them. Experience from previous projects in Paraná demonstrates that the state government can design, implement, monitor, evaluate, and adjust programs to ensure impact. All the supported programs and activities are based on preparatory technical assessments for the design of the PforR activities, incorporating lessons from other states and international experiences where relevant: treatment of COVID-19 through the SUS; implementation a primary care unit model to improve medical attention builds on positive experiences from several European countries; the PIM methodology and system follow international good practice; the methods to be used for the planned HRM realignment, systems, talent management, and training build on World Bank analytical work at the federal level; the planned activities in support of strengthened environmental management are a continuation of previous efforts supported by the World Bank and with good results; and the state's digital program is still under development and will benefit from World Bank guidance and support through the Program.

71. **Economic justification.** An effort has been made to estimate the benefits and costs for the overall Program and each of its results areas. In some of these areas, for example, environmental and risk management, it is difficult to assign specific benefits attributed to the Program. On the other hand, in the case of the activities related to improvements in public sector management, it was not possible to estimate those benefits related to improvements in human resources, thus underestimating the Program's expected impact in these areas. Considering these limitations, as well as those intrinsic to the cost-benefit analysis (CBA) methodology itself, such as the choice of the discount rate and other parameter definitions, the CBA finds a positive net benefit of the Program equal to US$19.3 billion and an internal rate of return of 24.2 percent (and a benefit-to-cost ratio of 5.2). For health service delivery (results area 1), the analysis estimated the public and social benefits of investing in the primary care units and immediate COVID-19 response using a 30-year time horizon. The economic benefits were calculated based on the positive impact of individual income due to better health (through increased access and improved effectiveness of PHC services) and efficiency gains obtained through improved PHC services. The counterfactual for the analysis is that present trends, in terms of public health spending, would continue in the same 30-year period. The analysis also estimated cost efficiencies and savings resulting from a reorganization of the health network. For environmental and disaster risk management information systems (results area 2), the analysis assessed economic benefits accruing to companies from quicker environmental licensing and the reduced damages to properties and deaths from natural disasters. The analysis of public sector management (results area 3), covering planning and PIM, estimated

economic benefits from an increased implementation rate of public investment projects. The CBA considered the additional fiscal costs associated with the implementation of the programs and the costs of the World Bank Program.

72. **Climate change.** All three results areas address climate considerations. In health, the purchase of equipment for UCMs will include provisions for the highest energy efficiency standards, and any refurbishment of works will apply the most stringent energy efficiency building codes and standards, as already required by the Brazilian legislation. The Program will strengthen the environmental management and monitoring capacity of the state, develop the necessary data and systems, and modernize management practices for land use planning, environmental licensing, and enforcement. The data collected will be used to directly monitor environmental and climate risks and will inform urban and land planning, public investment planning, and disaster risk management. Climate change considerations—such as decarbonization and resilience climate screening, energy efficiency, and green procurement—will be integrated in PIM practices. This will include a new requirement to carry out a climate screening of any proposed public investment project. Climate screening guidance and system modules will be developed, and climate change considerations will become part of the assessment scoring for the prioritization and selection of public investment projects (captured by PDO indicator 4 and IRI 22). The regional productive development plans will consider climate change adaptation and decarbonization considerations in their strategic planning (captured by DLI 5). The capacity building and training program will include training on the use of the climate screening tool (captured by IRI 17). The activities on public asset management aim to reduce the physical footprint of the public sector by consolidating and increasing the energy efficiency use of existing real estate and selling assets that are no longer needed for public services. The restructuring and reduction of the state vehicle fleet is expected to reduce emissions from the transport of public sector personnel and goods. Integration of government-to-government services will enable remote working for civil servants. Improvements in digital services will facilitate government and business continuity during emergency events and citizen access to information and support services.

73. **Gender and equity.** The Program will contribute to addressing gender gaps in employment, particularly in higher civil service management positions in the state. While women make up over 60 percent of all civil servants and 48.8 percent of management positions, they occupy only 27.8 percent of the highest paid (top 10th percentile) positions and only 15.1 percent of the three highest categories (Director General, State Secretaries, Superintendent). Ensuring targeted and relevant training opportunities for female civil servants can help more women increase their share of top management posts. Also, considering gender aspects in the process of preparing HR analyses or products such as strategic workforce planning and recruitment system and strategies can help to address gender gaps, even without setting specific gender targets for the public sector. In line with the World Bank Group Gender Strategy, this Program aligns with Pillar 2: Removing Constraints for More and Better Jobs. The Program will support women and provide them with leadership skills and development programs focusing on practical skills, results and change management, and other trainings with the objective of promoting female participation in civil service management positions and increasing their resilience and upward mobility. It will also include gender analysis in the preparation of workforce and recruitment planning and systems. The Program will monitor the gender gap by tracking the women in the highest public sector salary quartile (percent), with an expected increase of 2 p.p from a baseline of 27.8 percent to 29.8 percent over the lifetime of the Program.

74. **Citizen engagement.** The SEP incorporates a stakeholder mapping with suggested methods of engagement regarding Program activities to guide the state in the interactions with a wide range of affected and interested parties, including citizens and beneficiaries. Citizens are expected to participate effectively in the development of eight strategic plans in lagging regions through digital platforms and consultative events. Thus, the beneficiary feedback indicator to be monitored during implementation is as follows: share of citizens satisfied with their participation in the development of the eight strategic plans in lagging regions within the state (this indicator will be disaggregated by relevant sociodemographic characteristics to help ensure that Program activities respond to their differentiated needs). Additionally, representatives of vulnerable social groups are expected to be consulted and provide feedback on issues of their interest that are addressed by the different results areas as part of the Environmental and Social Action Plan. The effectiveness of these consultations will be monitored through the share of representatives of vulnerable social groups in already established institutional instances, such as Indigenous Peoples and traditional communities State Council, for consultation and deliberation on relevant programs/thematic areas reporting satisfaction with the engagement process.

B. Fiduciary

75. **Financial management.**[41] The FM systems' capacity and performance, with the implementation of the proposed mitigating measures and agreed actions to strengthen the systems (which are reflected in the Program Action Plan [PAP]), are adequate to provide reasonable assurance that the Program funds will be used for the intended purposes, with due attention to the principles of economy, efficiency, effectiveness, transparency, and accountability.

76. **The overall fiduciary risk rating is considered Substantial.** The key fiduciary risks to the development outcomes of the Program that underpin the Substantial risk rating are as follows: (a) several state budget lines constitute the Program and will require monitoring of a considerable range of information, from various sources and government units and systems; (b) in the case of insufficient state revenues being collected, budget restrictions may be applied to the PforR component, resulting in possible delays in its implementation and achievement of DLIs and respective disbursements; (c) the time required to adjust or include the transfers in the municipalities' budget and then the time required to receive and review the respective supporting documentation may cause delays in budget execution and subsequent auditing, and consolidation of the eligible expenditures; (d) non-standard approval processes conditions and criteria were established by SESA to expedite, use and document decentralized funds related to COVID-19 pandemic; and (e) due to the numerous implementing agencies involved in the Program execution, particularly at the decentralized level, there is a risk that contracts will be awarded to firms and/or individuals debarred or suspended by the World Bank.

77. **The proposed systems and capacity strengthening and/or mitigation measures to address these risks include the following:** (a) SEPL's information system (SIGMA-PP) and the state's Financial

[41] The scope of the FM assessment included a representative sample of four municipalities selected based on a combination of size and financial weight/importance (that is, total budget amount approved by each municipality), and is based on the review of completed FM questionnaires and interviews with municipality staff, to confirm that the respective municipalities' FM systems and processes in place are able to adequately record and report on the Program's transactions, confirming that there are no additional fiduciary risks arising from the Program's decentralized execution. This assessment took place on November 4, 2021.

Management Information System (FMIS) called SIAF will be used for tracking the Program-related budget lines' execution and respective eligible expenditures. The World Bank will request SEFA that full direct access to SIAF be provided to the World Bank's Financial Management Specialist. A Financial Management Specialist will be appointed in the PMU to coordinate all FM aspects of the Program, including the relationship with all the implementing agencies and the preparation and monitoring of the FM reports required by the World Bank; (b) in addition to policy makers' expressing their commitment to the Program and its strategic relevance, monitoring by the task team with high-level and frequent interactions between the Country Management Unit (CMU) (CD) and state leadership will be undertaken, to ensure priority funding for the Program; (c) SESA's monitoring system will be improved to ensure that the funds are included in the budget in time. The State Comptroller General of Paraná (*Controladoria Geral do Estado do Parana*, CGE-PR) will review the supporting documentation and proper use of funds throughout Program implementation. The World Bank will provide training to staff at the state level on Program implementation and the World Bank's fiduciary procedures including activities within the TA component to assist the state in expanding its capacity; and SEPL will oversee/monitor the amounts paid and documented by the municipalities and not simply consider the amounts initially transferred to the municipalities as the eligible expenditures; (d) external auditor reports should include a specific note on the eligibility of all COVID-19 related expenditures financed under the PforR Operation and should identify any case/practice of fraud and corruption; and (e) all implementing agencies, both at the state and municipal levels, will be instructed/required by official document satisfactory to the World Bank to comply with the World Bank's ACG, to ensure that no contract will be awarded to a firm or individual which is on the World Bank's debarred list. In addition, the ToRs for the external auditors will include a requirement to review Program expenditures for such eligible contracts. The World Bank will monitor expenditures under each specific program to ensure that the government's actual expenditures for the PforR Program are greater than the amount disbursed by the World Bank over the life of the financing, as required for a PforR Operation.

78. **Procurement.** For the PforR component, the borrower will follow the procedures in the national legislation regarding bidding according to the following limits of value per procedure: US$50 million for works, US$30 million for goods and services, and US$15 million for consultancies. Any procedure above these values will follow World Bank rules and shall be subject to prior review by the World Bank. Each participating agency is responsible for its respective procurements, including conducting the procurement process and management of contracts. For the IPF component, the bids must follow the World Bank rules. SEPL will establish a special bidding commission to conduct the processes under TA, which will follow the current World Bank Procurement Regulation for IPF Borrowers for Goods, Works, Non-Consulting and Consulting Services, dated November 2020. A draft Procurement Plan for the first 18 months of Program implementation and a Program Procurement Strategy for Development have been developed.

79. In July 2021 a procurement assessment was carried out to appraise the capacity of the CDG in SEPL to implement procurement actions, to review the organizational structure for implementing the Operation and the interaction between the PMU and Program benefiting institutions. All agencies have well-functioning procurement teams, with experience in procuring goods and services, including previous experience with the World Bank regulations. The CDG also has experience on selecting consulting services. The PMU will update its information system and should be able to monitor procurement activities and keep the procurement plan up-to-date. Procurement staff in the implementing agencies will be trained on the World Bank's policies and procedures as defined in the PAP.

80. The Procurement assessment confirmed that: (i) the procurement arrangements for the proposed Operation are considered adequate; (ii) the procurement plan has been uploaded in STEP, and (iii) the PMU will be structured in a way to respond to the Operation's implementation arrangements.

81. To increase the state's procurement capacity to measure and control its procedures, the IPF component will also support and finance

a) A Spend Analysis System for strategic procurement, to perform research and analysis of public procurement data to understand in detail the patterns of government spending and allow the detection of opportunities to streamline and save resources, based on technical, objective, and automated benchmarking criteria (algorithms for extraction of efficiency patterns, indexing of large open and public databases, issuance of reports, and composition of search filters), including licensing, license implementation service, technical support, version update rights, and training, and

b) A Governance Risk Assessment System to identify possible fraud in public expenditures through research and analysis of public data to find supposed irregularities in public procurement, based on objective technical criteria and automated benchmarking (algorithms for extraction of patterns of risk of irregularity, indexing of large open and public databases, issuance of reports, and composition of search filters), including licensing, technical support, the right to upgrade version, and training.

C. Environmental and Social

82. **With regard to the PforR component, the Environmental and Social System Assessment (ESSA), dated March 7, 2022, found that the borrower's institutional capacity is adequate given the moderate E&S risks to be managed under this Operation.** The ESSA assessed the risks and potential adverse impacts of the PforR Program and concluded that they are likely to be predictable, temporary, and/or reversible. They will be low in magnitude and site specific, without likelihood of impacts beyond the actual footprint of a few construction sites. They have a low probability of serious adverse effects to human health and/or the environment and routine safety precautions are expected to be sufficient to prevent accidents. They can also be easily mitigated in a predictable manner.

83. **The borrower's Environmental and Social Management System (ESMS) for implementing the PforR component.** The government of Paraná has strong institutional capacity and well-established regulatory frameworks in all sectors, included in the result areas to be supported by the PforR, to undertake the necessary E&S due diligence with respect to the potential impacts that the supported activities may cause. The governance structures and legislation enjoy stability and strong oversight by judicial and extrajudicial bodies (including mass media and public opinion). There is significant certainty about the authority of the implementing agencies, and the legal and regulatory authority over all supported activities is clearly established. There are mechanisms in place to foster transparency, social control, and accountability. Social participation in policy decision-making is an integral part of the public governance of these sectors. No changes to the legal or regulatory framework are needed before the Operation can proceed.

84. **Despite the robustness of the Paraná ESMS, some additional measures should be taken to ensure adequate E&S risk management of activities included in the PforR component.** The conversion

and operation of UCMs and hospitals require attention with the management of solid waste generated by health services, measures relating to occupational health and safety (to protect workers from injury, illness, or impacts associated with exposure to hazards encountered in the workplace or while working), and exposure of patients to health and safety risks. The preparation and implementation of the regional productive development plans may lead to downstream and future effects on the environment and society that are not foreseeable and their preparation should incorporate criteria related to the Sustainable Development Goals, including (a) avoidance, reduction, and mitigation of E&S risks and impacts; (b) protection and conservation of biodiversity and critical and natural habitats; (c) pollution prevention and sustainable and efficient use of resources; (d) community health and safety; (e) protection of cultural heritage; (f) broad consultation with stakeholders (including traditional communities and indigenous peoples); (g) social inclusion; (h) adoption of principles and criteria of environmental sustainability, including climate change adaptation and mitigation; and (i) M&E procedures.

85. **A Social and Environmental Management Action Plan was agreed for the implementation of the PforR component.** The action plan will be implemented by SEPL, with assistance of the PMU, throughout the program life cycle and refer to (a) environmental, labor, and safety conditions for the conversion and operation of the supported health facilities; (b) adoption of best practices related to environmental conservation and social inclusion in the preparation and implementation of regional productive development plans; (c) a robust strategy of stakeholder engagement for the supported activities; and (d) operation of an efficient grievance redress mechanism. This action plan is a standalone for addressing the E&S management issues of the PforR component and distinct from the Environmental and Social Commitment Plan (ESCP) prepared to address E&S risks related to the TA IPF component.

86. **Information disclosure and stakeholder consultation carried out with regard to the PforR component.** Three virtual meetings have been carried out convening representatives of indigenous peoples, traditional communities, environmental nongovernmental organizations, civil society organizations, academia, representatives of state agencies, and the legislative and judiciary branches. The Operation will continue to engage stakeholders through information disclosure, communication, and grievance redress mechanisms to ensure strong civic participation and support.

87. **The E&S risk ratings of the IPF component are Moderate.** This component will finance TA activities in support of priority programs and results. Currently, the TA activities do not foresee support to the preparation of feasibility studies, detailed technical designs, safeguard instruments, bid documents, and so on in preparation for the future construction of physical infrastructure or for the implementation of other activities with potentially significant physical impacts. They encompass (a) capacity-building activities; (b) a public platform to increase transparency and public monitoring of investments; (c) the development of an integrated digital platform to support the preparation and monitoring of eight regional productive development plans; and (d) a study on public real estate occupancy and use, with projections of future real estate needs based on public sector workforce planning, service delivery, and customer management needs; and (e) the drafting of policies, programs, plans, strategies, laws, and/or regulations.

88. **Two main E&S risks have been identified as directly associated with these TA activities supported by the IPF component and measures have been taken to address them.** The TA activities may face risks related to (a) the potential exclusion of key stakeholders and, particularly, disadvantaged, and vulnerable groups from the activities related to planning processes, such as the workforce planning exercise and the Productive Regional Development Plans, and (b) the adequate management of labor and

working conditions of direct and contracted workers involved with the implementation of the TA activities. Overall, to address, avoid, minimize, or mitigate both potentially adverse E&S risks and impacts and downstream effects of these TA-supported activities, the Program's ESCP includes the borrower's commitment to prepare studies or ToRs for studies supported by the TA that are acceptable to the World Bank and consistent with the relevant provisions of the ESF. The World Bank will review and provide no-objection to activities under the IPF component to ensure that they reflect and incorporate these relevant provisions of the ESS. In addition, the borrower has prepared an SEP which pays particular attention to opportunities to engage and get feedback from women and disadvantaged and vulnerable groups, such as indigenous populations and Afro-descendants. The first draft of the SEP was first disclosed on the SEPL website[42] on March 18, 2020. It was revised and disclosed for consultations in the same website on July 21, 2021. The final version of the SEP – as well as of the Labor Management Procedures – will be disclosed no later than 60 days after the Program effective date. The final version of the SEP will incorporate the feedback of the consultation process as appropriate. The Operation's Environmental and Social Commitment Plan (ESCP) was disclosed in the World Bank websites on March 17, 2022[43] and in the above mentioned Borrower's website on April 1, 2022.

89. **Communities and individuals who believe that they are adversely affected as a result of a Bank supported PforR Operation, as defined by the applicable policy and procedures, may submit complaints to the existing program grievance redress mechanism or the World Bank's Grievance Redress Service (GRS).** The GRS ensures that complaints received are promptly reviewed to address pertinent concerns. Affected communities and individuals may submit their complaint to the World Bank's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of World Bank non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit http://www.inspectionpanel.org.

V. RISK

90. **The overall program risk is Moderate.** The state of Paraná has a solid PPA, highly qualified technical staff, familiarity with the World Bank policies and procedures, and a strong focus on results. Still, substantial risks are considered for political/governance, macroeconomy, and fiduciary areas.

91. **The political and governance risk is Substantial**, given the forthcoming October 2022 elections for President and state Governors, which brings some uncertainty and could lead to a new Governor office in the state of Parana starting in January 2023. This risk will be mitigated through overall coordination by SEPL and close dialogue with career civil servants in the relevant secretariats, thus limiting the impact of potential turnover among elected or appointed officials during the Operation's implementation. It is also important to note that the SUS governance system includes a participatory approach to decision-making processes through federal, state, and municipal health councils, which makes it less prone to any influence from a few decision-makers.

[42] *http://www.planejamento.pr.gov.br/Pagina/Parana-Eficiente-Banco-Mundial*
[43] *https://documents1.worldbank.org/curated/en/099830003172210912/pdf/ESCP0Parana0P4R0Negotiated08march22.pdf*

92. **The macroeconomic risk is Substantial**, given the uncertainty of the fiscal policy, the worsening of living conditions due to high inflation, and the slow recovery in the labor market. This risk will be mitigated by the implementation of the state's COVID-19 economic recovery plan, which aims to tackle part of the economic challenges described in the state context. The state will also put in place digital services and strengthen internal systems to allow for business continuity and continued service delivery.

93. **The fiduciary risk is Substantial** because the Program is funded from several budget lines, requiring monitoring of a considerable amount of information from government's units and systems. The state will mitigate this risk by using federal and state systems to track Program-related budget lines in conjunction with support to SEPL.

ANNEX 1. RESULTS FRAMEWORK MATRIX

Results Framework
COUNTRY: Brazil
Parana Public Sector Modernization and Innovation for Service Delivery Operation

Program Development Objective(s)

The Program development objectives are to respond to the COVID-19 pandemic and improve the efficiency of health and other priority public services.

Program Development Objective Indicators by Objectives/Outcomes

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Health Service Delivery							
1. Number of SUS hospital beds available to treat COVID-19 patients during the peak of the pandemic in the state. (Number)	DLI 1	0.00	4,000.00				4,000.00
2. Number of Small Hospitals converted into Multi-professional Care Units (UCMs). (Text)	DLI 2	0.00	SESA 'Resolution' issued and published	10.00	12.00	12.00	6.00
Environmental and Disaster Risk Management Information Systems							
3. Deployment of online intelligent platform for	DLI 4	State spatial data for strategic management is	GeoPR Health Surveillance Dashboard	GeoPR Health Surveillance Dashboard	I9 Portal containing an updated air quality alert	Planialtimetric base of the state at a scale of	Selected GeoPR Portal data available online at

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
environmental management containing key health surveillance information and key disaster risk information. (Text)		insufficient due to the precision problems, different update dates, difference in scales, outdated technological, inadequate systematization and difficulty of access.	containing geospatial data of: (1) reported cases of dengue and leptospirosis, (2) outbreaks of waterborne and foodborne diarrheal diseases, and (3) water quality for human consumption.	integrating the following data at the municipal level: (a) cases of dengue with environmental sanitation, sewage, solid waste collection and treatment, and land disposal sites; and (b) cases of leptospirosis with floods and natural environmental disasters data.	system, including on-line real-time alerts.	1:10.000 available at GeoPR.	I9 Portal, and (ii) updated SISMAAD containing spatiotemporal stochastic models for precipitation and risk.
Public Sector Management							
4. New Public Investment Projects prepared, screened and approved using the new PIM guidelines and system. (Percentage)		0.00					90.00

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Intermediate Results Indicator by Results Areas

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Health Service Delivery							
5. Production rate of selected Multi-professional Care Units (UCMs). (Percentage)	DLI 3	0.00			50.00	65.00	75.00
6. Confirmed and suspected patients admitted in ICU beds exclusively for COVID treatment. (Number)		31,630.00	14,400.00	7,200.00	3,600.00	1,800.00	900.00
7. Reduction in the average length of stay in strategic hospitals. (Number)		4.42	4.33	4.29	4.25	4.23	4.21
8. Integrated Health Information System. (Text)		N/A	Mapping of current information systems, identification of inefficiencies and bottlenecks within the processes and set priorities.	Bidding processes for additional modules, test, approval, and implementation of module 1.	Bidding processes for additional modules, test, approval, and implementation of module 2 and 3.	Bidding processes for additional modules, test, approval, and implementation module 4 and 5.	Integrated Health Information System operating.
9. Connectivity of the Mobile Emergency Medical Services (SAMU MOBILE). (Text)		N/A	N/A	Development of SAMU MOBILE communication platform integrated to the emergency referral-counter referral system.	Acquisition of equipment to support electronic data and image transfer mechanism, and exchange information with telemedicine systems.	Test, approval, and partial implementation of SAMU MOBILE communication platform.	SAMU MOBILE communication platform fully implemented.

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Environmental and Disaster Risk Management Information Systems							
10. Average processing time for low impact environmental licenses. (Days)		101.00	101.00	70.00	35.00	5.00	5.00
11. Environmental licensing procedures strengthened by improving the level of automation and innovation. (Number)		8.00	8.00	23.00	38.00	38.00	60.00
12. Environmental enforcement, monitoring and control electronic systems strengthened. (Text)		Environmental surveillance, monitoring of air, soil, flora, fauna, conservation units carried out in local use systems without integration between the areas and institutions involved. Laboratory control system lain, deficient and does not meet laboratory quality management requirements.	Application for a mobile device (App) for plant seedling management operational.	Infraction notices electronic management system operational	Air quality electronic system improved.	Fauna management electronic system operational. Laboratory management system deployed.	Environmental enforcement, monitoring and control electronic systems updated and available for environmental officers.
13. Air quality, hydrometerological, and groundwater monitoring networks strengthened and updated. (Text)		Monitoring networks with 72 telemetric hydrometeorological stations, none piezometric well installed, limited air quality parameters and absence of electronic systems.		6 air monitoring stations and 15 hydrological monitoring stations deployed and operational.	77 groundwater instruments (piezometers) deployed and operational.	94 groundwater instruments (piezometers) deployed and operational.	6 air monitoring stations, 15 hydrological monitoring stations and 94 piezometers installed and operational.

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
14. Share of alerts disaster risk system assertiveness of hydrologic events. (Percentage)		66.00	66.00	70.00	75.00	80.00	80.00
15. Users satisfied with the GeoPR portal. (Percentage)		0.00		50.00			80.00
Public Sector Management							
16. Portal i9 ready and in use (Yes/No)		No					Yes
17. Strengthening institutional capacity to deliver results (Text)		No new training programs on priority areas such as public investment management, climate screening, fleet management, regional productive development	100% of workshops in the regions included in the productive development plans completed. Capacity building plan developed and training of municipal leaders related to productive development plans completed.	Training of at least 399 state and municipal public managers on the Federal Government's fundraising platform and training on new SIGMA-PP modules.	SAMU teams trained to operate the "SAMU mobile" and training of SEDEST technicians and other state agencies that will use the Planialtimetric Base Platform.	>25,000 persons trained through upgraded or new courses.	Technical training on use of new environmental licensing systems and training on newly digitized priority internal systems and services.
18. Priority sectors that have implemented strategic workforce planning and skills assessments (Percentage)		0.00				1.00	1.00
19. Women in the highest public sector salary quartile (Percentage)		27.80			28.50	29.00	29.80
20. Notary legalization of priority state properties (Number)		0.00	50.00	100.00	150.00	250.00	250.00
21. Reduction in fuel and		BRL 27.600.000,00 annual	Installation of fleet	5% reduction in fuel	5% reduction in fuel	8% reduction in fuel	10% reduction in fuel

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
maintenance costs of state vehicle fleet (Text)		cost of fuel	tracking, monitoring and telemetry system and devices in vehicles.	costs5% reduction in fleet maintenance costs.	costs5% reduction in fleet maintenance costs.	costs8% reduction in fleet maintenance costs.	costs 8% reduction in fleet maintenance costs
22. PIM system prepared (laws, regulations, manuals, database, institutions) (Text)		N/A	ToRs prepared and contracting. Draft Laws, Regulations, Manuals, Database ready for testing.	Piloting of new procedures on selected investment projects.	Adjustments to system following pilot testing.	System finalized and rolled out and applied to all new investment projects.	System finalized and rolled out and applied to all new investment projects.
23. Deployment of regional productive development plans and a new public investment management system in support of post COVID economic recovery (Text)	DLI 5	No uniform system for public investment Two regional development plans	Eight Selected Regions have completed the Diagnostic Phase for the preparation of their Regional Productive Development Plans	Eight Regional Productive Development Plans have been approved and published.	Eight Short Term Investment Projects (one under each of the eight Regional Productive Development Plans) appraised and with implementation started	Decree establishing the PIM System	PIM System deployed
24. Share of citizens satisfied with their participation in the development of the eight strategic plans in lagging regions within the state. (Percentage)		0.00		75.00			75.00

Monitoring & Evaluation Plan: PDO Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
1. Number of SUS hospital beds available to treat COVID-19 patients during the peak of the pandemic in the state.	This indicator refers to prior results expected to be achieved between the approval of the Program's Concept Note (December 7, 2020) and the signing of the Loan Agreement. Given the nature of the indicator (related to COVID-19 response), it will be measured once. The end target refers to the prior results. Average number of hospitals beds (adult and pediatric ICU and clinical beds) available to the SUS in the state (public and contracted out) for the treatment of confirmed and suspected COVID-19 cases between February 1, 2021 and July 31, 2021. This is the six-month period equivalent to the 2nd and worst wave of COVID-19 mortality in the state.	Annual.	SESA COVID-19 bulletins. Data also available in the COVID-19 "Transparency Portal" available at http://201.77.18.66/QvAJAXZfc/opendoc.htm?document=Transparencia_Covid.qvw&host=QVS%40sparana00541&anonymous=true	[Sum of the daily number of SUS hospital beds (ICU and clinical beds), allocated in the state to treat COVID-19 patients (adults and children) between February 1st 2021 and July 31st 2021]/181. The proportion to be disbursed is defined by the ratio between the actual average daily number of COVID-19 beds available in the defined period and the target set by the DLI.	SESA.

2. Number of Small Hospitals converted into Multi-professional Care Units (UCMs).	For the first disbursement: publication of the normative 'Resolution' in the Official Gazette and SESA's website, defining the criteria for UCMs. The 'Resolution' shall also define the technical, legal, financial and operational procedures, as well as service standards and protocols required for the conversion of Small Hospitals into UCMs. The 'Resolution' may be updated/replaced by another 'Resolution' in form and substance acceptable to the World Bank. For the following disbursements: non-cumulative number of Small Hospitals that have been converted to become UCMs. These are the units that comply with the 'Resolution' and thus started to provide care in accordance with the new service standards and protocols defined by SESA.	Annual	SESA - Progress Report	For the first disbursement: publication of the 'Resolution' (text) in the Official Gazette and SESA's website defining the technical, legal, financial and operational procedures, as well as service standards and protocols required for the conversion of Small Hospitals into UCMs. For the following disbursements, non-cumulative targets (number). Data to be collected to validate the number of Small Hospital converted into UCMs: (i) Commitment Agreement signed by municipalities, (ii) evidence that the Small Hospitals complied with all criteria listed in the published 'Resolution', or subsequent 'Resolution' acceptable to the World Bank, subject that the minimum criteria listed	SESA

				in the Program Operational Manual is complied with; (iii) evidence of financing transfers from the state to the municipalities; (iv) technical report jointly prepared by the Health Management Department and the Health Surveillance Department at SESA providing evidence that the UCM is working in accordance with the 'Resolution'; and (v) field visits carried out by IVA in at least 10 percent of UCMs to verify compliance with 'Resolution'.	
3. Deployment of online intelligent platform for environmental management containing key health surveillance information and key disaster risk information.	This indicator monitors the deployment of the Intelligent Platform, GeoPR, the i9 Portal and the interface with the SISMAAD system. The following definitions are applied: Intelligent platform is a set of tools and computer	Annual.	IAT/DC technical reports.	Technical reports keeping track of the collection, processing, analysis, assessment and application of the information available at the GeoPR, i9 Portal and SISMAAD.	IAT/DC

	interface that provides management and monitoring capabilities. It is a combination of core platforms, cloud, digital, artificial intelligence, machine learning, security, and IT tools. As a result of the project and intelligent platform will be deployed as a set of tools and computer interface that provides management and monitoring capabilities. It includes the interface with: (a) the GeoPR; (b) the i9 portal; and (c) the SISMAAD. The deployment of an intelligent platform includes pre-installation, installation, and configuration tasks that must perform to deploy the intelligence platform on either a single machine or in a distributed, heterogeneous environment. It includes IT equipment, software, hardware and related				

	tools. GeoPR corresponds to the spatial data infrastructure of Paraná. It is a virtual geospatial infrastructure based on the Internet, and it integrates various geospatial-related resources such as sensor resources, data resources, processing resources, information resources, knowledge resources, computing resources, network resources, and storage resources to manage data, extract information, and obtain knowledge in the geospatial information. GeoPR an integrated set of technologies, mechanisms and procedures for coordination and monitoring, standards and agreements to facilitate the storage, access, sharing, dissemination and multiple uses of geospatial data for the state and society.				

	As a result of the Program, the GeoPR platform will include information generated by the following products: mapping of flooded areas and mapping of the planialtimetric base in a scale of 1:10,000. Portal i9 comprises an platform for online access to data, information, services and products with applied geographic intelligence and integration with GeoPR. Portal i9 includes information generated through the air network. In addition to allowing access to SISMAAD, the Civil Defense Disaster Alert System and GeoPR. SISMAAD (Sistema de Monitoramento, Alerta e Alarme de Desastres da Coordenadoria Estadual da Defesa Civil) is a real time monitoring system by the center's disaster				

	monitoring and management room. Alerts are issued and disseminated via SMS and television networks to the population of Paraná. As a result of the project SISMAAD will be updated including spatiotemporal stochastic models for precipitation and risk, whose warnings will be available through the i9 Portal. Planialtimetric map is a document that accurately describes the terrain. Through the planialtimetric base and the updated digital orthophoto is it will be possible to make geospatial reference data from the state territory updated and on a scale of 1:10.000 available, accessible, accurate and systematized through the spatial data infrastructure (GeoPR). Air quality monitoring				

	networks consists of a number of automatic air-quality stations measuring different pollutants in the air. The data points are tagged with location and time utilizing an on-board GPS. Periodically, the measurements are uploaded to a server, processed and then published on the GeoPR portal. Data crossing are methods and electronic tools to cross and link of environmental data with other datasets containing health outcomes and health status leverages existing state data, thus reducing data collection costs. Linking across datasets helps improve data quality across the linked datasets and fills important information gaps. When multiple data sources are crossed and linked, a more valuable source of spatial-based				

	data is available for policy decisions. As a result of the project data crossing tolls will be develop linking environmental databases with other datasets containing health outcomes. Public health surveillance dashboard is the electronic interface that orderly consolidation and cross-data of pertinent data with dissemination of results to those who need to know, particularly those who are in a position to take action. Environmental surveillance in health is based on the recognition of the relation between risks and their adverse effects on health. As a result of the project an electronic public health surveillance will be available including and consolidation of pertinent data related to epidemics and health problems, as well as the effectiveness of programs and control				

	measures, with dissemination of results to those who need to know, particularly those who are in a position to take action. Selected GeoPR Portal data means the information generated by the GeoPR health surveillance dashboard and the planialtimetric mapping in a scale of 1:10,000, as further detailed in the Verification Protocol.				
4. New Public Investment Projects prepared, screened and approved using the new PIM guidelines and system.	The updated PIM system will comprise of a set of Manuals and Guidelines on how to prepare investment projects, from project idea to concept, pre-project and full project preparation. It will include detailed information on the requirements for calculating the costs and benefits of public investments and how to identify and evaluate risks, including environmental and social risks. The	Annual, in year 5.	Progress Reports.	IVA will review all new public investment projects and assess whether all projects covered by the new PIM guidelines are compliant with all requirements of the new guidelines.	State Secretariat of Planning.

	guidelines will also include information on the approval and review process at each stage and responsible institutions.				

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
5. Production rate of selected Multi-professional Care Units (UCMs).	This indicator measures the annual effective production rate of the UCMs, which is defined by the ratio between the volume of health services produced by the UCMs during a 12-month period and their full production capacity during the same period of time. It is a proxy measure of the efficiency of this new model of care. The measurement will be applied to 10 out of the first 15 UCMs that have been converted in year 2 and followed throughout the duration of the Program. This longitudinal measurement will capture in a consistent way how the UCMs are able to utilize their full capacity over time. Volume of health services means procedures/health services provided by health	Annual, starting in year 3.	Hospital and Ambulatory Information Systems (SIH/SIA) and SESA Progress Report.	No targets for years 1 and 2. Cumulative targets for years 3 to 5. [(Production of UCM1/full production capacity of UCM1) + (production of UCM2/full production capacity of UCM2) + ...+ production of UCM10/full production capacity of UCM10)]/10*100	SESA.

	professionals as approved in the Hospital and Ambulatory Information Systems (SIH/SIA) compared to the full capacity of the UCMs within a 12-month period.				
6. Confirmed and suspected patients admitted in ICU beds exclusively for COVID treatment.	The indicator aims to provide information on the number of confirmed and suspected COVID patients admitted in exclusive ICU beds for COVID to assess the absorption capacity of the state health system.	Annual.	SIH (Hospital Information System)	Non-cumulative target. Total number of COVID-19 ICU beds demanded by confirmed and suspected patients/Total number of COVID ICU beds available.	SESA.
7. Reduction in the average length of stay in strategic hospitals.	The reduction in the length average of stay indicator aims to provide patients with a better care experience by ensuring they are discharged from hospital without unnecessary delay. Prolonged stays in hospital are bad for patients, especially for those who are frail or elderly.	Annual.	Hospital Information System (SIH).	Non-cumulative target. Total hospital discharges days/total hospital discharge = Average length of stay (in days).	SESA.
8. Integrated Health Information System.	The Integrated Health Information System seeks to consolidate those systems that handle data	Annual.	Official Progress Report.	Non-cumulative target. NA.	SESA.

	related to the activities of providers and health organizations. As an integrated effort, these may be leveraged to improve patient outcomes, inform research, and influence policymaking and decision-making.				
9. Connectivity of the Mobile Emergency Medical Services (SAMU MOBILE).	The interface device for state SAMU units aims to make connectivity available for image, data and voice exchange, as well as providing support for telehealth/telemedicine. The SAMU MOBILIE will work as an interface between the Mobile Emergency Care Service units, emergency referral and counter-referral system and emergency healthcare facilities.	Annual.	Official Progress Report.	Non-cumulative target. NA.	SESA.
10. Average processing time for low impact environmental licenses.	This indicator measures the average process time of licenses issuance. It shows the systemic improvement of information supporting decision-making in the processing of license requests for projects with	Annual, starting in year 2.	Progress Report.	Target value is non-cumlulative. The average time refers to the time spent from the day the license is required until the day the license is issued or denied. The average time refers to	IAT.

	low environmental impact in selected groups of activities.			the time spent from the day that low impact environmental licensing modalities (i) environmental license waiver (DLAE), (ii) automatic Simplified Environmental License (LAS) and (iii) License for Aden and Commitment (LAC) of low-impact activities, without requiring water use, are required until the day the licenses are issued or denied.	
11. Environmental licensing procedures strengthened by improving the level of automation and innovation.	This indicator intends to monitor the automation and/or geographic intelligence decision support for the following environmental licensing 4 modalities: environmental licensing waiver (DLAE), Simplified Environmental License (LAE), Membership and Commitment License (LAC), and Prior License (LP).	Annual. No target for year 4.	Technical reports.	Target value is cumulative. Technical qualitative reports describing procedures and updates supported by the Program.	IAT.
12. Environmental enforcement, monitoring and control electronic systems strengthened.	This indicator measures the implementation of enforcement tools with the	Annual	Progress Report	Target value is non-cumulative. Project monitoring reports	IAT

	use of geographic intelligence and electronic systems.			based on the number of system and procedures updgraded.	
13. Air quality, hydrometerological, and groundwater monitoring networks strengthened and updated.	Cumulative indicator.	Annual	IAT technical reports.	Project monitoring reports, based on the the number of stations and instrument deployed	IAT
14. Share of alerts disaster risk system assertiveness of hydrologic events.	Civil Defense occurrences in the State are monitored in real time by the center's disaster monitoring and management room, and Civil Defense alerts are issued and disseminated via SMS and television networks to the population of Parana.	Annual.	Progress Report	Target is non-cumulative. Project monitoring reports of the quality of civil defense alerts.	Coordenadoria Estadual da Defesa Civil - DC.
15. Users satisfied with the GeoPR portal.	This indicator measures the degree of satisfaction of users of the Spatial Data Infrastructure made available through the GeoPR portal for the various users, such as universities, the productive sector, public agents and citizens in general. After the implementation of the GeoPR Portal, the perception of users will be assessed in two moments:	Annual, in years 2 and 5 (end target)	Progress Report, including survey results.	Target value is non-cumulative. Technical report including satisfaction survey reports. In the context of this Program, users will be disaggregate by: universities, productive sector, public agents and citizens in general who directly derive benefits from the Geo Portal.	IAT.

	in the second year of the program, after the implementation of the spatial data infrastructure, and in the fifth year, after the portal has been incremented with data from the planialtimetric base, mapping of flood risks.				
16. Portal i9 ready and in use	The digital platform aims to consolidate available data in one open platform including public sector data, market data, statistics and research data, in user friendly formats to facilitate research and the use of data for public goods	Annual	Service systems	A progress report outlining the data available on the public platform including data sources, data formats, number of visits/users.	PMU
17. Strengthening institutional capacity to deliver results	Targeted capacity building and accreditation for identified potential managers/ leaders, including women and disadvantaged ethnic groups. Workshops and capacity building at the municipality level (including leaderships) for development of regional productive plans including methods for screening and	Annual	Progress Report	Progress report on capacity building activities, courses developed and delivered, format, participation and success rate (including scores and pass/fail or accreditations delivered).	SEAP/SEPL/Escola de Gestão

	selection of projects based on criteria including environmental sustainability. Distance and face to face learning and certification modules for civil servants on priority areas including: public investment management, climate screening of projects, hospital management, fleet management, planning, data collection and analysis, environmental licensing systems				
18. Priority sectors that have implemented strategic workforce planning and skills assessments	Agencies that make up 50% of total public staff.	Annual	Progress Report	Targeted priority sectors or institutions will share the final workforce planning report and skills assessment with the PMU.	SEAP
19. Women in the highest public sector salary quartile	This indicator measures the percentage of women making over R$ 9,000 per month. It is a proxy indicator for higher management positions in the public sector. Advancement to management positions requires technical skills in	Annual	SEAP HR and Salary Data	Assessment based on analysis of annual public sector salary payment data using the following income brackets: lowest quartile: <R$3000, second quartile: R$3000-R$6000: third quartile: R$6000-R$ 9000, highest quartile: >R$9000	SEAP

	priority areas such as investment planning, digital services, and others. Following a mapping of existing staff skills and public sector skills needs, women will receive training in strategic areas to prepare them for leadership positions. In addition the workforce planning and establishment of a talent pool and talent management and recruitment system including improved competency assessments will identify opportunities to promote gender equity.				
20. Notary legalization of priority state properties	This indicator measures number of priority state public properties with complete notarized legal documentation (Matricula registered in the Cartorio de Registro de Imoveis).	Annual	SEAP list of priority state properties	A list of priority properties will be submitted to the PIU in the first year of project effectiveness, along with information on the missing elements and steps to complete the process of notarizing the properties. A review of these properties will be carried out to determine progress towards	SEAP

				obtaining the complete notarized property documentation (Matricula).	
21. Reduction in fuel and maintenance costs of state vehicle fleet					
22. PIM system prepared (laws, regulations, manuals, database, institutions)	This indicator measures the elements of the PIM system that have been prepared and delivered throught the technical assistance. The exact number of outputs is not yet defined, but will include manuals and guidelines for project preparation and review, updated legal instruments and technical notes.	Annual, starting in year 2	Progress Report	A progress report will be prepared by SEPL with details on the instruments under preparation and their status. The draft instruments/outputs will be shared with the World Bank for comments and feedback before finalization.	SEPL
23. Deployment of regional productive development plans and a new public investment management system in support of post COVID economic recovery	The diagnostics for the regional productive development plans finalized in all eight regions; Eight (8) Regional Productive Development Plans (RDPs) finalized, approved and published; up to eight (8) RDP projects appraised and begun implementation; legal instrument and guidelines for new PIM system issued;		SEPL	The IVA will receive and review all relevant materials and reports constituting the diagnostic phase as required by Executive Decree 9.518 Art 3, II). The report(s) and materials should include all socio-economic data and indicators and related analysis and interpretation of the	

	Public Investment Project Management Information System fully operational.			data including but not limited to performance in the following areas or topics: health, education, jobs, access to basic infrastructures such as energy, water, telecommunication. It should also include an overview of private sector activities such as industry, agriculture, and other as relevant including a comparative analysis of regional performance as compared with the state and brazil averages IVA will review the approved and published regional productive development plans for each of the eight regions as outlined in the Parana Produtivo program: (i) Santo Antonio da Platina (ii) Cornelio Procopio (iii) Paranavai (iv) Umuarama (v) Campo Mourao (vi) Guarapuava (vii) Irati (viii) Ponta Grossa.	

				The Plans should include a statement of endorsement by core members of relevant preparatory committee(s) and the signature of the State Secretary of Planning and should be published on the *Parana Productivo* website and/or that of the state secretariat of planning (SEPL). In line with Decree 9.518, the Plans should include at a minimum the following elements: (i) a clear analysis of challenges for the region (ii) a clear prioritization of investment areas with the highest potential impact (iii) identification of partnership opportunities with other regions (iv) identification of relevant public policies impacting productive investments in the region .and (v) identification of high	

				impact investment projects of inter-municipal relevance. This DLR will finance up to $500,000 per project identified in the regional productive development plans, up to 8 projects and one per region. Projects must have reached the appraisal stage and with implementation started, as defined by projects with funds allocated and expenditures initiated. Projects should be of low complexity and short timeframe. The specific classification criteria for low complexity projects will be included in the new PIM guidelines under development but is assumed to include projects that do not require the most comprehensive set of technical, financial, and economic analyses and external reviews.	

				Defined as any legal instrument in use in the state of Parana with the authority to introduce new requirements or instruments to shape the practices of public institutions including Laws, Decrees, Circulars, Portaria, Instruccao Normativa, Orientacao. The instrument should clarify which investment projects and institutions are covered by the new PIM rules, including project thresholds and categories. It should describe the process and phases for project preparation and any quality control points including whether independent reviews are required and at which stage(s). It should explain in general terms the level of detail required for each stage of the project preparation process, including concept	

				proposal and full project description including results indicators, budget estimates, cost benefit analysis, alternative solutions and risk assessment, environmental and social assessments. Finally, the decree should include information on reporting requirements. The Decree or legal instrument should be complemented by more detailed methodological notes on different relevant topics such as cost benefit analysis. An electronic system supporting end to end management of public investment projects will be designed, tested and implemented. The system should support critical functionalities for the preparation of public investment projects including the ability to	

				generate unique project identifiers, and support and document the various stages of the project preparation and approval process. To verify whether the system is operation and satisfies basic functional criteria, the IVA will be provided all technical documentation and will be provided access to the system and will document the system functionalities and use by public institutions. All new public investment projects covered by the new PIM regulation should be processed through the system once it is operational.	
24. Share of citizens satisfied with their participation in the development of the eight strategic plans in lagging regions within the state.	This indicator will measure beneficiary feedback with regards to the provision of digital public services.	Annual, starting in year 2.	Online satisfaction surveys	Online satisfaction surveys carried out at least twice during project implementation and filled on a voluntary basis.	SEPL

ANNEX 2. DISBURSEMENT LINKED INDICATORS, DISBURSEMENT ARRANGEMENTS AND VERIFICATION PROTOCOLS

Disbursement Linked Indicators Matrix				
DLI 1	Number of SUS hospital beds available to treat COVID-19 patients during the peak of the pandemic in the state.			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Output	Yes	Number	30,125,000.00	23.17
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	0.00			
Prior Results	4,000.00		30,125,000.00	[Sum of the daily number of SUS hospital beds allocated in the state to treat COVID-19 patients between 02/01/21 and 07/31/21]/181
January 2022 - December 2022	0.00		0.00	NA
January 2023 - December 2023	0.00		0.00	NA
January 2024 - December 2024	0.00		0.00	NA
January 2025 - December 2025	0.00		0.00	NA

January 2026 - December 2026	4,000.00	0.00	NA

DLI 2	Number of Small Hospitals converted into Multi-professional Care Units (UCMs)			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Outcome	Yes	Text	40,000,000.00	30.77
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	0.00			
Prior Results			0.00	NA
January 2022 - December 2022	SESA 'Resolution' defining legal, financial and operational procedures, as well as service standards and protocols required for to the institution of UCMs issued and published by SESA in the State Official Gazette and SESA's website.		5,000,000.00	This target is not scalable. Formula achieved or not achieved.
January 2023 - December 2023	10.00		8,750,000.00	Disbursement of $875,000 for each new UCM established, up to a total amount of $35 million.
January 2024 - December 2024	12.00		10,500,000.00	Disbursement of $875,000 for each new UCM established, up to a total amount of $35 million.
January 2025 - December 2025	12.00		10,500,000.00	Disbursement of $875,000 for each new UCM established, up to a total amount of $35 million.

January 2026 - December 2026	6.00	5,250,000.00	Disbursement of $875,000 for each new UCM established, up to a total amount of $35 million.

DLI 3	Production rate of selected Multi-professional Care Units (UCMs)			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Outcome	Yes	Percentage	9,235,000.00	7.10

Period	Value	Allocated Amount (USD)	Formula
Baseline	0.00		
Prior Results		0.00	NA
January 2022 - December 2022	0.00	0.00	NA
January 2023 - December 2023	0.00	0.00	NA
January 2024 - December 2024	50.00	3,693,000.00	Non-scalable. Production rate of UCMs established is at least 50% of full capacity ($73,860 for each pp production rate).
January 2025 - December 2025	65.00	2,770,000.00	$184,667 for each pp of production rate achieved between 51% and 65%.
January 2026 - December 2026	75.00	2,772,000.00	$277,200 for each pp of production rate achieved above 65% up to a

				total of $2,772,000.

DLI 4	Deployment of online intelligent platform for environmental management containing key health surveillance information and key disaster risk information.			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Outcome	No	Text	25,000,000.00	19.23
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	State spatial data for strategic management is insufficient due to the absence of mappings, precision problems, different update dates, difference in scales, outdated technological, inadequate systematization and difficulty of access.			
Prior Results			0.00	
January 2022 - December 2022	GeoPR health surveillance dashboard containing geospatial data of: (a) reported cases of dengue and leptospirosis, (b) outbreaks of waterborne and foodborne diarrheal diseases, and (c) water quality for human consumption.		8,750,000.00	n/a
January 2023 - December 2023	GeoPR Health Surveillance Dashboard integrating the following data at the municipal level: (a) cases of dengue with environmental sanitation, sewage, solid waste collection and treatment, and land disposal sites; and (b) cases of leptospirosis with floods and natural environmental disasters data.		7,500,000.00	n/a

January 2024 - December 2024	i9 portal available containing updated air quality alert system, including online real-time alert.	5,625,000.00	n/a
January 2025 - December 2025	Planialtimetric base of the state at a scale of 1:10.000 available at GeoPR portal.	2,500,000.00	n/a
January 2026 - December 2026	Selected GeoPR Portal Data available online at I9 Portal, and updated SISMAAD containing spatiotemporal stochastic models for precipitation and risk.	625,000.00	n/a

DLI 5	Deployment of regional productive development plans and a new public investment management system in support of post COVID economic recovery			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Process	No	Text	16,140,000.00	12.38
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	No uniform system for public investment Two regional development plans			
Prior Results	NA		0.00	NA
January 2022 - December 2022	Eight Selected Regions have completed the Diagnostic Phase for the preparation of their Regional Productive Development Plans		4,900,000.00	NA
January 2023 - December 2023	Eight Regional Productive Development Plans have been approved and published.		4,900,000.00	NA
January 2024 - December	Eight Short Term Investment Projects (one under		4,000,000.00	NA

2024	each of the eight Regional Productive Development Plans) appraised and with implementation started		
January 2025 - December 2025	Decree establishing the PIM System	1,540,000.00	NA
January 2026 - December 2026	PIM System deployed	800,000.00	NA

Verification Protocol Table: Disbursement Linked Indicators	
DLI 1	Number of SUS hospital beds available to treat COVID-19 patients during the peak of the pandemic in the state.
Description	Average number of hospital beds (adult and pediatric ICU and clinical beds) available to the SUS in the state (public and contracted out) for the treatment of suspected and confirmed COVID-19 cases between February 1st 2021 and July 31st 2021. This is the six-month period equivalent to the 2nd and worst wave of COVID-19 mortality in the state.
Data source/ Agency	SESA COVID-19 bulletins. Data also available in the COVID-19 "Transparency Portal" available at http://201.77.18.66/QvAJAXZfc/opendoc.htm?document=Transparencia_Covid.qvw&host=QVS%40sparana00541&anonymous=true
Verification Entity	IVA (IPARDES)
Procedure	Prior results [Sum of the daily number of SUS hospital beds (ICU and clinical beds), allocated in the state to treat COVID-19 patients (adults and children) between February 1st 2021 and July 31st 2021]/181 The proportion to be disbursed is defined by the ratio between the actual average daily number of COVID-19 beds available in the defined period and the target set by the DLI.
DLI 2	Number of Small Hospitals converted into Multi-professional Care Units (UCMs)
Description	Small hospitals that are restructured to become an UCM and start receiving incentives from the government of Parana to provide care in accordance with the new service standards and protocols based on the multi-professional approach defined by SESA, and approved by the Bipartite Intermanagerial Comission (Comissão Intergestores Bipartite, CIB).
Data source/ Agency	SESA Progress Report
Verification Entity	IVA (IPARDES)
Procedure	For the first disbursement: publication of the 'Resolution' (text) in the Official Gazette and SESA's website defining the technical, legal, financial and operational procedures, as well as service standards and protocols required for the conversion of Small Hospitals into UCMs. The 'Resolution' to be submitted and approved by the municipal councils and CIB. Any changes to the 'Resolution' during the life of the Program shall be acceptable by the World Bank before being implemented. The following disbursements will be made as follows: (i) scalable disbursement of $8,750,000 for 10 out of the first 15 UCMs

	established, and (ii) $875,000 for each UCM established thereafter, up to $35,000,000. Data to be collected to validate the number of Small Hospital converted into UCMs include: (i) Commitment Agreement signed by municipalities, (ii) evidence of financing transfers from the state to the municipalities; (iii) technical report jointly prepared by the Health Management Department and Health Surveillance Department providing evidence that the UCM is working in accordance with the 'Resolution', complying with, at least, the following minimum technical requirements, as defined in the Program Operational Manual: (a) multi-professional team; (b) health facility infrastructure following SUS' standards and adequate to the provision of health care services being offered; and (c) health protocols for the specialties; and (iv) field visits carried out by IVA in at least 10 percent of UCMs to verify compliance with 'Resolution'.
DLI 3	Production rate of selected Multi-professional Care Units (UCMs)
Description	This indicator measures the annual effective production rate of the UCMs, which is defined by the ratio between the volume of health services produced by the UCMs during a 12-month period and their full production capacity during the same period of time. It is a proxy measure of the efficiency of this new model of care. The measurement will be applied to the 10 out of the first 15 UCMs that have been converted and followed throughout the duration of the Program. This longitudinal measurement will capture in a consistent way how the UCMs are able to utilize their full capacity over time. Volume of health services means procedures/health services provided by health professionals as approved in the Hospital and Ambulatory Information Systems (SIH/SIA) compared to the full capacity of the UCMs within a 12-month period.
Data source/ Agency	Hospital and Ambulatory Information Systems (SIH/SIA) and SESA Progress Report
Verification Entity	IVA (IPARDES)
Procedure	Disbursement of $3,693,000 for the achievement of at least 50% production rate by the aggregate of the UCMs established (calculated as follows: $73,860 for each percentage point of production rate); disbursement of $184,667 for each percentage point of production rate achieved between 51% and 65%; disbursement of $277,200 for each percentage point of production rate achieved above 65%, up to a total amount of $2,772,000.
DLI 4	Deployment of online intelligent platform for environmental management containing key health surveillance information and key disaster risk information.
Description	This indicator monitors the deployment the Intelligent Platform, GeoPR, the i9 Portal and the interface with the SISMAAD system. The following definitions are applied: Intelligent platform is a set of tools and computer interface that provides management and monitoring capabilities. It is a combination of core platforms, cloud, digital, artificial intelligence, machine learning, security, and IT tools. As a result of the project and intelligent platform will be deployed as a set of tools and

	computer interface that provides management and monitoring capabilities. It includes the interface with: (a) the GeoPR; (b) the i9 platform; and (c) the SISMAAD. This intelligent platform combines and deploy different technologies, data and services in new ways to incubate and coordinate an ecosystem of supply and demand. The technical perspective sees digital platforms as software-based platforms, that is, extensible codebases that provide core functionality, supplemented by modular services. Each modular service is a software subsystem that can extend the functionality of the platform. The proposed digital platform incorporates various modules that extend its functionality for different sectors. As the proposed platform brings together multiple user groups and data, it creates the so-called network effects. The deployment of an intelligent platform includes pre-installation, installation, and configuration tasks that must perform to deploy the intelligence platform on either a single machine or in a distributed, heterogeneous environment. It includes IT equipment, software, hardware and related tools. GeoPR corresponds to the spatial data infrastructure of Paraná. It is a virtual geospatial infrastructure based on the Internet, and it integrates various geospatial-related resources such as sensor resources, data resources, processing resources, information resources, knowledge resources, computing resources, network resources, and storage resources to manage data, extract information, and obtain knowledge in the geospatial information. GeoPR an integrated set of technologies, mechanisms and procedures for coordination and monitoring, standards and agreements to facilitate the storage, access, sharing, dissemination and multiple uses of geospatial data for the state and society. As a result of the project the GeoPR plafform will include information generated by the planialtimetric base in a scale of 1:10,000. Portal i9 comprises an platform for online access to data, information, services and products with applied geographic intelligence and integration with GeoPR. Portal i9 includes information generated through the air monitoring network. In addition to allowing access to SISMAAD, the Civil Defense Disaster Alert System and GeoPR. SISMAAD (Sistema de Monitoramento, Alerta e Alarme de Desastres da Coordenadoria Estadual da Defesa Civil) is a real time monitoring system by the center’s disaster monitoring and management room. Alerts are issued and disseminated via SMS and television networks to the population of Paraná. As a result of the project SISMAAD will be updated including spatiotemporal stochastic models for precipitation and risk, whose warnings will be available through the i9 Portal. Planialtimetric map is a document that accurately describes the terrain. Through the planialtimetric base and the updated digital orthophoto is it will be possible to make geospatial reference data from the state territory updated and on a scale of 1:10.000 available, accessible, accurate and systematized through the spatial data infrastructure (GeoPR). Air quality monitoring networks consists of a number of automatic air-quality stations measuring different pollutants in the air. The data points are tagged with location and time utilizing an on-board GPS. Periodically, the measurements are uploaded to a server, processed and then published on the GeoPR portal. Data crossing are methods and electronic tools to cross and link of environmental data with other datasets containing health outcomes and health status leverages existing state data, thus

	reducing data collection costs. Linking across datasets helps improve data quality across the linked datasets and fills important information gaps. When multiple data sources are crossed and linked, a more valuable source of spatial-based data is available for policy decisions. As a result of the project data crossing tolls will be develop linking environmental databases with other datasets containing health outcomes. Public health surveillance dashboard is the electronic interface that orderly consolidation and cross-data of pertinent data with dissemination of results to those who need to know, particularly those who are in a position to take action. As a result of the project an electronic public health surveillance will be available including and consolidation of pertinent data related epidemics and health problems, as well as the effectiveness of programs and control measures, with dissemination of results to those who need to know, particularly those who are in a position to take action.
Data source/ Agency	IAT / Coordenadoria Estadual da Defesa Civil - DC
Verification Entity	IVA (IPARDES)
Procedure	Borrower's statement and report. Report defining specific actions for the implementation of the IT systems, provision of maps, sample of protocols, and number of users access. This indicator monitors the deployment the intelligent platform, GeoPR, the i9 Portal and the interface with the SISMAAD system. To evaluate the platform performance of the conceived architecture, benchmark load tests will be conducted, following guidelines for measuring performance of computing systems and computer systems in general. The platform technical elements (of software and hardware) and each modular service can be monitored and measured and evidenced in form and substance satisfactory to World Bank.
DLI 5	Deployment of regional productive development plans and a new public investment management system in support of post COVID economic recovery
Description	The diagnostics for the regional productive development plans finalized in all eight regions; Eight (8) Regional Productive Development Plans (RDPs) finalized, approved and published; up to eight (8) RDP projects appraised and begun implementation; legal instrument and guidelines for new PIM system issued; Public Investment Project Management Information System fully operational
Data source/ Agency	SEPL
Verification Entity	IVA (IPARDES)
Procedure	The IVA will receive and review all relevant materials and reports constituting the diagnostic phase as required by Executive Decree 9.518 Art 3, II). The report(s) and materials should include all socio-economic data and indicators and related

	analysis and interpretation of the data including but not limited to performance in the following areas or topics: health, education, jobs, access to basic infrastructures such as energy, water, telecommunication. It should also include an overview of private sector activities such as industry, agriculture, and other as relevant including a comparative analysis of regional performance as compared with the state and brazil averages IVA will review the approved and published regional productive development plans for each of the eight regions as outlined in the Parana Produtivo program: (i) Santo Antonio da Platina (ii) Cornelio Procopio (iii) Paranavai (iv) Umuarama (v) Campo Mourao (vi) Guarapuava (vii) Irati (viii) Ponta Grossa. The Plans should include a statement of endorsement by core members of relevant preparatory committee(s) and the signature of the State Secretary of Planning and should be published on the *Parana Productivo* website and/or that of the state secretariat of planning (SEPL). In line with Decree 9.518, the Plans should include at a minimum the following elements: (i) a clear analysis of challenges for the region (ii) a clear prioritization of investment areas with the highest potential impact (iii) identification of partnership opportunities with other regions (iv) identification of relevant public policies impacting productive investments in the region .and (v) identification of high impact investment projects of inter-municipal relevance. This DLR will finance up to $500,000 per project identified in the regional productive development plans, up to 8 projects and one per region. Projects must have reached the appraisal stage and with implementation started, as defined by projects with funds allocated and expenditures initiated. Projects should be of low complexity and short timeframe. The specific classification criteria for low complexity projects will be included in the new PIM guidelines under development but is assumed to include projects that do not require the most comprehensive set of technical, financial, and economic analyses and external reviews. Defined as any legal instrument in use in the state of Parana with the authority to introduce new requirements or instruments to shape the practices of public institutions including Laws, Decrees, Circulars, Portaria, Instruccao Normativa, Orientacao. The instrument should clarify which investment projects and institutions are covered by the new PIM rules, including project thresholds and categories. It should describe the process and phases for project preparation and any quality control points including whether independent reviews are required and at which stage(s). It should explain in general terms the level of detail required for each stage of the project preparation process, including concept proposal and full project description including results indicators, budget estimates, cost benefit analysis, alternative solutions and risk assessment, environmental and social assessments. Finally, the decree should include information on reporting requirements. The Decree or legal instrument should be complemented by more detailed methodological notes on different relevant topics

	such as cost benefit analysis. An electronic system supporting end to end management of public investment projects will be designed, tested and implemented. The system should support critical functionalities for the preparation of public investment projects including the ability to generate unique project identifiers, and support and document the various stages of the project preparation and approval process. To verify whether the system is operation and satisfies basic functional criteria, the IVA will be provided all technical documentation and will be provided access to the system and will document the system functionalities and use by public institutions. All new public investment projects covered by the new PIM regulation should be processed through the system once it is operational.

ANNEX 3. SUMMARY TECHNICAL ASSESSMENT

Program Strategic Relevance

1. **The proposed Program is strategically relevant to Paraná's development challenges and priorities.** It is fully aligned with the state's COVID-19 response and recovery plan and PPA 2020–2023. The COVID-19 pandemic has represented an unprecedented challenge to the state of Paraná. In absolute numbers, with more than 1.58 million cases and approximately 40,800 thousand deaths, the state has the third-highest number of COVID-19 cases and the fourth-highest number of COVID-19 deaths among the 26 Brazilian states and the Federal District. The COVID-19 pandemic aggravated the existing inequalities in access to essential public services such as health, internet connection, and sanitation in Paraná**.** Access to basic services is unequal across different population groups. Over 1.1 million people, or 10 percent of the population, do not have access to sanitation and 1.5 million do not have internet connection at home, limiting their access to distance learning and other public services. The rural population is particularly disadvantaged: 71 percent of rural households do not have access to sanitation. Even though public health services are provided free of charge, a significant share of the state population (31 percent) spends more than 10 percent of the household budget on health and approximately half a million people a year are pushed into poverty due to health care expenses.[44]

2. **The natural and human-modified biophysical environment plays a major role in the quality of human life and public health.** At the ecosystem level, biodiversity loss due to the expansion of agriculture, urbanization, and other human-made environments into natural ecosystems and the creation of new transmission sites have been associated with increasing transmission of vector-borne diseases. The impact of urban environment settings on population health has been increasing as more people live in cities and towns than in rural areas. Climate change impacts will also result in a wider range of health risks due to ensuing social and demographic disruptions that swell the stream of environmental refugees, challenge the livelihood of poor people, and bring about new challenges for control and changes in access to health services.

3. **Limited use of digital solutions in several critical public service areas has led to modest public sector performance that is incommensurate with the state's relatively high level of income and development.** This is evident in the slow application of environmental management requirements, hampering investment and compromising environmental protection. Outdated monitoring systems have hindered proactive disaster risk management, which is urgently needed given increased extreme weather events in the state. Weak planning capacities and PIM procedures have contributed to low infrastructure quality in parts of the state. Rigid public sector human resources practices have increased the state's reliance on external expertise for core public sector tasks. The health management model's reliance on small, underused hospitals has hindered provision of quality-integrated health care for elderly patients dependent on the state SUS.

4. **The proposed Program will support the Government to mitigate the short- and medium-term health impact of COVID-19 and take advantage of a multisectoral approach—health, environmental, and public sector management—to strengthen efficiency and delivery of public services in the long**

[44] Preliminary results from the World Bank (forthcoming). Measuring Financial Protection in Health in Brazil. World Bank report.

term. The efficiency and innovative agenda shall be seen as the basis for implementing the priority Program to be supported by the World Bank. As part of this agenda, the reorganization of the health services by including an intermediate level of care between PHC and high complexity care and the IT solutions will increase public sector efficiency in health sector management. Interventions will also ensure quicker and more accurate application of environmental management standards and disaster risk management, PIM, and HRM. Increased digitization, updating, and integration of systems in line with federal standards will ensure business continuity and continued expanding access to public services, including for disadvantaged groups.

Program Description

5. **The PforR component (US$120.5 million) will support government programs across three results areas.** The activities supported by the Program results areas are identified in the following paragraphs.

Results Area 1: Health Service Delivery

6. **This results area will expand clinical and ICU capacity to deliver COVID-19-related treatment, restructure public health service delivery, rationalize the hospital network and strengthen coordination of care across hospital and PHC levels, and consolidate SESA's health information systems to improve health management**. The results area has three activities.

7. **Activity 1: Support to COVID-19 response**. This activity will support the expansion of SESA's hospital capacity to respond to the increase in the demand for COVID-19 treatment during the pandemic. This activity is supported by DLI 1: number of SUS hospital beds available to treat COVID-19 patients in during the peak of the pandemic in the state. The DLI is scalable and captures Paraná's efforts to respond to and mitigate the effects of the COVID-19 pandemic through the expansion of public sector ICU and clinical capacity. For the verification purposes, the Program will support availability of beds to treat COVID-19 adults and children during the worst period of the pandemic – the 2nd wave, between February 1st and July 31st, 2021.

8. **Activity 2: Reorganization of health service delivery**. This activity will support the reorganization of the state's SUS through the conversion of Small Hospitals into UCMs. UCMs will improve coordination of care across primary and tertiary care, with a particular focus on the health needs of the state's growing elderly population. This activity is supported by two DLIs:

a) DLI 2: Number of Small Hospitals converted into Multi-professional Care Units (UCMs), from the establishment of the regulatory and operational framework to the effective conversion of the health facilities into UCMs. This latter part of the DLI is scalable and is measured by the new number of Small Hospitals converted into UCMs starting in Year 2. Commitment Agreements will be signed between SESA and municipal health authorities to guide the use of funds. The regulatory norm that defines the requirements for UCM conversion will include mandatory compliance with the PEE, and the ACG Clause.

b) DLI 3: Production Rate of selected Multi-professional Care Units (UCMs), also scalable (except for the first target), which is expected to achieve 75 percent in Year 5. No targets

have been established for years 1 and 2 for this DLI, as these initial years are dedicated to the 'Resolution' and conversion of 10 out of the first 15 UCMs established.

9. **Activity 3: New technologies for the state health system.** This activity will support the development and rollout of an integrated digital strategy and operational plan for the state, with a focus on specific health sector digital solutions, including the ambulance management system (SAMU Mobile). A diagnostic of existing digital systems and gaps in the health sector will be carried out and a plan of action will be prepared to build an integrated health information system. An integrated health information system will allow for a better coordination of services between different levels of care.

Results Area 2: Environmental and Disaster Risk Management Information Systems

10. **This results area will support the development of information systems to improve environmental and disaster risk management to inform public health decision-makers about threats to public health and public health assets.** It has two activities.

11. **Activity 1: Strengthening geospatial information for environmental and disaster risk monitoring including for the health sector.** This activity seeks to provide input for improved monitoring and early warnings to mitigate damage to property and people and to generate geospatial data for the elaboration of public policies. The use of georeferencing data for environmental health surveillance is considered essential for the elaboration of risk maps capable of supporting health decision-making. The data will allow for a better understanding of the spatial distribution of environmental, climate, and health threats as well as the identification, quantification, and assessment of the physical structures and population at risk. The data can also help identify and map disaster risks to prioritize natural hazards management to support health emergency planning and guide for risk assessment and management on a range of health-relevant topics.

12. **Activity 2: Strengthening the emergency warning system for disaster risk and environmental management systems.** Early warning systems are increasingly applied to mitigate the risks posed by natural hazards. More accurate space-time stochastic models for precipitation are crucial for hydrological applications related to flood risk and water resources management. This activity will support environmental innovation consisting of new or modified processes, techniques, systems, and products to provide accurate, accessible, timely, updated, and location-specific information.

13. **These activities are supported by DLI 4*:* Deployment of online intelligent platform for environmental management containing key health surveillance information and key disaster risk information.** The DLI finances a digital platform that provides inputs and early warnings to prevent damage to property and people that is exacerbated by climate change, in addition to providing geospatial data for the elaboration of public policies that protect people from emerging disease burdens from environmental and climate change and health assets from disaster risk. A portal (GeoPR) aggregating all available geospatial data will be set up to facilitate the search and use of organized and standardized information by the public sector.

Results Area 3: Planning and Public Investment Management

14. **This results area will support the preparation and implementation of regional productive development plans and a new PIM system in support of post COVID economic recovery.** The results area has one activity.

15. **Activity 1: Deployment of regional productive development plans and a new PIM system in support of post COVID economic recovery.** This activity will support post-COVID recovery through the preparation and approval of regional productive plans in eight lagging regions within the state, with a focus on productive activities. It will also support the identification and preparation of investment projects identified in the plans up to and including appraisal. Support be provided for the adoption and implementation of the new PIM law and associated guidelines being developed by the state with support from the Bank through the technical assistance component, including updated standards for the screening of climate change risks of planned investments, and finally the preparation of an electronic PIM system planning in line with the new investment guidelines.

16. **This activity is supported by DLI 5: Deployment of regional productive development plans and a new PIM system in support of post COVID economic recovery.** This DLI supports the preparation and approval of regional productive plans and their investment projects and the approval and issuance of a new PIM system to strengthen territorial planning and investment preparation and management which is necessary to increase the targeting of public investments and their efficiency for post COVID recovery. This DLI includes the following targets and activities: all eight regions identified for the regional productive plans having completed the diagnostic phase for the preparation of the plans; the eight regional productive development plans approved and published; up to eight development projects of low complexity (one for each region) prepared, appraised and with implementation started; issuance of a legal instrument establishing the process and requirements for public investment project preparation, appraisal, approval, monitoring and evaluation, following a risk-based approach and integrating economic, social, environmental criteria for project selection and appraisal; the Public Investment Project Management Information System fully operational, generating unique project identifiers, supporting project processing from identification to evaluation and document filing.

Technical Soundness

Results Area 1: Health Service Delivery

17. **The health sector activities are informed by recent World Bank analytical work on health sector reforms and efficiency of public health spending.** This analytical work demonstrates that the Brazilian SUS could achieve annual savings of BRL 12.7 billion while maintaining the same level of service delivery outputs and health outcomes at the tertiary care level (inpatient and outpatient services).[45] The analytical work identified inefficiencies caused by the excessive number of small hospitals (55 percent of Brazilian hospitals have less than 50 beds, 80 percent have less than 100 beds); allocative inefficiency with only 16 percent of funds allocated to PHC, which has the role of preventing health problems, while 46 percent of SUS expenditures are allocated to hospital and outpatient care with medium and high complexity; fragmentation of services in small municipalities, with a direct relationship between the size of the

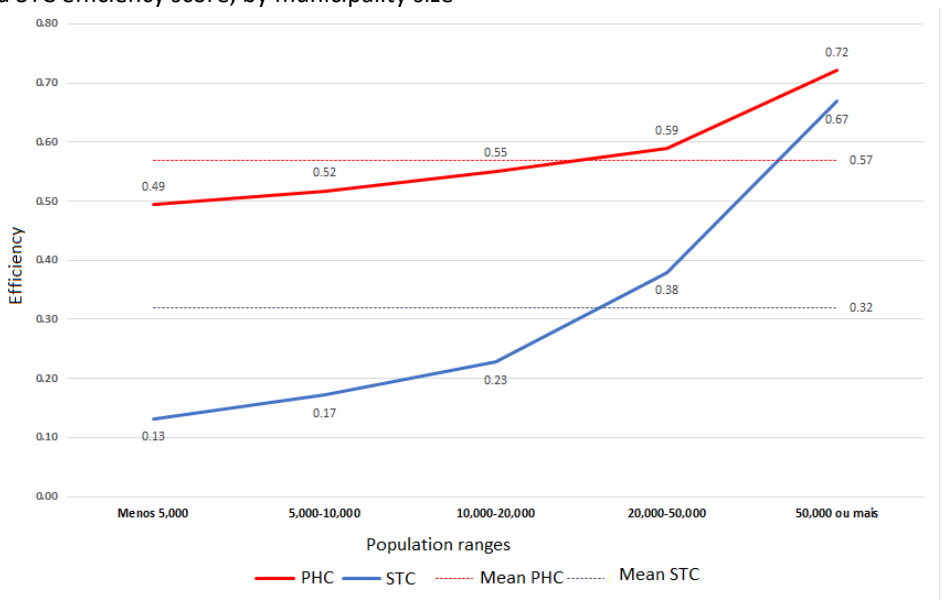
[45] World Bank. 2017. A Fair Adjustment: Efficiency and Equity of Public Spending in Brazil.

municipality and its efficiency in the provision of health services; fragmentation of care between levels of care, owing to poor coordination; and the fragmentation of the SUS network, leading to duplication of services and overcapacity, in addition to loss of economies of scale and higher operating costs.

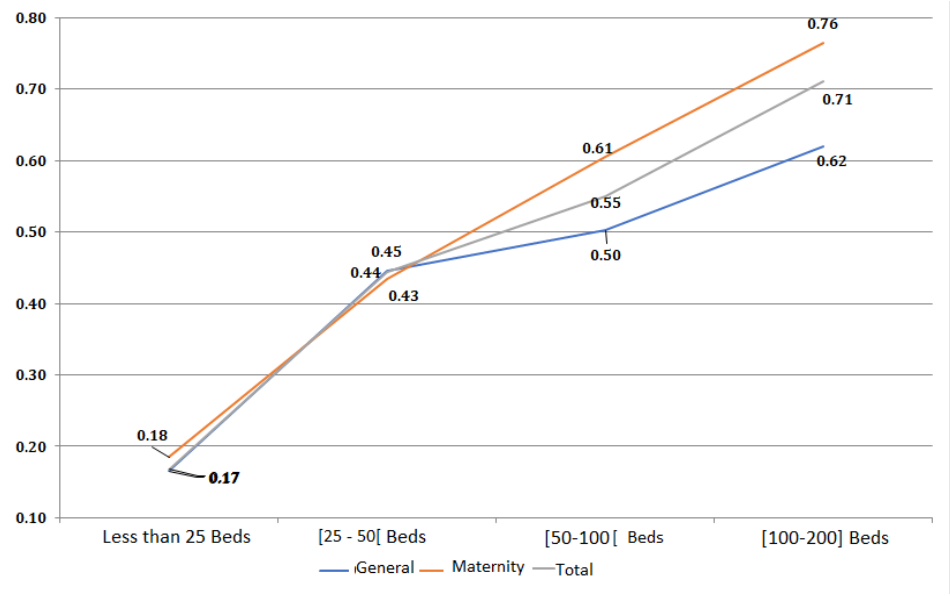
18. **Overall, Brazilian municipalities are consistently more efficient in the provision of PHC than secondary and tertiary care (STC) services, and this pattern is observed across regions and municipality sizes.** Nationwide, using a production frontier approach, the efficiency at the PHC level is estimated at 63 percent and STC at 29 percent. These results are similar across municipalities within Paraná, with PHC efficiency estimated at 66 percent and STC efficiency at 32 percent. Municipality size influences efficiency in both levels of care, but the effect is slightly stronger at the STC level (municipalities with less than 5,000 inhabitants perform four times worse than municipalities with more than 50,000 inhabitants). A key challenge faced by the state health system, as in other parts of Brazil, is to rationalize the hospital network by reducing the number of small hospitals. In Paraná, 62 percent of SUS hospitals have less than 50 beds (55 percent nationally) and 82 percent have less than 100 beds (77 percent nationally). Small hospitals provide low complexity services at higher costs and operate at low occupancy rates.

Figure 3.1. Efficiency of Public Health System in Paraná, 2013

a) PHC and STC efficiency score, by municipality size



b) Hospital efficiency score, by hospital size and specialization



Source: World Bank. 2017. A Fair Adjustment: Efficiency and Equity of Public Spending in Brazil.

19. **Fragmentation is a key bottleneck in the SUS service delivery network.** Despite the rise of chronic diseases, which require integrated and continuous treatment arrangements across provider settings, focusing on the management and control of risk factors, the SUS delivery system is organized to provide acute care through stand-alone facilities. Currently, there is little coordination across levels of care, and the fragmentation of the SUS network results in service duplication, overbuilt capacity, the loss of economies of scale, and higher operating costs. International experience demonstrates that coordination of care is critical to improved efficiency of health care service delivery through reduced hospitalization, improved quality of care and fewer medical errors, and more appropriate prescription and use of medication.

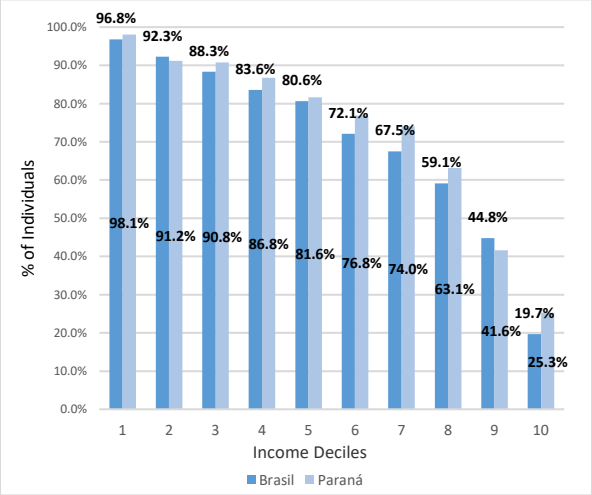
20. **The state of Paraná intends to improve efficiency of public health services by converting Small Hospitals into UCMs and improving information management within the health sector.** UCMs will focus on the needs of the state's growing elderly population and those with chronic conditions. The COVID-19 pandemic has demonstrated the importance of information across the health care delivery system. The lack of integration of the multiple SUS databases causes significant delays in decision-making. Information systems generate comprehensive sets of SUS performance and population health indicators, but there is no integration across information systems for services, administrative and financial data, human resources, and population health indicators. Fragmentation hinders the use of information in planning and monitoring. System integration would increase efficiency by facilitating pandemic response, supporting testing and contact tracing strategies (through electronic medical records), identifying groups at higher risk to provide preventive measures, and organizing the service delivery network to respond to the increased need for care (for example, by making better use of available hospital capacity).

21. **The proposed interventions will improve access to health services to vulnerable socioeconomic groups within the state of Paraná.** More than 90 percent of those in the bottom five income deciles depend exclusively on SUS to have access to health services (those without private insurance coverage).

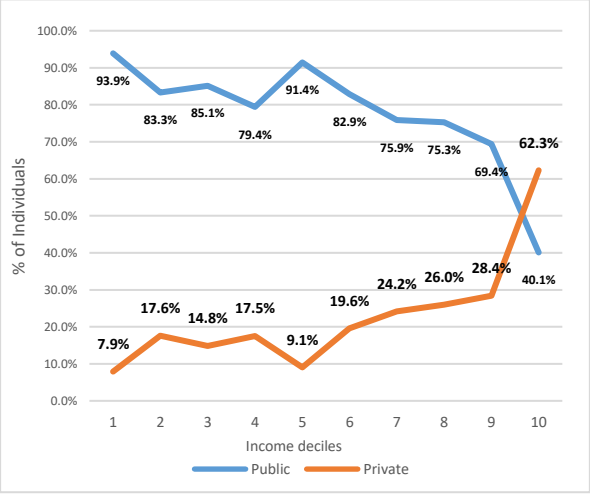
Analysis of SUS utilization patterns shows that the poor rely almost entirely on the public health services accessing health services, conditional on using health services, over 60 percent of individuals were treated in the SUS system, and 70 percent of those hospitalized were also in SUS. This treatment seeking pattern remained during the COVID-19 pandemic, with lower-income deciles depending heavily on SUS to access COVID-19 treatment (only among those at the top income decile sought COVID-19 treatment more in private providers than public providers). Improved coordination of care with the implementation of UCMs will reduce the burden of health care costs to patients.

Figure 3.2. SUS Dependency in Paraná, across Income Deciles

a) Share of population dependent on SUS



b) Percentage of individuals seeking COVID-19 treatment



Source: PNS 2019[46] and PNAD Covid[47]

Results area 2: Environmental and Disaster Risk Management Information Systems

22. **The environment is not an externality; it is the core of human health.** Factors in living and work environments can directly affect health. Early exposure to indoor air pollutants may damage healthy lung development, leading to a lifetime of morbidity. Adopting cleaner, more sustainable energy technologies and water sources could help promote both health and development. At the macro level, dwindling natural resources, population growth, and the effects of climate change are likely to impede improving global health. There is consensus in the literature about the need to link environmental management and disaster preparedness to larger strategies for sustainable development and for governments—and especially the health community—to become more engaged in this work. This need for capacity building and the creation of open and transparent spatial digital systems for managing data is particularly urgent considering emerging threats such as the COVID-19 pandemic and climate change.

23. **Spatial transformation toward agricultural and urban centers is the key driver of the state's environmental and disaster risk challenges.** As a result of rapid and irregular urbanization, water pollution has emerged as a major challenge for urban areas since the lack of sewage systems leads to

[46] National Health Survey (*Pesquisa Nacional de Saúde*): 2019. IBGE
[47] https://covid19.ibge.gov.br/pnad-covid/

uncontrolled discharge of wastewater. Also, solid waste management has remained insufficient, contributing to environmental pollution, and affecting human health.

24. **In the state of Paraná, original vegetation is reduced to 29 percent of its original area, which are mainly found at the Serra do Mar protected areas corridor in the northern coast of the state.** In June 2020, the government of the state of Paraná published a land use and vegetation cover mapping, which provides updated data on the vegetation of Paraná and other types of land use on a scale of 1:25,000. Land use in the remaining 71 percent of the state is distributed among agricultural areas (40 percent), including annual, permanent, and exotic species forestry; pastureland and natural grassland (25 percent); urban areas (1.5 percent); and water bodies (2 percent).[48]

25. **The management of natural and environmental resources directly affects livelihoods and the state economy.** The efficient management of natural resources and environmental licensing process are critical for achieving Paraná's economic and environmental goals. About 30,000 requests for environmental licenses and 10,000 water rights are registered per year in Paraná. The average period for analyzing a request for a license may reach 900 days for high-impact projects and 100 days for the medium- and low-impact activities. There are about 3,800 licensing application processes and 8,000 water grant applications pending analysis. The largest volume of environmental licensing processes comes from micro, small, and medium-sized enterprises. The requests from small enterprises make up 50 percent of the total, while medium-size enterprises add more than 17 percent of the total requests. The environmental licenses and water use rights licenses issued during 2019 made investments of BRL 28 billion possible in the state of Paraná, while the value of the fines resulting from environmental infractions was around BRL 43 million. However, the length of the licensing process discourages the productive sector from regularizing their situation.[49]

26. **Supporting environmental management capacity and electronic systems.** The Institute of Water and Land[50] (IAT, whose purpose is to protect, preserve, conserve, control, and recover the environmental heritage, seeking to foster a better quality of life and sustainable development with the participation of society, will be responsible for implementing the Environmental and Disaster Risk Management Information Systems results area. Institutional responsibilities for the assessment of E&S impacts and environmental licensing procedures are clearly ruled by law. They are under the attributions of IAT, one of the leading implementing agencies. IAT is responsible for (a) environmental licensing of all activities that use environmental resources, are potentially polluting those, or may cause environmental degradation, granting the use of water resources, monitoring, and compliance; (b) preparing, executing, and monitoring of plans, programs, and policies of conservation and restoration of biodiversity, the administration of protected areas, management of native and exotic fauna, and preservation, conservation, recovery, and management of the state's water resources and solid waste; (c) the mineral, geological, agrarian, land, cartographic, and geoprocessing areas as well as the territorial zoning of the state.

27. **Improved implementation of environmental safeguards and licensing can reduce costs for business operation and expand investments, while paving the way toward green growth.** A reliable,

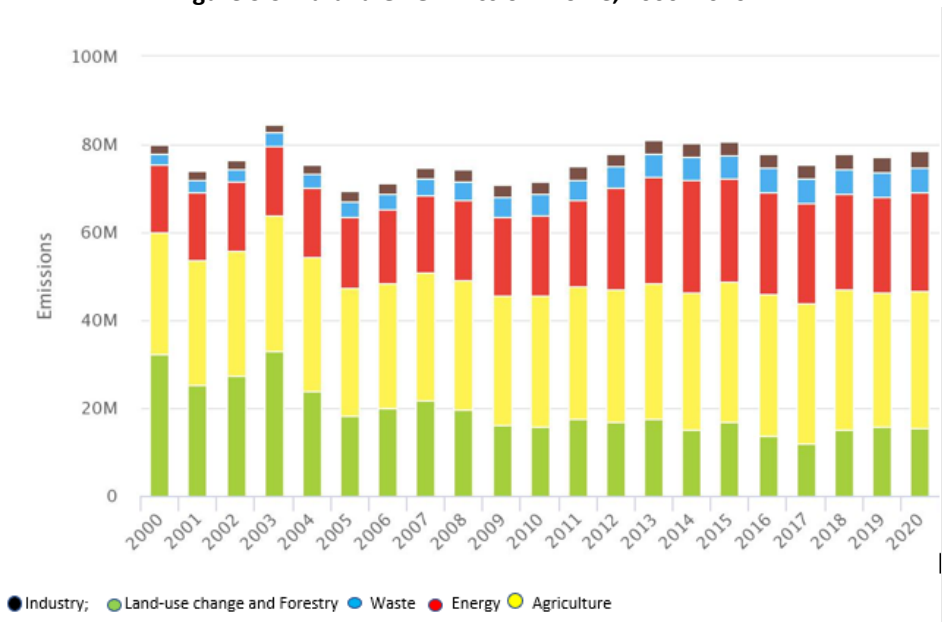
[48] http://www.aen.pr.gov.br/arquivos/0806mapasedest.jpg
[46] Source: IAT database
[50] http://www.iat.pr.gov.br/

simplified, consistent, and transparent EMS is essential for facilitating the predictability of the environmental licensing process. Paraná has developed a specific environmental data management system. Nevertheless, its tools often lack real-time data retrieving and sharing/interoperating capability, significantly hampering organizational decision-making processes. Improved environmental management tools—based on geospatial information, reliable data and information, clear and standardized procedures, and permanent channels of interaction with users—play a key role in responding to the growing demands from the productive sector, fostering sustainable economic and social development, and supporting public health decision-makers.

28. **Paraná also faces the challenges of climate change.** Scientific evidence of climate change points to alterations in the hydrological cycle that could influence the use of water resources. It is expected that by 2030 there will be a reduction in the total amount of rainfall and number of wet days in tropical South America with a tendency for more heavy rainfall in regions such as western Amazonian and Southern and Southeastern Brazil. In Paraná, the substantial number and prolonged extension of drought events are indicative that climate changes are intensifying in the last decades. Indeed, the state of Paraná has recorded a significant increase in the number of disasters over the years. According to the State Coordination of Civil Defense (*Coordenadoria Estadual da Defesa Civil,* DC) in 2018,[51] 194 municipalities (of 399 municipalities) were affected by some kind of weather extreme event.

29. **Annual data show that the state of Paraná emitted 73 $MtCO_2e$ in 2020** (11th position in the national ranking, 3.6 percent of Brazil emission). Agriculture and energy sectors are the main sources of GHG emissions (figure 3.3).

Figure 3.3. Paraná GHG Emission Profile, 2000–2020



Source: http://plataforma.seeg.eco.br/territories/parana/card?year=2019&cities=false#

[51] http://www.defesacivil.pr.gov.br/sites/defesa-civil/arquivos_restritos/files/documento/2020-02/anuario_2018_final.pdf

30. **Paraná is among the Brazilian states most affected by disaster events.** Between 1991 and 2019, 2,395 events were recorded, and more than 4 million people were affected.[52] Data from the past 25 years indicate that the state is in the 7th place in the national rank of economic impacts with more than BRL 20 billion in damage and losses, concentrated in the housing and infrastructure sectors.

31. **Hydrometeorological disasters have affected 53 percent of the state's population directly or indirectly from 1991 to 2019, resulting in 81 deaths and home losses for 384,248 people.** The state reported a yearly average monetary loss of BRL 800 million due to disaster events, with over half of these caused by climatological disasters and hydrometeorological events. Infrastructure and housing were the most affected sectors (44.2 percent). Private losses represent 68.6 percent of total losses with agriculture being the most affected sector (BRL 12.1 billion) while public sector losses are more predominant in the transport sector (BRL 962 million)[53].

Figure 3.4. Material and Economic Damage

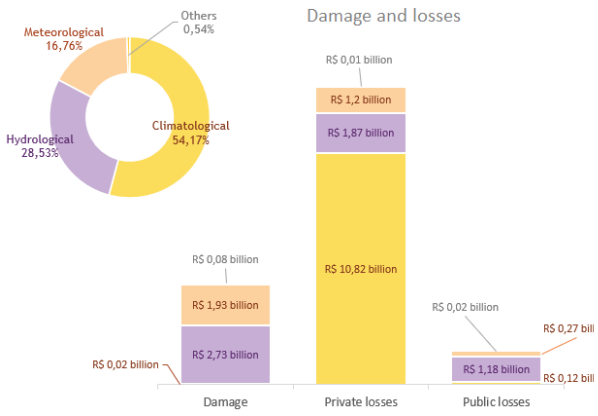
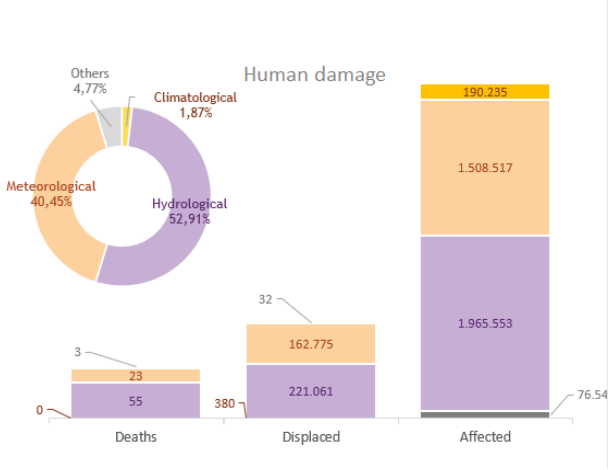


Figure 3.5. Total Affected Population



32. **In Paraná, disaster risk management is the responsibility of DC which reports directly to the State Governor.** Recently, the state's System of Civil Protection and Defense was restructured and strengthened, with support from the World Bank, through the SWAp for Parana Multi-sector Development Project (P126343), which included the Strengthening of Parana Disaster Risk Management Project. This supported the establishment of a highly effective disaster risk monitoring unit, which mapped and risk-profiled high-risk areas. There is a fully operational monitoring unit, which provides ongoing real-time monitoring of disaster risks in the state. An incident command system was put in place, based on the US model. All civil defense occurrences in the state are monitored in real time by the center's disaster monitoring and management room, and Civil Defense alerts are issued and disseminated via short message services (SMS) and television networks to the population of Paraná. The effectiveness of this system is hampered by the lack of geospatial mapping and high-resolution space-time stochastic models

[52] Federal University of Santa Catarina. Center for Studies and Research in Engineering and Civil Defense (CEPED/UFSC), with support from the World Bank. 2020. Report on Material Damage and Damage Resulting from Natural Disasters in Brazil (1995–2019). relatoriodedesastres.ceped.ufsc.br.

[53] Federal University of Santa Catarina. Center for Studies and Research in Engineering and Civil Defense - Ceped/UFSC. Digital Disaster Atlas Non-Brazil. 2020. Available at: atlas.ceped.ufsc.br.

for precipitation. These tools are crucial for hydrological applications related to flood risk and water resources management.

33. **The Program will support environmental innovation** consisting of new or modified processes, techniques, systems, and products to provide accurate, accessible, timely, updated, and location-specific information to avoid or reduce environmental harms, support public health decision-makers, and ensure compliance with environmental laws and regulations.

34. **More concrete environmental innovations include the establishment of geospatial technologies, interactive web maps, location-aware mobile devices, digital sensors, automatized analyses, web platforms, satellites images, interpolation application, among others.** These technologies will not only improve the ability of public authorities to manage natural resources and land use but also push the boundaries for civic engagement and public awareness.

35. **Specifically, in this results area, the Program will support the strengthening of** (a) geospatial information for decision-making, (b) technological innovation for agility in licensing processes, and (c) digital transformation to strengthen environmental enforcement. Detailed information on these topics is presented in table 3.1.

Table 3.1. Results Area 2 – Topics and Interventions

Topics	Interventions
Geospatial information	• Planialtmetric Base of the Paraná territory, at a scale of 1:10,000. This basis will generate the necessary information to monitor systems and for the environmental regularization process and future environmental regularization actions.
Environmental innovation	• Spatial data infrastructure. It aims to facilitate access and availability of updated spatial information and official information produced by the state. It is an online geographic platform with applied intelligence for access to environmental services, aiming to give transparency and publicity to environmental processes, facilitating access to information for entrepreneurs and control bodies (GeoPR and i9). • Technological innovation for agility in licensing process. The implementation of SIGARH was initiated through the previous project (SWAp) with a module for granting water resources. However, it is still necessary to improve and expand the use of technological tools to give agility, standardization and efficiency to the request processes, automatized analysis and issued licenses for low-risk activities.
Digital transformation	• Environmental monitoring networks. Physical networks for monitoring air quality and hydrometeorological will be expanded and modernized.

36. **These Program-supported activities are expected to help public health decision-makers through a state-specific geospatial database and foster the integration of environmental aspects into upstream policy dialogue.** In addition, the Program results will contribute to avoid overuse of natural resources, conversion, and degradation of critical natural habitats while reducing the costs of government management and improving environmental compliance.

37. **The institutional sustainability will be ensured by employing web-based technology as a tool for registering, monitoring, and controlling environmental compliance.** All outputs will benefit state agencies for long-term decision making. Environmental innovation will be a process of continual

improvement, in which IAT would constantly review and revise the system, procedures, and environmental policies.

Results Area 3: Planning and Public Investment Management

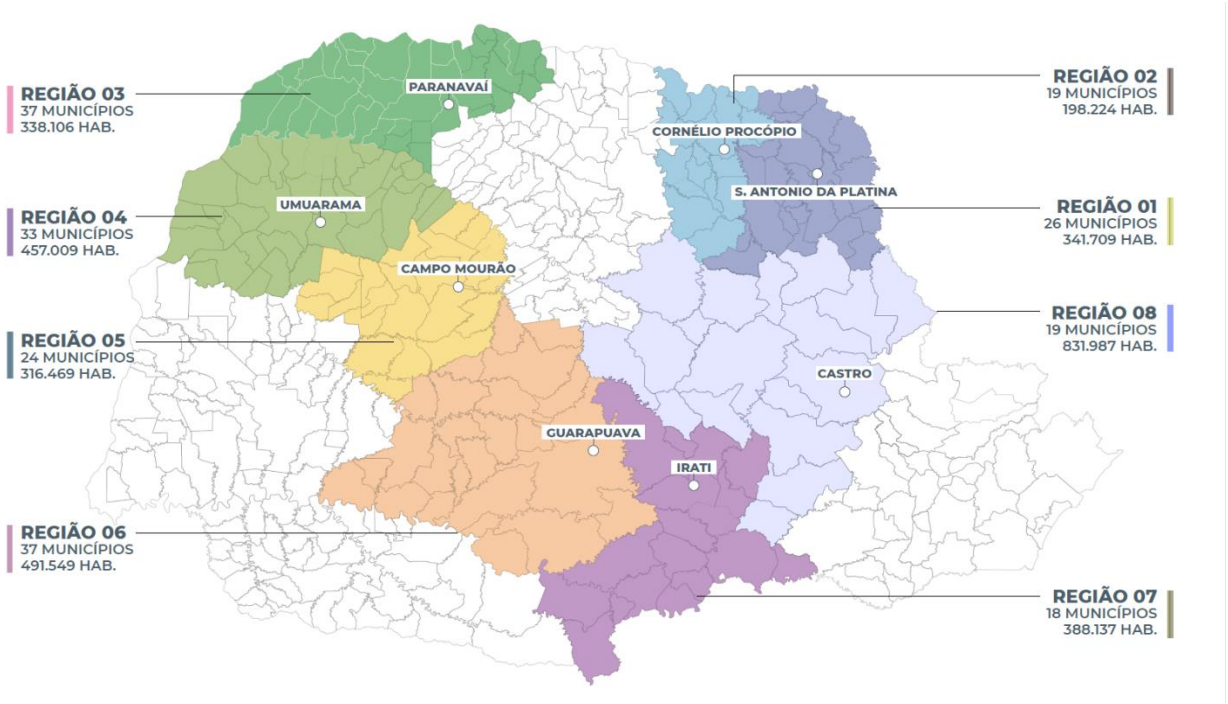
Regional Productive Development Planning

38. **In Brazil, states and municipalities are responsible for spatial planning and land use management.** Responsibilities include demarcation and management of indigenous reservations; demarcation of protected areas and parks; identification of large strategic infrastructure investments; and assignation of special status to cities, regions, or areas, such as free trade zones. There is limited scope for planning across jurisdictional boundaries. This hinders a coordinated response to challenges such as integration of producers and markets, water management, informal urbanization, environmental degradation, and infrastructure development.

39. **Paraná started to develop integrated regional plans in 2018.** The previous SWAp for Paraná Multi-sector Development Project (P126343) financed the preparation of the *Plano Metropole Norte* covering 15 municipalities in the interior north of the state, which sought to build on this region's status as an industrial center, and the *Plano Litoral* covering the 7 coastal municipalities, which looked at options for stronger links between the ports hub and local businesses and communities. Both plans enjoyed strong buy-in and ownership by the authorities at the state and municipal levels. Strong community mobilization and participation of nongovernmental groups was instrumental in generating wide ownership and support of the plans beyond the local authorities. The planning process produced a considerable amount of information that is being used in municipal and regional planning and has been made available to civil society and the public.

40. **Building on this experience, the authorities will prepare integrated regional plans in an additional eight regions.** These identified regions are poorer, less dynamic economically, and with lower human development indicators (figure 3.6). The plans will focus on identifying opportunities to combine municipal investment budgets for investments in renewable energy sources to mitigate climate change, sustainable tourism, rural infrastructure access and connectivity, and support to small agricultural producers and cooperatives. The focus of the plans is on identifying investments or initiatives related to productive activities that generate employment and income to support COVID recovery.

Figure 3.6. Regional Productive Development Plans



Source: SEPL

41. **Public investment in Brazil is low in comparison with peer countries.** Over the past two decades, public investment has been below the regional and income group averages, and this has translated into much lower capital stock. Public investment averaged around 2 percent of GDP during 1995–2015, compared with 6.4 percent for emerging market economies (EMEs) and 5.5 percent for Latin American countries. As a result, public capital stock in 2015 was only 35 percent of GDP compared with an average of 92 for EMEs and 87 for Latin American countries. Given the positive impacts of this expense for markets such as Brazil (Izquierdo et al. 2019), the low investment points to difficulties for the country's economic development.

42. **Paraná's public investment rate is lower than the average of the other Brazilian states.** Paraná had the fifth-lowest investment spending of Brazilian states at just over 4 percent of net current revenue in 2018 and 3.3 percent in 2019. At BRL 1.36 billion, investment expenditure in 2019 was lower, even in nominal terms, than in 2013 (BRL 1.44 billion) (see figures 3.7 and 3.8). The execution rate of investments has averaged just 50 percent.

Figure 3.7. Investment as % of Net Current Revenue

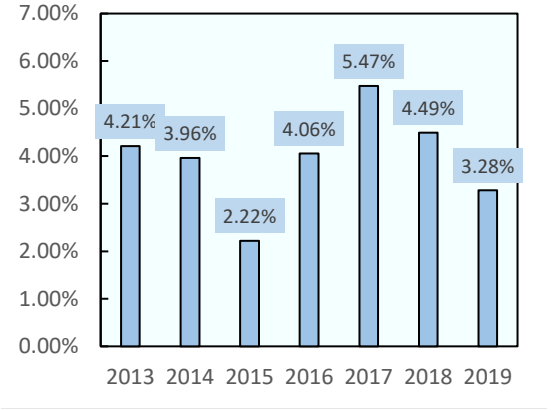
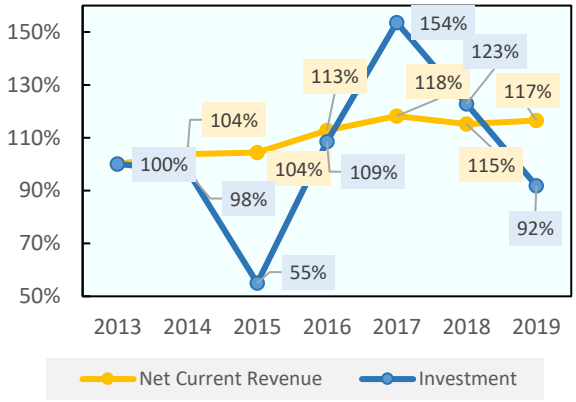


Figure 3.8. Variation of Investment and Net Current Revenue



Source: Secretariat of National Treasury (*Secretaria do Tesouro Nacional*, STN).

43. **Paraná does not have a systematic, government-wide PIM process.** The essential "must-have" features of a well-functioning public investment system include (i) clear investment guidance, project development, and preliminary screening; (ii) formal project appraisal; (iii) independent review of appraisal; (iv) project selection and budgeting; (v) project implementation; (vi) project adjustment; (vii) facility operation; and (viii) project evaluation. In Paraná There is no institutional structure to coordinate public investment. Each state administration body prepares its investment projects according to its own practices and guidelines. There are no government-wide technical criteria for project prioritization, selection, and appraisal. Projects are often prepared and approved without adequate economic, environmental, and social viability studies or verification of alignment with strategic priorities and budget constraints. Where feasibility studies have been carried out, the methodology varies between projects, making it difficult to compare costs and benefits. Weak project planning and preparation, management, and monitoring arrangements contribute to slow implementation and time and cost overruns. Information PIM is scattered across different systems, complicating the regular monitoring and analysis of investment projects. In addition, projects are not subject to systematic ex post evaluation which limits systematic learning.

44. **Realizing that robust investment management is a critical element to effective use of public resources in the context of the recovery from COVID-19, the state government has recently taken action to strengthen PIM**. To bring its PIM system in line with good international practice, and drawing on global experience of financial, economic, and environmental and climate considerations and mobilization of private sector investment, the authorities recently set up an inter-sectoral investment committee. The committee is chaired by the governor's office and comprises SEPL, the State Secretariat of Finance (*Secretaria de Estado da Fazenda*, SEFA), the Governor's Chief of Staff Secretariat (*Casa Civil*, CC), and the internal controller (CGE). The committee's mandate is to review and evaluate the readiness of the state public investment proposals before they are considered for financing.

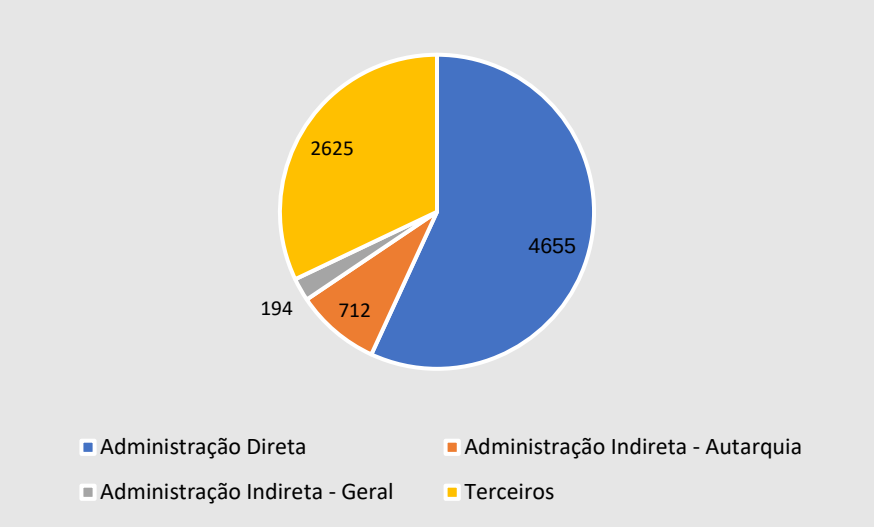
45. **The establishment of the investment committee is a critical first step in putting in place a modern system for the preparation of public investment projects.** The next step for the authorities is to develop operational guidance materials for project preparation, including detailed guidelines on project preparations, minimum data requirements, how to estimate realistic project costs, project benefits,

calculation parameters for CBA, internal rate of return, or any other parameters. Project screening and appraisal will need to address policy priorities such as equity and inclusion, the mobilization of private investment, and climate change. The institutional framework will need to be adjusted to facilitate independent review of the highest value and most strategic investment proposals and provide for ex post reviews.

Public Asset Management

46. **The state owns a vast stock of real estate assets that are currently used inefficiently.** The public real estate portfolio has grown in an incremental manner rather than based on real estate needs given service delivery needs and administrative responsibilities. Over 8,000 properties are currently owned or used by the state. Over 4,000 building and property records were updated in 2018 with financing from the Word Bank SWAp for Paraná Multi-sector Development Project (P126343). The state spends over BRL 37 million a year for renting 378 buildings from the private sector. The state property management system was also updated to include several new functionalities, including a map and geo-location, and an updated method for calculating depreciation. While 93 percent of the 8,000 properties are in use, the authorities suspect that many are underutilized and present opportunities for more efficient use and/or divestment.

Figure 3.9. Properties in the State Database as of March 2021 (number)



47. **The COVID-19 pandemic has revealed the need to undertake a strategic real estate asset assessment to examine current and future real estate needs for the public sector**, alternative options such as sub-contracting of transport or maintenance services, and consolidation of real estate including rental options and continued sale of unused properties through public auctions. SEAP's Department of State Assets (*Departamento de Patrimônio do Estado*) intends to further strengthen management of physical assets and identify opportunities for private sector investment in and management of assets and continued sale of unused properties.

48. **The state government has a goal of increasing public real estate efficiency** through increased occupancy rates of property or buildings and the reduction in the stock of public properties in line with service delivery needs and state capacity to efficiently maintain and use the properties. The government

strategy includes achieving a balance of directly owned and rented properties that provides the state the flexibility to quickly adapt its real estate use based on changing public service needs. This will require reducing the number of properties owned by the state and align these with real use needs through the sale of properties. The state has already begun such sales. In 2019 and 2020, five properties were sold through auction, and a further 14 were sold in 2021. A state property management fund has been set up to manage the proceeds from sales, with the purpose of improving the quality of the reduced public asset stock, including modern sustainable building standards.

49. **State property sales will require full legal documents and clean property titles.** Only around 66 percent of the properties held by the state authorities and *autarquias* have complete legal documents and clean titles (see table 3.2). Most of these without full documentation are older buildings and properties. However, even some of these properties may need to undergo a legal review and adjustments by the notary, including subdivision or unification of lots when needed. The process for obtaining formal titles of state property can be lengthy and complex, depending on several factors such as the location, age, size, and use of the asset. The Government is aware of possible social safeguard considerations in cases where unauthorized individuals may be squatting on the property or land. Where this is the case, the authorities will follow state safeguards standards and work with the state social housing authority[54] to find a solution.

Table 3.2. Percentage of Properties Held by the State with Full Legal Documentation

	Total Real Estate	With Legal Documents	%
State government	4,665	2,954	63
Autarquias	713	619	87
Total	**5,378**	**3,573**	**66**

50. **In parallel to the process of obtaining formal titles to state properties, a strategic real estate asset assessment will be carried out involving the following activities**: (a) a complete mapping and strategic analysis of the current occupation of all public properties owned directly by the state or by third parties and used by the state or municipal administration bodies; (b) a survey of the minimum real estate needs, considering public sector space requirements in line with state legislation; (c) creation of occupancy and dimensioning parameters for institutional properties; (d) upgrading of the state real estate property management system with this new information and functionalities including a search function to allow public sector institutions to search for space availability; and (e) presentation of an asset reallocation proposals where appropriate, guided by the principles of cost and occupational efficiency. The state may need to consider a possible revision of existing real estate occupancy regulations, considering future expectation of increased teleworking and shift to increased public use of digital services which may affect the need for office and service space.

51. **The state has already begun several activities in this regard:** a digital property registry was set up with support from the World Bank, the bidding process for hiring a company to update the registration of the remaining properties has begun, the state has also started the preparation of an asset management fund to manage the resources from future asset sales and finance renovation needs or acquisition of new properties, a legislative amendment to the state constitution will facilitate the sale of state properties,

[54] http://www.cohapar.pr.gov.br/#

and finally, an electronic auction system is being developed for the sale of unserviceable furniture and real estate assets.

Human Resources Management

52. **The World Bank's HRM micro-data analysis in Paraná reveals that tenured employees, who spend 25.5 years in the public service on average, account for 74.7 percent of the state's public sector workforce and 90 percent of the public sector wage bill.** There are 149,000 public employees in Paraná, of which 111,000 are tenured (74.7 percent) and 33,000 are temporary (22.2 percent). The three largest categories of public employees are those who work in the education (59.3 percent), security (18.8 percent), and health (16.8 percent) sectors which also account for most of the wage bill, 55 percent, 23.2 percent, and 13.5 percent, respectively. The state has professionally qualified staff. Almost 70 percent have a university degree and 28 percent have at least a high-school diploma. In terms of gender, the state employs more women than men overall (62 percent) and in key sectors—education (78.9 percent) and health (54.2 percent). However, women hold just 48.8 percent of tenured leadership positions (*estatutário com comissão*) and 47.7 percent of temporary leadership positions hired from outside the civil service (*exclusivamente comissionados*). There are 3,000 employees hired through political appointments in senior management positions (1,000 of whom are tenured public officials). Data also show that, among the 10 percent highest paid positions in Paraná's civil service, women represent 64 percent. At the same time, however, when analyzing leadership positions (exclusively commissioned and statutory with commission), women occupy only 39 percent of the highest positions, which seems to indicate that they are underrepresented.

53. **SEAP, responsible for HRM policy, plans to rationalize public employment and modernize HRM practices.** Strategic workforce planning has generally been input and process driven, responding to new staffing needs by hiring. This is a costly and inefficient practice, leading to unsustainable wage bill growth without an equivalent increase in delivery capacity. More than 20,000 tenured employees (16.7 percent of the tenured workforce) will retire in the next three to five years, opening a window of opportunity to adjust staffing practices. The strategic workforce planning system will allow the Government to better understand service delivery staffing requirements and identify delivery bottlenecks. Recruitment will focus on the skills needed for the future, particularly in critical digital and data analytics skills. Mechanisms will need to be put in place to facilitate horizontal mobility of public officials to address emerging staff requirements through training and career flexibility. This will require analysis of staffing and skill requirements and the development of tools for talent management. The state will also update the process of selecting leadership positions through competency assessments and a development program to steer high-potential staff toward management positions. Professional development activities will include the establishment of a talent pool, a competencies' assessment, and a talent management system which will help with horizontal mobility to solve specific agency demands and identify the skills required in new hiring. A leadership skills development program will identify women and individuals from disadvantaged groups that have potential and train them potentially assume leadership positions in government.

Program Expenditure Framework

54. **The programs to be supported by the PforR are part of the 2020 COVID-19 recovery plan and are subsets of the larger sector programs of the PPA.** The World Bank operation (US$130 million) has

two complementary components: a PforR component of US$120.5 million (92.6[55] of the operation) and a TA component of US$9.5 million (7.4 percent of the operation). The PforR will finance 2.65 percent of the selected state government program that has an estimated cost of US$4,544 million over five years. The state government program is distributed in programs and budget lines reflected in both PPA 2021–2023[56] and a forecast for 2024–2026, to be approved in 2023, and in LOA. The operation will support three results areas.

55. **The Program's budget is realistic, prepared with due regard to the GoB's policy, and implemented in an orderly and predictable manner.** The budget estimates of the Program are included in the state government budget and there is a reasonable expectation that the required resources will be appropriated in the financial years when required. However, in case of insufficient revenues collected at the beginning of each year, the state government issues a decree limiting the amounts authorized in LOA, related to discretionary or non-legally binding expenses (investments and costing in general) and these limitations would also apply to the Program expenditures, resulting in possible delays in its implementation. However, policy makers have expressed commitment to the Program and its strategic relevance, with strong oversight and participation of the citizens and stakeholders. Nevertheless, monitoring by the task team with high-level and frequent interactions between the CMU (CD) and state leadership will be undertaken, to ensure priority funding for the Program.

Public Debt and Fiscal Sustainability of the Program

56. **The state's public debt is low and has long average maturities.** The state's gross public debt at the end of 2020 was about 72 percent of state net current revenue (BRL 14.9 billion). The state government's net debt as a share of net current revenue stood at 37.1 percent, comfortably below Brazil's Fiscal Responsibility Law limit (200 percent). Less than 15 percent of the overall debt is in foreign currency, mostly with International Financing Institutions (IFIs) and with long-term maturities, while the remaining debt is held by the Federal Government and federal public banks. Under Federal Government regulations, the state of Paraná qualifies to receive federal guarantees for new loans.

57. **Paraná is on a sustainable fiscal path and has adopted structural reforms that will allow the state to keep its credit worthiness with the Federal Government (Payment capacity - CAPAG rating "B").** Between 2018 and 2020, operating expenditures grew at an annual average real rate of 6.7 percent, above operating revenue growth of 0.8 percent (table 3.3). In this period, the state was confronted with fast-growing pension spending of 4.3 percent per year. This was compensated by a containment of the active personal spending that decreased 4.9 percent per year. In 2019, the state approved a pension reform which will decrease pension's deficit. Pension spending is projected to grow 3.3 percent per year until 2025. Tax revenue growth is expected to recover after the pandemic negative shock and will grow 2 percent per year until 2025 compared to a decrease of 0.1 percent per year between 2018 and 2020. Combined, these trends will increase gross operating balances after 2021 and allow an increase in investment to 3.8 percent per year until 2025. On this basis, Paraná is expected to keep its CAPAG B, maintaining a sustainable fiscal path in the medium/long term. However, the state will need to keep track of the personnel spending growth, which is close to the limit set by the fiscal responsibility law.

[55] The 2024–2026 forecast was calculated based on the yearly budget average for PPA 2021–2023.
[56] The PPA covers 2020–2023. However, to calculate the Program, the period of 2021–2023 was considered.

Table 3.4. State of Paraná Projected Fiscal Balances (2018–2025, BRL millions, 2020)

BRL Millions, 2020	2018	2019	2020	2021f	2022f	2023f	2024f	2025f
I. Revenues	**51,197**	**51,223**	**53,513**	**51,472**	**52,325**	**53,128**	**53,975**	**54,981**
i. Tax revenues	34,245	34,448	34,121	34,917	35,613	36,243	36,902	37,588
of which: ICMS	27,081	27,232	26,877	27,631	28,322	28,903	29,496	30,102
ii. Social contributions	1,760	1,706	2,276	2,320	2,324	2,370	2,428	2,613
iii. Transfers	9,932	9,880	12,730	10,027	10,176	10,309	10,446	10,587
iv. Other revenues	5,261	5,190	4,387	4,208	4,212	4,205	4,199	4,193
of which: interests	1,964	1,552	583	586	586	585	583	582
II. Expenditures	**46,369**	**45,386**	**45,761**	**46,510**	**46,727**	**47,388**	**48,180**	**49,121**
i. Employee compensation	26,541	26,377	26,589	26,753	26,800	27,327	28,000	28,805
Active personnel	16,596	15,941	15,580	15,393	15,142	15,372	15,569	15,875
Pensions	9,945	10,437	11,009	11,360	11,658	11,955	12,430	12,931
ii. Interest payments	730	709	319	745	715	673	616	563
iii. Other current expenditures	19,098	18,300	18,854	19,012	19,212	19,388	19,565	19,753
III. Gross Operating Balance (I – II)	**4,828**	**5,837**	**7,752**	**4,962**	**5,597**	**5,739**	**5,795**	**5,859**
IV. Investment	**2,143**	**2,531**	**3,604**	**3,573**	**3,962**	**4,191**	**3,703**	**4,259**
V. Overall Balance (III – IV)	**2,686**	**3,306**	**4,148**	**1,389**	**1,635**	**1,548**	**2,092**	**1,601**
% of revenues	6	7	8	3	3	3	3	2
VI. Primary Balance (V + Interests, net)	**1,451**	**2,463**	**3,883**	**1,547**	**1,765**	**1,637**	**2,124**	**1,582**
% of revenues	3	5	7	3	3	3	3	2
VII. Net Financing	**203**	**(302)**	**1,190**	**(869)**	**(1,115)**	**(1,029)**	**(1,575)**	**(1,087)**
i. Loans	250	228	1,560	201	(2)	99	(129)	(128)
ii Amortizations, net	(625)	(539)	(476)	(1,177)	(1,220)	(1,235)	(1,553)	(1,065)
iii Asset sales	578	9	106	107	107	107	106	106
VIII. Gross Financing Needs (– V – Amortizations, net)	**(2,061)**	**(2,767)**	**(3,671)**	**(212)**	**(415)**	**(313)**	**(539)**	**(536)**
% of revenues	−4	−5	−7	0	−1	−1	−1	−1
VI. Financing Surplus/Gap (–V – VII)	**(625)**	**(539)**	**(476)**	**(1,177)**	**(1,220)**	**(1,235)**	**(1,553)**	**(1,065)**
% of revenues	−1	−1	−1	−2	−2	−2	−3	−2

Source: State Secretariat of Finance (*Secretaria de Estado da Fazenda*, SEFA) and World Bank calculations.

Results Monitoring and Evaluation

58. **The Results Framework primarily captures direct benefits associated with the Program and aligned with the PPA.** The development objective indicators, intermediate indicators, and DLIs are aligned with the PDO and are elaborated in the Results Framework. The theory of change explains the logical connection between activities, results, and outcomes along each result area. The results indicators are designed to be SMART (specific, measurable, achievable, relevant, and time-bound). Indicators are realistic and reflect a coherent theory of change for the three results areas and six activities. SEPL will have overall responsibility for coordinating, monitoring, and reporting on Program key result areas, DLIs, and intermediate DLIs.

59. **The operation benefits from lessons learned from the concluded multisector SWAp for Paraná Multi-sector Development Project in Paraná.** The following lessons and recommendations were applied

in the preparation of the current operation: (a) the team has worked to ensure a common understanding among all stakeholders of how a results-based instrument works in practice from the concept and preparation stage; (b) only activities where the government identified a clear need and value added from World Bank support for quality control were included in the TA component; (c) DLIs are realistic, achievable, and under the control of implementing agencies rather than being too aspirational and high-level outcomes; (d) the selection of fewer sectors and fewer TA activities will facilitate proactive and hands-on project supervision and support; and (e) the institutional reform activities and results are anchored in supportive government policies as outlined in the government program.

Economic Analysis

60. **The economic analysis evaluates the costs and benefits from the interventions across the three Program results areas.** There is a strong rationale for public sector financing for the proposed Program due to significant positive externalities across the proposed interventions. Health sector interventions, for example, will support the state of Paraná response to COVID-19 which will contribute to mitigate the pandemic effects and help create the conditions for reopen the state's economy. Reorganization of the state SUS will have an impact on service quality through better coordination of care, particularly for the Paraná's growing elderly population, and efficiency of public health services by reducing the number of small hospitals in the state. Environmental and disaster risk data upgrade will help manage growing pressure from the productive sector on the environment through more efficient licensing processes and improve disaster risk planning and response. Public sector management reforms will improve efficiency in the public assets, human resources, and digital services. Together these interventions will generate efficiency savings for the state and service users and improve living standards. The Program will benefit the poor by expanding access to essential public services. The Program will benefit businesses by reducing costs and time spent in bureaucratic processes.

61. **The World Bank brings added value to the Government through its international experience in the design and implementation of COVID-19 response, health sector reform, environmental and disaster risk management information systems, and public sector management.** This operation builds on the World Bank's extensive experience in institutional development and poverty reduction lending in upper-middle-income Countries. The Program draws on the World Bank's global knowledge, technical expertise, and lessons learned in the implementation of similar operations solutions in Brazil and across the world. Alongside its technical advice, the World Bank can facilitate dialogue and cooperation between key stakeholders, working with government agencies, civil society, and private sector firms across subnational governments.

62. **A CBA is used to estimate the impacts of the proposed interventions**. Benefits and costs of both scenarios were projected during the lifetime of the Program using a discount rate of 6 percent. The lifetime of the economic returns to Program investments were estimated as follows: 35 years for the health results area, 15 years for environmental and disaster risk management information systems, and 10 years for public sector management. The following paragraphs describe the monetized benefits assessed for each of the three results areas of the Program.

Results Area 1: Health Service Delivery

63. **Years of life saved as a result of the COVID-19-related intervention.** As of December 2021, Paraná had registered over 1,59 million cases of COVID-19, resulting in over 40,850 deaths. By the first quarter of 2020, the state expanded its public hospital capacity to treat COVID-19 cases, adding 889 adult ICU beds and 47 pediatrics ICU beds (in addition to 1,635 outpatient beds for suspected and mild cases of COVID-19), which allowed the state to treat more than 540,000 people. Project benefits are measured in terms of the expected years of life saved of all individuals treated within hospitals supported by the Program from 2020 to 2022. Economic gains can be measured by the expected value generated, in terms of flow of income, by each year of life saved. Years of life saved are measured by the difference between the life expectancy and the age of individuals discharged from hospitals, controlled by gender and age group. Data for the number of individuals with COVID-19 who were treated in these hospitals come from PNAD COVID. The expected economic gain of each year of life saved is the number of additional years lived (for each individual discharged from these hospitals) multiplied by the average annual earnings of the state (PNADC 2019[57]). The analysis indicates that by December 2021, 1.5 million individuals were treated in hospitals[58], with 60 million years of adult life saved, representing an average of 40 years of adult life saved per treated individual. Applying the annual Paraná earnings of BRL 32,000 (US$5,500), using data from PNAD Contínua 2019, the results indicate an expected benefit of US$252 billion in terms of productive life years gained in the next 35 years.

64. **Efficiency gains from health service delivery reforms.** Reorganization of public health service delivery is the most expensive Program intervention, with an allocation of US$79 million by the PforR and US$4.54 billion of the government program. The purpose of the intervention is to improve coordination of care across primary and secondary care levels through the creation of UCMs. The economic gains are estimated through two channels: efficiency gains and cost savings. Efficiency gains come from converting small hospitals into UCMs, which will operate with less physical capacity, reduced specialized care consultations, and the introduction of coordinated long-term care for the elderly. Efficiency gains are based on World Bank analytical work on hospital efficiency in Brazil using the data envelopment analysis technique to estimate medium/high-complexity service delivery efficiency and waste (slack, which represents the extra input that inefficient spending uses to achieve the same output of efficient municipalities). The economic gains from the Program are estimated using the expected schedule of small hospitals' conversion and the average slack of small hospitals. Using these parameters, the yearly average slack, or waste, for a small hospital in the state of Paraná is US$838,000. The Program includes the conversion of 40 small hospitals over the five years of the Program, with a 35 years' lifetime of benefits and related upkeep costs of BRL 250,000 (US$46,000) per hospital per year. The total benefit of the Program is US$1.1 billion. During the 35 years of the expected lifetime of economic returns of the health component, the total benefit is estimated to be US$22.5 billion, with a total cost of US$4.3 billion, resulting in a net benefit of US$18.1 billion and an internal rate of return of 23.25 percent.

Results Area 2: Environmental and Disaster Risk Management Information Systems **Savings from reduction in damage to property and infrastructure**

[57] PNAD Contínua is a household survey from IBGE. Average earnings represent what individuals declare as earnings effectively received from all occupations.
[58] COVID-19 Epidemiological Report, Paraná State, December 15, 2021.

65. **From 2006 to 2015, Paraná had an average of 447 disaster events per year, with an average property and infrastructure damage of over BRL 800 million per year.** The avoided direct losses are those associated with the immediate outcome of disaster occurrences and related to damage or complete loss of assets. Historical data on the damage cost of properties and infrastructure in the state were used to build scenarios of future losses. The annual value of avoided losses for Paraná was estimated at US$7.0 million, or 5 percent of the total yearly average costs incurred after disaster events. The avoided losses for the disaster prevention efforts of the environmental monitoring and management subcomponent are accounted for 10 years starting in 2027, 5 years after the start of Program implementation.[59]

66. **Lives saved.** Disaster monitoring in Paraná from 2006 to 2015 estimated over a million people evacuated, displaced, injured, or affected otherwise as well as 17 deaths. For the calculation of economic benefits of the Program, the average number of deaths for 2006–2015 was expected to remain constant at 17 per year throughout the analyzed period to avoid unrealistic projections. The benefits arise from the years of productive life of each saved individual. All individuals deemed saved in the model were considered to be 36 years old, the current state's average age, and benefits were accrued until the age of 65 years. The expected economic gain for each is the number of individuals saved multiplied by the number of years of productive life (that is, 65 minus 36, or 29) and the average GDP per capita of the state. The total benefit for avoided deaths per year was estimated at US$2.8 million, which accounted for 10 years starting in 2027.[60]

67. **Savings from efficiency improvements in the environmental licensing process.** Benefits are estimated based on the current number of environmental and water rights licenses issued by the state's unified IAT agency each year. The state's current goal of reducing the total time for license issuing from approximately five months to five days for water rights permits and low/moderate-impact activities licensing, following improvements and modernizations enabled by the operation, was also considered as a parameter for scenario building. The benefits are measured by multiplying the difference in time caused by the process improvement, of approximately 145 days, for the state's current GDP/capita, average firm size, and a discount rate of 5 percent, deemed to be the share of a firm's production tied to obtaining these licenses. The set of firms deemed relevant for this exercise were from industries that are most likely to benefit from such permitting processes, namely agriculture, manufacturing, and construction. The economic benefit was estimated at US$70 million per year. Benefits from revamping the licensing process start in 2023 and are obtained in 20 percent increments per year for the first five years. After this initial period, 10 percent yearly increments in licensing demand are expected for additional nine years.[61]

Results Area 3: Planning and Public Investment Management

68. **Fiscal savings on fuel, rent, and maintenance of the state's vehicle fleet and real estate.** The benefits for the first activity arise from the adoption of best practices for public asset management for both real estate and vehicle fleet. The state government estimated the monthly expenditure with fuel at

[59] Federal University of Santa Catarina. Center for Studies and Research in Engineering and Civil Defense - Ceped/UFSC, with support from the World Bank. Report on Material Damage and Damage resulting from natural disasters in Brazil (1995-2019). 2020. Available at: relatoriodedesastres.ceped.ufsc.br.
[60] Federal University of Santa Catarina. Center for Studies and Research in Engineering and Civil Defense - Ceped/UFSC, with support from the World Bank. Report on Material Damage and Damage resulting from natural disasters in Brazil (1995-2019). 2020. Available at: relatoriodedesastres.ceped.ufsc.br.
[61] Source: IAT database.

BRL 2.3 million, or BRL 27.6 million per year. Further expenditure figures were collected from the state budgeting database. Throughout 2020, the government of Paraná spent BRL 49.5 million on vehicle maintenance, BRL 68.6 million on rental space, and BRL 36.5 million on property maintenance. The efforts of updating registry information, valuation, and legal documentation are expected to generate savings on rental space, fuel, and property maintenance as well as free up properties for government auctions among the current holdings of around 5,000 vehicles and 5,561 properties. This would not only generate sale proceeds to the state but also generate benefits from the transfer of such properties to the productive sector. The total benefit from all strategies was estimated at US$7.5 million, including one-time auctions, as well as savings in vehicle fuel consumption and real estate operation and maintenance accumulated over five years starting in 2022, the first year of implementation.

69. **Increase in public investment execution.** It is expected that the Program will positively affect the state's ability to prepare and manage public investment projects. Improvements in Paraná's public investment system should lead to higher social and economic returns to all public investment projects going forward. However, such benefits are difficult to predict and quantify with any certainty. Simply increasing investment execution could also have a significant impact, particularly during periods of uncertainty. The International Monetary Fund finds that increasing public investment by 1 percent of GDP could strengthen confidence in the recovery and boost GDP by 2.7 percent, private investment by 10 percent, and employment by 1.2 percent if investments are of high quality and if existing public and private debt burdens do not weaken the response of the private sector to the stimulus.[62] Increasing PIM efficiency on top of this could boost the impact by another 30–60 percent depending on the distance from the efficiency frontier.[63] From 2015 to 2017, Paraná invested an average of BRL 2.1 billion per year, out of BRL 4.5 billion (or 47 percent) committed for this budget line. To calculate the benefits, a 25 percent increase of the total realized amount per year was assumed, to be captured in 20 percent increments from Year 3 to Year 10 of the Program. In other words, a 5 percent increase was expected for Year 3, 10 percent for Year 4, and so forth, until the full 25 percent increase is accrued in Year 7. After that, a 10 percent increase per year is expected until Year 10. The total economic benefit for this subcomponent is US$611 million.

70. **Over the 10 years of the expected lifetime of economic returns of the public administration component, total benefit is estimated to be US$652.2 million, with a total cost of US$123.2 million, resulting in a net benefit of US$19.8.3 million and an internal rate of return of 5.3 percent**. Benefits that have not been included relate to improvements in HRM. There is scope for significant savings in HRM considering the share of payroll expenditures in Paraná's state budget for 2019, at 59.9 percent, compared to Espirito Santo, the first with the lowest share of payroll expenditures at 46 percent. Should Paraná attain the same level, savings would amount to US$1.1 million a year. In the absence of a specific target for payroll cost reductions, potential savings are not included in the calculation of Program benefits.[64]

[62] https://blogs.imf.org/2020/10/05/public-investment-for-the-recovery/
[63] https://www.imf.org/external/np/pp/eng/2015/061115.pdf

Table 3.5. Summary CBA Results

Summary of Benefits	Cost (US$)	Benefits (US$)	Net Benefit (US$)	IRR (%)	CBR
Health Service Delivery	−4,347,528,488	22,488,711,142	18,141,182,654	23.25	5.2
Environmental and Disaster Risk Management Information Systems	−134,070,000	1,353,016,059	1,218,946,059	43.59	10.1
Planning and Public Investment Management	−123,210,000	652,255,563	529,045,563	42.20	5.3
Total	−4,604,808,488	24,493,982,764	19,889,174,275	25.18	5.3

71. **The CBA does not encompass second order environmental, social, and economic benefits.** The Program is expected to have an impact on the preservation of water quality and availability and air quality, preservation of the biome's biodiversity, improvements in the quality of life through improvements in the environment, and benefits to the private sector in the form of less bureaucratic interactions and increased investment opportunities. These benefits are difficult to attribute and quantify and have therefore been excluded from the analysis.

72. **The CBA will be updated during Program implementation.** The analysis presented uses parameters published in the literature and assumptions to estimate the economic efficiency of the operation. There are data limitations. The analysis will be recalibrated, and the overall accuracy will be improved, tracking costs and benefits at different implementation and completion stages.

ANNEX 4. SUMMARY FIDUCIARY SYSTEMS ASSESSMENT

1. **Reasonable assurance.** The procurement and FM systems' capacity and performance, with the implementation of the proposed mitigating measures and agreed actions to strengthen the systems (which are reflected in the PAP), are adequate to provide reasonable assurance that the Program funds will be used for the intended purposes, with due attention to the principles of economy, efficiency, effectiveness, transparency, and accountability. The findings of this assessment also reflect the comprehensive FM review[65] of four potential implementing municipalities[66] which demonstrated that there are sufficient FM arrangements in place at the decentralized level to ensure that the state budget decentralized funds are properly used, accounted for and documented, and are able to follow the operations' agreed fiduciary arrangements as described below.

2. **The overall fiduciary risk rating is considered Substantial.** The key fiduciary risks to the development outcomes of the Program that underpin the Substantial risk rating are as follows: (a) several state budget lines constitute the Program and will require monitoring of a considerable range of information, from various sources and government units and systems; (b) in the case of insufficient state revenues being collected, budget restrictions may be applied to the PforR component, resulting in possible delays in its implementation and achievement of DLIs and respective disbursements; (c) firstly, the time required to adjust or include the transfers in the municipalities' budget and then secondly, the time required to receive and review the respective supporting documentation may cause delays in budget execution and subsequent auditing, and consolidation of the eligible expenditures; (d) non-standard approval processes conditions and criteria were established by SESA to expedite, use and document decentralized funds related to the COVID-19 Pandemic; and (e) due to the numerous implementing agencies involved in the Program execution, particularly at the decentralized level, there is a risk that contracts will be awarded to firms and/or individuals debarred or suspended by the World Bank.

3. **The following actions were agreed to mitigate the fiduciary risks:**

a) SEPL's information system (SIGMA-PP) and the state's FMIS called SIAF will be used for tracking the Program-related budget lines' execution and respective eligible expenditures and the World Bank will request SEFA that full direct access to SIAF be provided to the World Bank's Financial Management Specialist; a Financial Management Specialist will be appointed in the PMU to coordinate all FM aspects of the Program, including the relationship with all the executing agencies and the preparation and monitoring of the FM reports required by the Bank.

b) In addition to policy makers' expressing their commitment to the Program and its strategic relevance, monitoring by the task team with high-level and frequent interactions between

[65] Including interviews with staff and review of the questionnaires responded by the municipalities. The criteria to choose the municipalities included the volume received through decentralization of funds to implement state health policies, and their regional, economic and population relevance.

[66] The state of Paraná has 399 municipalities, of which the municipalities of Londrina, Maringa, Pato Branco and São José dos Pinhais represent 20.5 percent of the total state annual budget decentralized for health services.

the CMU (CD) and state leadership will be undertaken, to ensure priority funding for the Program.

c) SESA's monitoring system will be improved to ensure that the funds are included in the municipal budget in time. CGE-PR will review the supporting documentation and proper use of funds throughout Program implementation. The World Bank will provide training to staff at the state level on Program implementation and the World Bank's fiduciary procedures including activities within the TA component to assist the state in expanding its capacity; and SEPL will oversee/monitor the amounts paid and documented by the municipalities and not simply consider the amounts initially transferred to the municipalities as the eligible expenditures.

d) External auditor reports will include a specific note on the eligibility of all COVID-19 related expenditures financed under the PforR operation and should identify any case/practice of fraud and corruption.

e) All implementing agencies, both at the state and municipal levels, will be instructed/required by official decree to comply with the World Bank's ACG, to ensure that no contract will be awarded to a firm or individual which is on the World Bank's debarred list. In addition, the ToRs for the external auditors will include a requirement to review Program expenditures for such ineligible contracts. Any such contracts will be excluded from forming part of the Program, for the purposes of the overall Program expenditure reconciliation.

4. **Procurement exclusions.** There are no potential high-value contracts identified under the Program at this time.

5. **The World Bank operation (US$130 million) has two complementary components:** a result-based financing component (PforR) of US$120.5 million (92.7 percent of the operation) and a TA component of US$9.5 million (7.3 percent of the operation). The PforR will support 2.65 percent of the state government program that has an estimated cost of US$4,544 million over five years, distributed over various programs and budget lines reflected in both PPA[67] 2020–2023[68] and a PPA forecast for 2024–2026,[69] to be approved in 2023, and in LOA. The TA component (IPF) will strengthen the institutional capacity and finance studies, impact evaluations, training, operational costs, and other expenses to support selected departments of the state government.

6. **Responsibility for coordinating, monitoring, and reporting the activities and results of the Program rests with SEPL, which will also hold the primary fiduciary responsibilities (both FM and procurement), as defined in State Decree No. 8,461, of December 7, 2017.** SEPL's team comprises

[67] The PPA covers 2020–2023. However, to calculate the Program, the period of 2021–2023 was considered.
[68] The 2021 budget will probably be used for financing prior results.
[69] The 2024–2026 forecast was calculated based on the yearly budget average for PPA 2021–2023.

qualified professionals who are aware of the World Bank policies and procedures and possess the education levels, experience, and knowledge to adequately execute them.

State of Paraná's Public Financial Management Cycle

Planning and Budgeting

7. **The Program's budget is realistic, prepared with due regard to the GoB's policy, and implemented in an orderly and predictable manner.** The budget estimates of the Program are included in the state government budget and there is a reasonable expectation that the required resources will be appropriated in the financial years when required. However, in the case of insufficient revenues collected at the beginning of each year, the state government issues a decree limiting the amounts authorized in LOA, related to discretionary or non-legally binding expenses. These limitations would also apply to the Program expenditures, resulting in possible delays in its implementation and the achievement of DLIs and respective disbursements. However, policy makers have expressed their commitment to the Program and its strategic relevance with strong oversight and participation of the citizens and stakeholders. Nevertheless, monitoring by the task team with high-level and frequent interactions between the CMU (CD) and state leadership will be undertaken, to ensure priority funding for the Program.

8. **A robust mechanism for annual budget preparation is in place.** The Program's planning and budgeting is guided by the Brazilian federal budget model, defined in the 1988 Constitution of Federative Republic of Brazil and the 1989 Constitution of the state of Paraná, that underpins the management of public finances at all levels of government. The budget cycle comprises three main instruments: the PPA, valid for four years, which establishes the medium-term guidelines, objectives, and targets of the public administration; the annual budget guidelines law (*Lei de Diretrizes Orçamentárias*, LDO), which reflects the public policies and their priorities for the following year; and LOA, which estimates revenues and sets the expenditure limits for the financial year. These expenditure limits should also comply with the Fiscal Responsibility Law of 2000, which established requirements for macroeconomic and fiscal discipline, and the Public Finance Law (Lei 4.320 of 1964), which regulates financial controls, budgeting, and reporting at the federal, state, and municipal levels. Expenses are divided into current and capital expenditures. The state applies a functional classification system that is close to the UN System of National Account's Classification of the Functions of Government. The state budget foresees and defines physical and financial goals. The state budget is prepared for all relevant activities and in sufficient detail to provide a relevant instrument for the verification and monitoring of the performance of the Program. The budget classification system is also sufficient to allow for the tracking of Program expenditures.

9. **The state Decree No. 8,461, of 2017, assigns SEPL specific roles related to the technical supervision and control of credit operations carried out by the state's Executive Branch.** These responsibilities include monitoring the performance of credit operations, helping to identify obstacles and opportunities/actions for improvement; monitoring and providing technical guidance to PMUs regarding the information registered in the credit operations control systems; supervision and monitoring of the fulfillment of credit operations' contracts; and monitoring of the flow of disbursements and rendering of accounts. To comply with these provisions, state agencies and entities involved in the execution of programs and actions financed with funds from credit operations must provide SEPL with information on the physical and financial execution of programs and actions, in accordance with the guidelines issued by the Secretariat. Staff at both the state and municipal levels are familiar with the budget cycle and

respective rules and regulations. However, sometimes there is a lack of proper understanding of the various and distinct program regulations and deadlines during budget implementation. To address this risk, a Financial Management Specialist will be appointed to coordinate all FM aspects of the Program, including the relationship with all the implementing agencies and the preparation and monitoring of the FM reports required by the World Bank.

10. **Through their respective budget units, SEPL and the other government agencies involved in the Program (SESA, IAT, DC, SEAP, and CC) act as the focal points for the preparation of the budget documentation to be sent to SEFA for review (PPA, LDO, and LOA draft resolutions).** There is a negotiating process between the implementing agencies and SEFA to determine annual budget allocations. The Program's budgetary and financial execution process will follow the state's routine, encompassing the budget commitment (*empenho*), verification (*liquidação*), and payment (*pagamento*) processes, which are carried out by SEFA personnel allocated to each implementing agency. SEPL will develop and consolidate the Annual Operating Plans that will be used in the forecast of LDO and LOA, through SEPL's information system (SIGMA-PP). This will facilitate planning of Program activities, collection of information from the agencies in charge of the different subprograms, and budget preparation.

11. **SIGMA-PP will also be used for financial monitoring, indicator monitoring, and contract management. The presentation of revenues and expenditures in LOA is consistent with those used in the approved PPA and LDO**. Both the PPA and LOA require exact identification names and codes for all activities and programs. Programs are also linked to a responsible budget unit (*Unidade Executora*). LOA states the description of the corresponding actions (projects, activities, or special operations), specifies the funding source (treasury or other), and lists the main economic expenditure categories (personnel, maintenance, investments, transfers, public debt services, and financial applications). The Program can be identified in the state government's budget under specific budget lines.

12. **The total amount in the state's medium-term Budget Plan (Plano Pluriannual PPA 2020 – 2023 and a forecast for the 2024-2026, to be approved in 2023) for the selected state government programs is US$6.928 billion, of which US$4.544 billion (65.6 percent) refers or pertains to the Program budget lines and interventions to be supported by this operation.** The World Bank's PforR component finances US$120.5 million of this US$4.544 billion Program cost, which is equivalent to 2.6 percent. The Programs' expenditure framework is reasonable to support the PforR operation.

13. **The state government programs are distributed in budget lines that concentrates on key areas to improve public administration and delivery of public services with a focus on pandemic mitigation and economic recovery.** Based on the 2021 budget composition (and assuming it remains unchanged), the total Program expenditure is composed of 96.36 percent current expenditures and 3.64 percent capital expenditures, of which the World Bank PforR component will support 2.63 percent and 3.16 percent, respectively. The percentage varies among the different budget lines (table 4.1). The World Bank will request SEFA that full direct access to SIAF be provided to the World Bank's FM specialist to help monitor the respective activities, prevent double-dipping, and ensure that applicable procurement procedures are applied. The budget lines and detailed expenditures will be described in the POM.

14. **The general conclusion about the adequacy of budgets to the PforR operation is that the state** has well developed, albeit relatively complex, budget processes with sophisticated planning, budgeting,

expenditure control and compliance, monitoring, audit and reporting tools. The amounts have been allocated appropriately but considering that the operation extends beyond the current PPA (2020–2023), it will be necessary to provide additional resources related to the continuity of the Program in the next PPA (2024–2027).

Program Expenditure Framework

Table 4.1. Program Expenditure Framework

Budget Line (Budget '*Programa*')	Budget Line (Budget '*Iniciativa*')	Executing Agency	Expenditure Type	%	PforR Budget Line Amount in PPA 2021–2023 by Current/Capital ** (a)	Estimated PforR Budget Lines in PPA (2024–2026) *** (b)	Total PforR Budget Lines (2021–2026) (c) = (a) + (b)	World Bank Financing in Each Budget Line (Current/Capital Expenditure Estimate) (d)	% of World Bank Financing
03 - Saúde Inovadora Para um Paraná Inovador	***6485 - Gestão na Assistência Hospitalar e Ambulatorial***	SESA	Current	97.47	1,223.81	1,019.84	2,243.66	46.79	
			Capital	2.53	31.74	26.45	58.19	1.21	
			Total	**100.00**	**1,255.55**	**1,046.29**	**2,301.85**	**48.00**	**2.09**
03 - Saúde Inovadora Para um Paraná Inovador	***6163 - Gestão Técnico Administrativa da SESA***	SESA	Current	95.40	1,008.95	840.79	1,849.74	7.02	
			Capital	4.60	48.66	40.55	89.21	0.34	
			Total	**100.00**	**1,057.61**	**881.34**	**1,938.95**	**7.36**	**0.38**
03 - Saúde Inovadora Para um Paraná Inovador	***5009 - Ações de Combate ao Novo Coronavírus****	SESA	Current	100.00	46.20	—	46.20	31.36	
			Capital	0.00	0.00	—	0.00	0.00	
			Total	**100.00**	**46.20**	**—**	**46.20**	**31.36**	**67.87**
02 - Paraná do Futuro: Sustentabilidade e Turismo	***6286 - Gestão Administrativa - IAT***	IAT	Current	90.87	63.82	53.18	117.00	21.30	
			Capital	9.13	6.41	5.34	11.76	2.14	
			Total	**100.00**	**70.23**	**58.52**	**128.75**	**23.44**	**18.21**
40 - Gestão Pública, Transparência & Compliance	***6025 - Gestão das Ações de Defesa Civil***	*Defesa Civil*	Current	20.08	0.58	0.49	1.07	0.32	
			Capital	79.92	2.32	1.93	4.25	1.28	
			Total	**100.00**	**2.90**	**2.42**	**5.32**	**1.60**	**30.07**
44 - Planeja Paraná	***6026 - Apoio às Ações da***	*Casa Civil*	Current	100.00	1.74	1.45	3.20	3.00	
			Capital	0.00	—	—	—	—	

Budget Line (Budget '*Programa*')	Budget Line (Budget '*Iniciativa*')	Executing Agency	Expenditure Type	%	PforR Budget Line Amount in PPA 2021–2023 by Current/Capital ** (a)	Estimated PforR Budget Lines in PPA (2024–2026) *** (b)	Total PforR Budget Lines (2021–2026) (c) = (a) + (b)	World Bank Financing in Each Budget Line (Current/Capital Expenditure Estimate) (d)	% of World Bank Financing
	Superintendência Geral de Inovação		**Total**	**100.00**	**1.74**	**1.45**	**3.20**	**3.00**	**93.79**
40 - Gestão Pública, Transparência & Compliance	***6014 - Gestão de Administração Geral***	SEAP	Current	96.86	24.04	20.04	44.08	2.51	
			Capital	3.14	0.78	0.65	1.43	0.08	
			Total	**100.00**	**24.82**	**20.69**	**45.51**	**2.59**	**5.69**
40 - Gestão Pública, Transparência & Compliance	***6041 - Gestão de Administração de Pessoal***	SEAP	Current	100.00	38.52	32.10	70.62	1.60	
			Capital	0.00	—	—	—	—	
			Total	**100.00**	**38.52**	**32.10**	**70.62**	**1.60**	**2.27**
44 - Planeja Paraná	***6027 - Gestão de Planejamento Governamental***	SEPL	Current	88.62	1.88	1.57	3.45	1.37	
			Capital	11.38	0.24	0.20	0.44	0.18	
			Total	**100.00**	**2.12**	**1.77**	**3.89**	**1.55**	**39.84**
Total current expenditure				**96.36**	**2,409.55**	**1,969.46**	**4,379.01**	**115.27**	**2.63**
Total capital expenditure				**3.64**	**90.15**	**75.13**	**165.28**	**5.23**	**3.16**
Grand total				**100.00**	**2,499.71**	**2,044.58**	**4,544.29**	**120.50**	**2.65**

Note: US$ Million.

(*) Budget Line 5009 is not on PPA 2020–2023, because it is related to COVID-19 emergency State expenditure included in LOA 2021 (just for CY21).

(**) Current/capital ratio based on LOA 2021 proportion and applied to all calendar years.

(***) Based on yearly average PPA budget execution from 2021 to 2023.

15. **The federal framework of laws and regulations for procurement is solid, transparent, and known to both public officials and to the private sector.** These laws and regulations take precedence over those for the subnational levels. States and municipalities may complement federal legislation but not contradict it, nor may they create new procurement methods. Open competitive bidding is the default procurement method, as defined by Article 37 of the Constitution, and provides fair opportunities for bidders to contest decisions including through appeal to an independent entity. All procurement opportunities, regardless of estimated cost, are published via the internet and official gazettes. Companies are required to have local representation to bid on government contracts. This involves establishing a local office or designating a local agent to serve as local representative and obtaining a taxpayer identification number or *Cadastro Nacional de Pessoas Jurídicas*. Once incorporated in Brazil, foreign companies are treated as locals and subject to the same rules and conditions as domestic companies.

16. **The provisions in the federal legal framework governing fraud and corruption are also binding on state and municipal public administrations.** The World Bank's assessment is that they are adequate. The Federal Constitution and laws to combat fraud and corruption define various categories of misconduct and provide for sanctions such as the suspension of political rights, removal from public office, and freezing of assets and financial compensation for damages caused to public treasury for personal and firms. The Constitution also stipulates that there is no statute of limitations when seeking reparations for damages caused to the public treasury by government officials. Legal action can be filed in court by the public entity that suffered the losses or by the public prosecutor's officer (*Ministério Público*); in practice, it is almost always the *Ministério Público*. Any person can file a complaint requesting an investigation of suspected wrongdoing. The Constitution and Anti-Corruption Laws have been complemented by other federal and state legislation, among others, regulating citizens' access to information and establishing a code of ethics for state officials.

17. **Procurement under the Program involves goods, small works, consultant and non-consulting services (under Brazilian law, consultant and non-consulting services are considered as services only), TA, and IT systems.** These consultant services, goods, works and non-consulting services are not expected to have a significant adverse impact on the environment and/or affected people, as defined in the Policy and Directives on PforR Financing, and the resulting contracts are below the Operations Procurement Review Committee thresholds (high-risk activities). During the implementation, the World Bank will screen Program execution to ensure compliance with the PforR policy requirements.

18. **Procurement is generally efficient.** The time from publication of the procurement notice to the deadline for bid submission and opening is defined by the procurement method and follows Procurement Law Standards. Bid evaluation can be slow depending on complexity and owing to bureaucratic processes. However, the market and agencies are familiar with this risk. The Program aims to improve procurement efficiency among others. Once the evaluation is completed, the contract award recommendation is disclosed to all bidders on the official gazette of the Government and the website of the public procurement. If no complaint is received within the standstill period, the contract is awarded promptly and signed after the contract award. In general, bidding processes are moderately competitive. The data provided by SEPL show that there is adequate competition with a substantial number of participating bidders.

Budget Execution

19. **Under the PforR component, the budget allocations of each budget line ('*Iniciativas*') are provided for in the formal planning instruments, for each executing agency and then reflected in the PPA and the respective LOA.** The resources for the execution of the budget lines will be programmed and distributed by SEFA with the guidance of the PMU. The financial execution of the budget lines will be carried out by each executing units, using routine procedures, according to the state and federal laws and other regulations applicable. The daily financial administration operations (commitment, verification, and payment) that are carried out by the executing units are executed through a specific '*Unidade Executora*' (budget executing agency) in SIAF/FMIS.

20. **The state treasury cash and debt management procedures are well developed, with clear and well-established procedures, but there is a need to improve cash management controls and predictability since cash management is strongly linked to the financial control functions, with the overriding objective to meet the annual fiscal targets as to match revenues and expenditures.** The state cash balances are consolidated through on-line cash monitoring system of the treasury and the payroll system is relatively well organized and documented, with regular updates and clear procedures for updating records. However, throughout the year there are frequent within year budget revisions, with flat budget constraints being imposed on all state agencies, which may impact the predictability of funds flowing to spending units and imposing some challenges to manage budget execution effectiveness.

21. **Changes were observed comparing the original and actual budget allocations during the pre-COVID-19 and COVID-19 periods, together with centralized and decentralized execution during the same periods.** During 2018 (pre-COVID-19), the total actual budget amount allocated for the PforR budget lines showed a slight increase of up to 2 percent from the original budget amount, with an execution of around 88.1 percent of the actual budget. During 2019 (pre-COVID-19), the total actual budget amount allocated for the PforR budget lines showed a decrease of up to 15 percent from the original budget amount, with a execution of around 87.6 percent of the actual budget. A notable exception in terms of budget allocation, was budget line 6025, which was only allocated 42.1 percent of the actual amount due to delays in bidding processes. In addition, when considering the actual amount paid, and not only transferred to the municipalities, under the health budget line 6485, the budget execution rate drops to around 50 percent average from the allocated amount.[70] During the COVID-19 pandemic period, starting in 2020, despite the substantial average increase of 30 percent in the budget allocation with no substantial delays in decentralizing funds for health services, the overall budget execution rate also remained around 80 percent of the actual budget, both at central and decentralized levels. The data for 2021 (which only shows a budget execution rate of 75.9 percent to date) is not complete, and this percentage may increase, as the deadline to report on the use of funds is the end of March 2022. The respective budget outturns by agency and by budget line is showed in figure 4.4. A close monitoring throughout Program implementation will be performed is still needed to ensure proper budgetary execution.

[70] Information provided by the municipalities during the assessment.

Figure 4.2. Summary of Programs and, Budget Lines, and PforR Financing

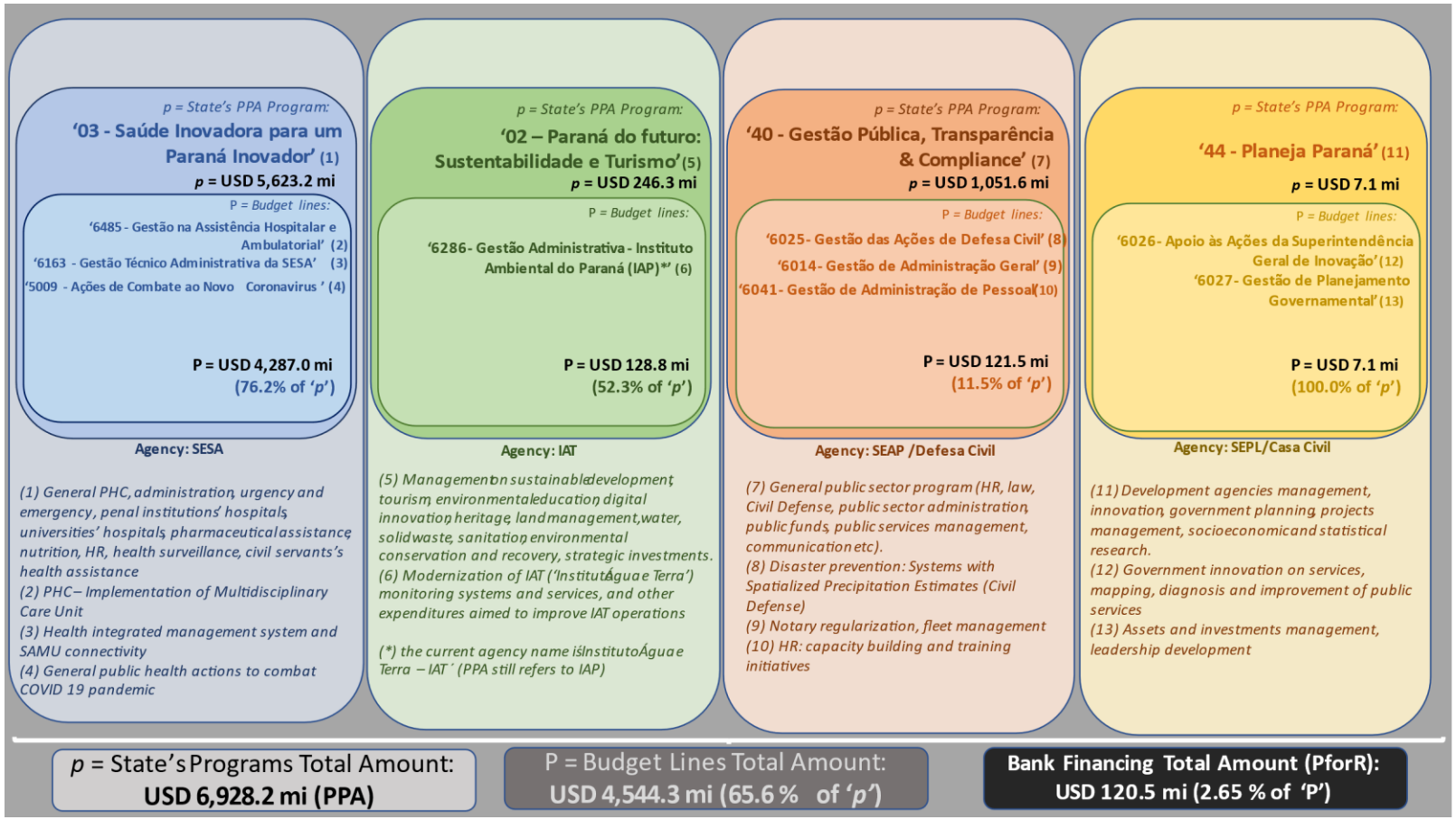


Figure 4.3 Summary of Programs and Budget Lines allocated by Results Areas and Bank Financing

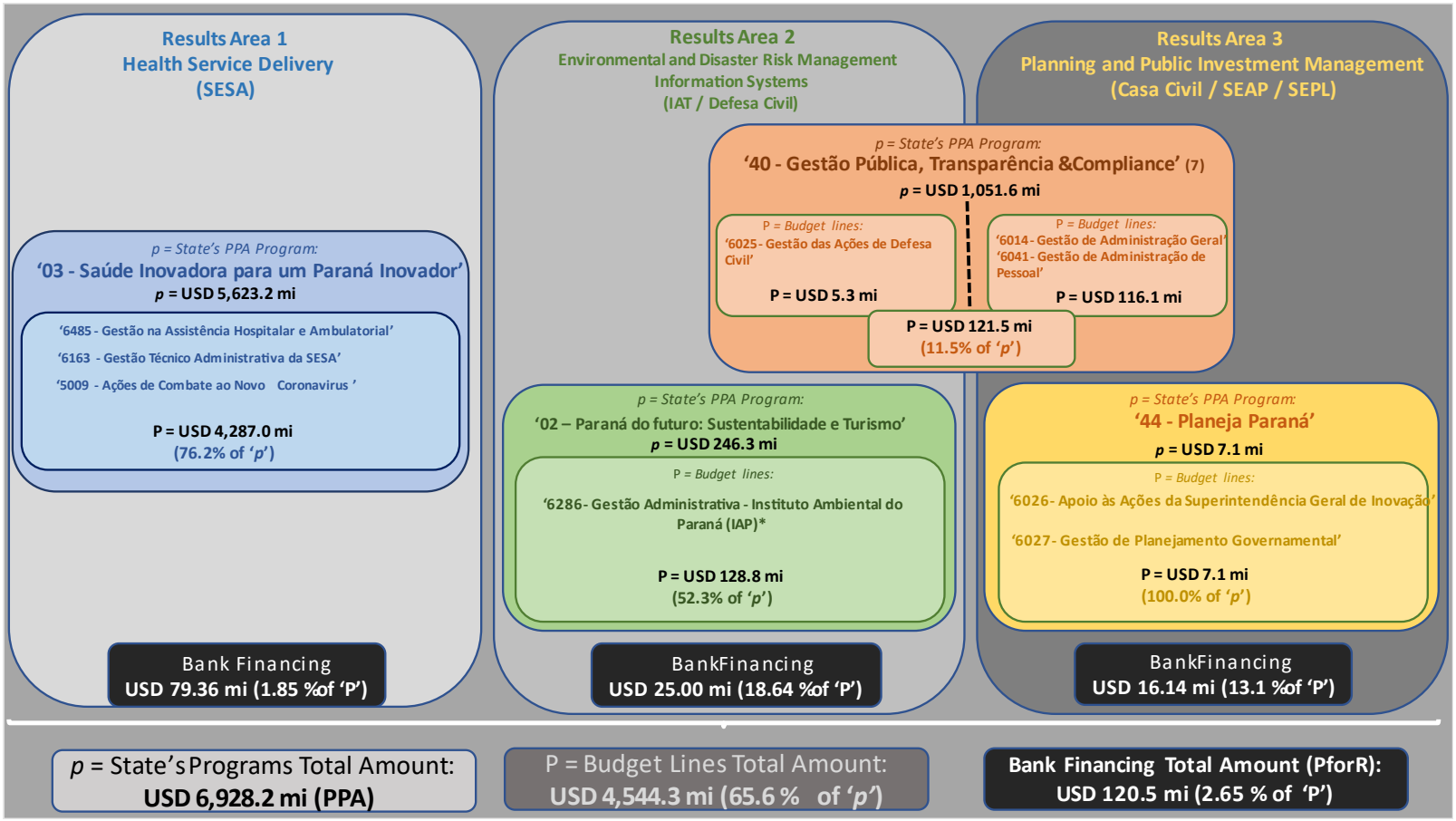


Figure 4.4 Budget outturn by budget lines and agencies

Budget line (budget "Programa")	Budget line (budget "Iniciativa")	Executing Agency	2018					2019					2020					2021				
			Original Budget Amount (LOA)	Actual Budget amount	% actual budget / original budget	Amount paid (CY) (9)	% paid / actual budget amount	Original Budget Amount (LOA)	Actual Budget amount	% actual budget / original budget	Amount paid (CY) (9)	% paid / actual budget amount	Original Budget Amount (LOA)	Actual Budget amount	% actual budget / original budget	Amount paid (CY)	% paid / actual budget amount	Original Budget Amount (LOA)	Actual Budget amount	% actual budget / original budget	Amount paid (CY)	% paid / actual budget amount
03 - Saúde Inovadora Para um Paraná Inovador	6485 - Gestão na Assistência Hospitalar e Ambulatorial (1)	SESA	*354,44*	*441,29*	*124,5%*	365,44	82,8%	431,75	333,83	*77,3%*	295,13	88,4%	*2.066,71*	*2.509,10*	*121,4%*	2.226,75	88,7%	*1.878,90*	*2.287,06*	*121,7%*	1.894,00	82,8%
	6163 - Gestão Técnico Administrativa da SESA (2)	SESA	*1.340,38*	*1.270,13*	*94,8%*	1.153,65	90,8%	1.387,53	1.178,13	*84,9%*	1.058,71	89,9%	*1.745,46*	*1.689,06*	*96,8%*	1.331,94	78,9%	*1.743,34*	*1.903,96*	*109,2%*	1.486,19	78,1%
	5009 - Ações de Combate ao Novo Coronavírus (3)	SESA	-	-	-	-	-	-		-	-	-	-	536,28	-	262,34	48,9%	250,60	1.008,85	*402,6%*	603,83	59,9%
02 - Paraná do Futuro: Sustentabilidade e Turismo	6286 - Gestão Administrativa - Instituto Ambiental do Paraná (IAP) (4)	IAT	114,72	124,76	*108,8%*	100,52	80,6%	117,46	127,53	*108,6%*	100,08	78,5%	115,60	214,04	*185,2%*	177,66	83,0%	176,77	249,63	*141,2%*	178,14	71,4%
40 - Gestão Pública, Transparência & Compliance	6025 - Gestão das Ações de Defesa Civil (5)	Defesa Civil	1,51	1,61	*106,4%*	1,13	70,1%	4,13	1,74	*42,1%*	1,70	97,7%	4,77	8,11	*169,9%*	5,43	66,9%	3,99	19,66	*493,4%*	6,79	34,5%
	6014 - Gestão de Administração Geral (6)	SEAP	94,81	107,41	*113,3%*	92,82	86,4%	87,55	87,45	*99,9%*	58,60	67,0%	40,86	42,93	*105,1%*	27,73	64,6%	43,02	101,54	*236,1%*	58,74	57,8%
	6041 - Gestão de Administração de Pessoal (6)	SEAP											63,41	61,97	*97,7%*	56,18	90,6%	*63,36*	*65,86*	*103,9%*	55,71	84,6%
44 - Planeja Paraná	6027 - Gestão de Planejamento Governamental (7)	SEPL	*3,27*	*2,99*	*91,2%*	2,74	91,6%	3,39	3,39	*100,0%*	3,39	100,0%	-	-	-	-	-	*3,84*	*3,84*	-	-	-
	6026 - Apoio às Ações da Superintendência Geral de Inovação (8)	Casa Civil	3,12	3,05	*97,7%*	1,99	65,2%	3,07	1,91	*62,2%*	1,24	64,9%	2,87	2,93	*101,9%*	2,11	71,9%	*1,65*	*4,03*	*244,6%*	1,97	48,9%
	TOTAL (BRL million)		***1.912,25***	***1.951,23***	***102,0%***	***1.718,28***	**88,1%**	***2.034,88***	***1.733,97***	***85,2%***	***1.518,84***	**87,6%**	***4.039,68***	***5.064,43***	***125,4%***	***4.090,14***	**80,8%**	***4.165,46***	***5.644,42***	***135,5%***	***4.285,37***	**75,9%**

(1) The budget line "6485" was introduced in PPA 2020-2023. Previously, the similar budget lines for PPA 2016-2019 were "4161 - Rede de Urgência e Emergência" and "4159 - Gestão das Redes".

(2) The budget line "6163" was introduced in PPA 2020-2023. Previously, the similar budget line for PPA 2016-2019 was "4163 - Gestão das Unidades Próprias".

(3) Budget Line 5009 is not on PPAs 2016-2019 and 2020-2023, because it is related to COVID19 emergency state expenditure included in LOA 2021 (just for CY20 and CY21)

(4) The budget line "6286" was introduced in PPA 2020-2023. Previously, the similar budget line for PPA 2016-2019 was "4286 - Gestão Administrativa - IAP".

(5) The budget line "6025" was introduced in PPA 2020-2023. Previously, the similar budget line for PPA 2016-2019 was "4025 - Gestão das Ações de Defesa Civil".

(6) The budget lines "6014" e "6041" were introduced in PPA 2020-2023. Previously, the similar budget line for PPA 2016-2019 was "4041-Gestão dos Sistemas de Administração Geral e de Recursos Humanos" (consolidated).

(7) The budget line "6027" was introduced in PPA 2020-2023. Previously, the similar budget line for PPA 2016-2019 was "4032 - Gestão de Planejamento Estratégico".

(8) The budget line "6026" was introduced in PPA 2020-2023. Previously, the similar budget line for PPA 2016-2019 was "3004 - Apoio às Ações do Secretário Especial para Assuntos Estratégicos".

(9) For CY 2016 to 2019, the amount paid can be higher than the budgeted amount because is not considered additional authorizations (unavailable)

22. **At the decentralized level, the municipalities follow a centrally mandated classification system for budgeting, accounting, and reporting, which allows for the tracking of Program expenditures.** However, delays in budget implementation at the decentralized level, with respective delays in registering the budget/funds received from the state and then rendering of accounts regarding resources received at the decentralized level, may happen as SIAF is not integrated with the municipal's FMIS. Improving SESA's monitoring system to ensure that the funds are included in the municipal budget on a timely basis and ensuring that SEPL will oversee/monitor the amounts paid and documented by the municipalities, and not simply consider the amounts initially transferred to the municipalities as the eligible expenditures will mitigate against this risk.

23. **The main findings of the municipalities FM arrangements reviews are:** (i) for all municipalities, funds are received and centrally managed by the municipal Secretariat of Finance or its equivalent; (ii) all funds transferred to the municipal health units are traceable and follow specific budget identification; (iii) the accounting and budget management processes are adequate and comply with the relevant national standards, and the respective Financial Management Information Systems (FMIS) are being updated to allow full and timely financial records and the safeguard of assets as required under Fiscal Responsibility Law and the federal Decree 10.540/2020; (iv) external audit and accountability processes are established by the TCE/PR; (v) regular reports are issued to ensure transparency over the use of funds received through decentralization of funds; (vi) the team responsible to manage decentralized funds is comprised by a few public civil servant, but not to the point of representing an unforeseen fiduciary risk for the project operation.

24. **The state government, through SEFA, uses a Single Treasury Account (STA), administered and controlled by the Central Bank of Brazil (BACEN), to manage all state financial resources.** Treasury balances are calculated and consolidated every business day. The operation of the STA is tracked through SIAF, as it is the main instrument used for recording, monitoring, and controlling the budget and tracking the financial execution of state government expenditures and revenues. To execute payments and receive receipts, the state government uses the Banco do Brasil S/A as its financial agent (or any other bank, as authorized by SEFA).

25. **Upon budget approval, funds will be available to be used by the implementing agencies following established monthly budget parameters, in line with Program implementation plans and in an orderly and predictable manner.** SEPL is responsible for the daily comparison of actual expenditures to the approved budget (though SIAF), ensuring sufficient budget allocation and financial availability to the Program, and explanations are required for significant variations from the budget. There is a regular and timely flow of information between SEFA and SEPL, as with the other Program implementing agencies. The budget reports also provide accurate, comprehensive, and understandable information to allow monitoring progress against the budget.

26. **The flow of funds at the decentralized level (municipalities) for the health budget lines through the fund-to-fund (*Fundo a Fundo*) mechanism will be as follows:**[71] The State Health Secretariat is

[71] Art. 20 of Complementary Law 141 of January 13, 2012, Complementary Law 152 of December 10, 2012, establishment of FUNSAUDE and Resolution 116/2015, dictates controls of fund-to-fund (FAF) transfers, annual resolutions of SESA.

responsible for the transfer[72]of funds from the Health State Fund (FUNSAUDE) to the municipal health funds to implement the state health programs at the decentralized level. To receive funds, each municipality needs to submit to the SESA's Regional Administrative Unit an application and support documentation (through the digital e-protocol) for the ultimate State Health Council's (SESA) approval. The municipality needs to open a specific bank account at the Banco do Brasil S/A, to which the FAF transfers are credited once approved, from which all future payments by the municipality should be made. Municipalities should follow public administration procurement and applicable financial regulations and submit annual management reports to SESA that are available on the state's website for public access. The documentation of the use of funds/transfers must be made to SESA using the SGIF Financial Management Information System, following the state's chart of account structure, under the respective program budget line, activity, initiative, and source of funds (FAF) which allows tracking of Program expenditures. All support documentation is maintained at the decentralized level and is subject to SESA's due diligence as well as the state's internal and external oversight institutions. Irregularities are subject to financial and administrative sanctions, including refunding and suspension of funds transfers, investigations, and criminal/administrative penalties for the public servants' involvement.

27. **SESA will publish a 'Resolution' and Commitment Agreements will be signed by the municipalities** specifying (a) the amounts for current and capital cost expenditures and (b) the technical, fiduciary, and legal requirements and ToRs to be observed by those involved in implementing the activities. Any transfer of funds for current cost expenditure will only be permitted upon formalization of the Commitment Agreement, presentation of supporting documentation for compliance with technical and fiduciary requirements, necessary adjustments in the contractual instruments in force, and completion of the training proposed by SESA. Most Small Hospitals (HPP) are managed by the municipalities; thus, SESA authorizes those resources to be transferred directly to the Municipal Health Fund upon formal adherence to the 'Resolution'. In the case hospitals are managed by a third party, which would be an exceptional case, the municipality will a sign or amend a contract with such party and transfers all obligations, including the compliance with the ACG clause. Any transfer of funds to capital expenditures will follow similar processes and documentation. The respective flow of funds was reviewed and found acceptable.

28. **The entire operational arrangement for the transfer of resources will be described in detail in the POM.**

29. **Under the PforR component, funds will be disbursed in Brazilian reais[73] to the STA based on the achieved DLIs and are not dependent on or attributable to individual transactions or expenditures of the Program**. An amount up to US$30.125 million of the PforR component will be disbursed upon verification of the achievement of prior results under DLI 1 between the date of the Program Concept Review and the date of the Legal Agreement. To provide the Borrower with resources to allow the Program to start or to facilitate the achievement of DLIs, the World Bank may agree to make an advance payment (following the effectiveness of the Legal Agreement) for one or more DLIs that have not yet been met ('advance'). When the DLI(s) for which an advance has been disbursed are achieved, the amount of the advance is deducted (recovered) from the amount due to be disbursed under such DLI(s). The advance

[72] The State Health Fund receives funds from the Federal Health Funds (FNS) to provide public health support through SUS.
[73] DLIs will be specified in US$ but the state will then ask for the equivalent amount in BRL, at the time of submitting the Withdrawal Applications.

amount recovered by the World Bank is then available for additional advances ('revolving advance'). The World Bank requires the borrower to refund any advances (or portion of advances) if the DLIs have not been met (or have been only partially met) by the Closing Date. The combined amount of the prior results financing and advances for the PforR component may not exceed 30 percent of the total World Bank financing under the Program. For each DLI with scalable disbursement (DLI 1, DLI 2, and DLI 3), the formula to determine the amount of financing proceeds to be disbursed relative to the level of achievement of the DLI and expected disbursement schedule are specified in the DLI Matrix.

30. **IPARDES will provide independent verification of the achievement of the DLIs.** IPARDES is a research institution linked to SEPL which undertakes research on the state and municipalities' social and economic development to support the formulation, execution, and M&E of public policies. IPARDES is deemed acceptable to the World Bank to be the IVA as it has the necessary independence, experience, and capacity to ensure credible verification**.**

31. **SEPL will prepare Program Monitoring Reports to document the status of the achievement of the DLIs.** These reports will be verified by the IVA. On validation of DLIs by the IVA, SEPL will communicate the achievement of DLIs and corresponding DLI values to the World Bank, supported by the relevant evidence and documentation. Following the World Bank's review of the complete documentation, including any additional information considered necessary to confirm the achievement of the DLI results, the World Bank will confirm the achievement of the DLI(s) and the level of Program financing proceeds available for disbursement against each DLI. Disbursement requests or withdrawal applications (WAs) will be submitted to the World Bank by SEPL using the World Bank's e-disbursement (Client Connection) system. A copy of the World Bank's official communication, confirming the DLI achievement, should be attached to the disbursement requests.

32. **The World Bank may decide, without formally extending the Closing Date, to disburse or approve the use of proceeds of the loan for WA received within six months after the Closing Date for DLIs achieved by the borrower before the Closing Date.** Exceptionally, upon the borrower's request, the World Bank may decide to extend the period for receipt of such WA. Program expenditures incurred or paid after the Closing Date cannot be considered as part of the Program expenditures for the overall Program reconciliation exercise.[74] Each year, the external auditors will confirm the total amount of expenditure to be considered for the overall Program reconciliation exercise.

Accounting and Financial Reporting

33. **Brazil is in the process of fully implementing International Public Sector Accounting Standards (IPSAS) at all federation levels—federal, state, and municipal.** A work plan (STN Ordinance Implementation Plan No. 548/2015) is in progress, which determines the convergence of 34 standards by 2021. The Brazilian Public Sector Accounting Standards (*Normas Brasileiras de Contabilidade Aplicadas ao Setor Público*) set by the Federal Accounting Council (*Conselho Federal de Contabilidade*) and Public Sector Accounting Manual (*Manual de Contabilidade Aplicada ao Setor Público*) follow the guidance of the relevant IPSAS, with adaptations to the Brazilian context. Although implementation challenges remain, especially at the subnational level, progress has been noted especially during recent years. Many states/municipalities have established working groups to coordinate the preparation efforts, promote the

[74] State and municipal public civil servants' salaries do not form part of the Program and are consequently excluded.

adoption of relevant guidelines and manuals, and undertake training for staff. The accounting policies at the Program level are consistent with national public sector policies/standards.

34. **The government of Paraná's annual financial statements are prepared by the Accountant General Office (*Diretoria de Contabilidade Geral do Estado,* DCG) in SEFA based on information from SIAF, using a modified accrual basis.** The annual financial statements include budget, financial, balance sheets, the execution of public revenue, and expenditure information. SIAF aims to ensure daily control of budgetary, financial, and patrimonial execution; provide safe and timely accounting; standardize management of public resources; integrate and make information compatible within the scope of the state government; and facilitate M&E of the use of public resources to provide transparency.

35. **SIAF and the respective municipalities' FMISs enable the adequate recording of financial transactions and timely preparation of monthly financial reports.** In each of the last three years, the state government's annual financial statements have been prepared within 90 days after the end of the fiscal year. However, until IPSAS is fully adopted, the state government's balance sheet does not capture all assets and liabilities in a single consolidated report.

36. **The FMISs at all levels of the federation follow the guidelines established by the Federal Government, as stated in Federal Decree No. 10.540/2020, that provide the minimum quality and control requirements of the FMISs for accountability, transparency, and preparation of financial reports and statements.** The state of Paraná's FMIS is the SIAF system. Each municipality also has a specific FMIS that needs to follow the guidelines and its use in all governmental agencies and units of the municipality is mandatory. The municipalities' FMISs are not integrated with SIAF. Because SIAF is not interconnected to the various municipalities' FMISs, the state of Paraná will need to ensure that funds transferred and to be implemented at the municipal level are managed as intended. If needed, additional training at the decentralized level should be provided to enhance the use and documentation of Program funds. Capacity constraints at the decentralized level are exacerbated by the increasing staff shortages over the last years, with a direct impact/increase in the backlog of proof of expenditures/activities to be reviewed and followed up. Mitigation measures include providing training to staff at the state level on Program implementation and the World Bank's fiduciary procedures and activities are included within the TA component to assist the state in expanding its capacity and the State's Comptroller (*Controladoria Geral do Estado do Paraná* – CGE) will review the supporting documentation and proper use of funds throughout Program implementation.

37. **The financial statements for the Program will consist of unaudited interim financial reports (IFRs) every semester with the final semester's IFR serving as the Program's annual financial statement.** The IFRs will be prepared on a cash accounting basis in Brazilian reais and in US dollars (amounts should be reported using the closing sell rate of each semester) available at the BACEN website (www.bcb.gov.br). IFRs will be submitted to the World Bank within 90 days after the end of each semester. The IFRs, designed and predicated on the expenditure framework, will be prepared using information captured in SIAF. This system can capture the Program expenditures by budget code/classification, a specific chart of accounts, and other additional details and will be prepared for each different decentralized program financed under the budget lines. The budget classification system allows expenditure tracking by the administrative unit, with economic, functional, and program classification. The functional classification is derived from national guidelines issued by the Federal Government (*Portaria* No. 42 issued on April 14, 1999) and is composed of 28 primary functions and 111 subfunctions.

This classification is used by all levels of Brazilian federation, including states and municipalities. The state annual financial statements, together with detailed information of the state's Program budget execution, audit report, contract awards, and other relevant data, are produced on time and are made available to the public in an accessible form.

Procurement Processes and Procedures

38. **Goods and non-consulting services are usually procured by reverse auction, either electronically or offline.** In the case of electronic reverse auctions, participating bidders must be registered in the government supplier database. Based on value thresholds, auctions must be advertised in the official gazette and on the procurement web portal or the advertisement must also appear in a local newspaper. For those of high value, it must also appear in a regional or national newspaper. All offline reverse auctions must be advertised in the official gazette but only optionally on the procurement web portal and in a newspaper of 'wide circulation'. In practice, all offline reverse auctions are published on the procurement web portal.

39. **Works and engineering services.** The non-auction opens competitive bidding procurement method required by Law 8.666/93 applies equally to all processes, regardless of size or the type of item. In practice, however, it is used mainly for works and consulting services. The mode of invitation varies by size of award.

40. **Consulting services.** The Brazilian procurement framework does not distinguish between goods, works, and consultants. The same rules apply to both, except for reverse auctions, from which consultants and works are excluded. For consultants, the legal framework provides for award criteria based on 'quality and cost' or 'quality only'. Under these methods, bidding documents always require the proposal to be an integral part of the bid package and bidders must submit three sealed envelopes: the legal, financial, fiscal, and technical qualification documents; the technical proposal; and the price proposal. Qualification envelopes are opened first. Only qualified bidders move to the second stage of technical evaluation. Technical proposals are scored based on objective criteria, and only those which attain a minimum predefined score move to the third and final price stage. The price of the winner is negotiated regarding that received from the lowest qualified consultant.

Contract Administration

41. **There are several controls to ensure that goods, works, and services delivered comply with bid specifications.** The ToRs used as technical inputs for the bidding documents provide a means of comparison with what is delivered. For procurement of goods, samples are usually requested, which are sent to sectors as a benchmark for verification upon delivery. When items do not comply with bid terms, suppliers are subject to monetary penalties and can be debarred. However, most of the mechanisms for quality control revolve around the bidding process. Tools for correcting supplier performance post-award are limited to penalties and sanctions.

42. **Contract disputes are either settled following administrative procedures described in the procurement law or referred to the judiciary.** The mechanisms are well-known to government officials and to the private sector and function in a predictable manner. For contracts already under implementation, a firm's first step is to file an administrative petition. If this is insufficient, it may take the

dispute to court. Article 79 of the procurement law provides three grounds for rescinding a contract: unilaterally by the hiring agency because malfeasance or non-delivery, for reasons of public interest or force majeure; by agreement; and by judicial act or order.

Complaint Mechanisms

43. **The current legal framework lays no foundation for a dispute resolution system for government contracts.** The only available recourse it provides is an administrative process, but any party may file a judicial claim at any time. In addition, all acts performed by the public authority under a contract are also subject to oversight through both internal and external control mechanisms. Thus, all disputes that arise out of a government contract are subject to review once the administrative process has been completed, and ample right of defense must be granted to the party claiming to have been injured. Moreover, the exhaustively detailed legal provisions discourage flexible interpretations and allow the disqualification of proposals for reasons that are not substantial. This results in numerous administrative complaints and injunctions issued by courts of law, which usually hold up the bidding process by many months if not years.

44. **Article 41 of Law 8,666/93 establishes the right of any citizen to contest the bidding documents.** This type of complaint (*impugnação*) should be filed five working days before the bid opening. The administration has three working days to respond. Any person has the right to present a complaint to the Tribunal de Contas da União or to other control agencies, denouncing any misbehavior or irregularity under the law. Acts performed by the bidding committee during the bidding process are also subject to review in accordance with the law. Complaints should be filed within five working days from the notification of the act regarding disqualification or qualification of participants, meaning that a bidder may protest against its own disqualification and/or the qualification of any other bidder, which is by far the greatest source of protests; evaluation of proposals; cancellation of the bidding; nonacceptance of register, changes in the registration, or cancellation of registration; and contract cancellation, contract suspension, and application of penalties. The complaints are presented to the president of the bidding committee, which issues a notification to all other bidders with respect to the entire contents of the petition.

45. **If the complaint addresses qualification or evaluation of bids, the bidding process should be suspended until the final decision.** Bidders have five working days from the notification to answer the complaint to protest. After that, the president may either reconsider the decision or, within the next five working days, convert the complaint into an administrative appeal and take it to the superior administrative authority (generally the Executive Secretariat of the Ministry) to decide. The authority must issue a decision in another five working days. That decision is final at the administrative level.

46. **Any interested party not satisfied with the result of administrative review may apply to the courts for legal judgment.** When a bidder applies to a court of justice, it usually requests and obtains an injunction suspending the bidding process until a final decision is reached (which can take months or even years). Although the protest mechanism ensures transparency and protection against bad awards, it is a major obstacle to procurement and the source of innumerable appeals.

Internal Controls

47. **SEPL's primary fiduciary responsibilities are defined in State Decree No. 8,461, of December 7, 2017.** At the decentralized level, each municipality will be responsible for ensuring adherence to the Program's rules and regulations. There is adequate control over and stewardship of Program funds, with a well-defined delegation of authority, and under the supervision of the State Audit Court of Paraná (*Tribunal de Contas do Estado do Paraná,* TCE-PR) and CGE-PR. The accounting and support documents are retained on a permanent basis, using an electronic system that allows for easy retrieval for the authorized user.

48. **There are effective cash flow planning, management, and monitoring arrangements.** The main stages of the budget execution cycle—commitment (*empenho*), verification (*liquidação*), and payment (*pagamento*)—are reflected as separate stages/control points within SIAF and thereby ensure adequate segregation of duties. Paraná's SIAF contains a series of controls, which effectively limit expenditure commitments and payments to cash availability and approved budget appropriations. The primary requirement to initiate any expenditure transaction is that the expenditure item should have a corresponding allocation or budget in LOA, as approved by the Legislative Branch. Once the delivery of goods or services is formally acknowledged by the purchasing unit, the entity then approves payment to the supplier through the issuance of a payment authorization (*Nota de Liquidação*). The payment authorization triggers the generation of a bank order authorizing payment to the supplier in the form of electronic bank transfers from the STA. This scheme is also repeated at the municipal level using its respective FMIS.

49. **The Access to Information Law (Lei 12.527/11) provides procedures for processing information requests, covering obligations concerning disclosure, and the duty to provide data in an open format**. The law also envisages sanctions for those who deny access to information and determines exceptions that normally comply with international standards of freedom of information. The wide use of the internet in Brazil facilitates public access to information regarding the management of public resources at a detailed level. Information publicly available in the transparency portal (http:// http://www.transparencia.pr.gov.br/) includes annual budget documentation (PPA, LDO, and LOA); in-year budget execution reports; contract bidding status and awards; mandatory bimonthly and quarterly FRL reports; and reports on the implementation of specific programs.

50. **The codes of ethics, at both the state and municipal levels, are a set of rules that pertain to the conduct of civil servants and include penalties to be applied for noncompliance.** The codes inform the principles and duties of public servants as decorum, dignity, efficacy, and honor, as well as other qualities of the public servants, their obligations toward the well-being of the population, prohibitions, and punishments derived from the irregular service of their functions that recall the fundamental principles of public administration. Both state and municipal governments have an Ethics Commission responsible for judging ethics cases in the public service. The Code of Ethics for Civil Servants of the State of Paraná and the Compliance and Integrity Program was approved by Decree No. 2.902 of October 01, 2019.

51. **CGE-PR is the unit responsible for supporting the state's direct and indirect agencies on legal procedural compliance for contracting public expenditures and complying with the public information access law.** Therefore, for the Program, CGE-PR will be responsible for the internal audit compliance-related functions and certain aspects of internal control. There is also an adequate system for protecting

the Program's assets from fraud, waste, and abuse. Assets purchased will be listed in an inventory record, using the state asset system. Each asset is given an individual master record and number. A physical inventory control is performed at the end of each fiscal year for these assets and reconciled with the respective control accounts annually.

52. **A Program-specific PMU will be appointed by the Governor's decree and SEPL will appoint the PMU team through a 'Resolution'.** The POM will describe the assignments of each member of the PMU. The Program's internal control system will be documented in the POM that will comprise descriptions, flow charts, policies, templates and forms, user-friendly tools, tips, and techniques to ensure that the approval and authorization controls continue to be adequate and are properly documented and followed with adequate safeguarding of the Program's assets, including the following topics in the FM and disbursements section: flow of funds, chart of accounts, organizational structure and responsibilities, oversight lines, authority limits, internal and external audit arrangements, accounting practices, disbursement procedures, and the financial reporting arrangements. The POM should be prepared by the PMU, approved by the World Bank, and maintained/updated throughout the Program's life.

53. **In 2020, to help municipalities address COVID-19 challenges, SESA issued resolutions establishing the conditions and criteria to receive, use, and document decentralized funds and related sanctions to prevent, monitor, and control funds transferred.** Specific guidance on applicable legal instruments, competencies, and exceptionalities were provided for each health activity, including how to procure/bid works and goods and operational costs by the health services providers. Information is available to the public access through a website.[75] Given the volume and nature of these expenditures, coupled with expedited approval or non-standard approval processes to mitigate any associated risk of financing ineligible expenditures or contract involvement in fraud and corruption practices, external auditor reports will include a specific note on the eligibility of all COVID-19 related expenditures financed under the PforR operation and should identify any case/practice of fraud and corruption.

Internal Audit

54. **The internal audit function of the Program will be carried out by CGE-PR guided by its Annual Internal Audit Plan.** Audited entities and programs are selected based on a risk matrix and requests received from the other supervisory bodies and the judgments issued by the TCE-PR. The implementation of recommendations under the Annual Report on Internal Audit are monitored and available for public consultation on the CGE-PR website. SEPL's last available financial statements audit report (2018) expressed an unmodified audit opinion with respect to compliance, and most internal control inadequacies identified are being addressed. CGE-PR also recognized the robust performance of SEPL's internal audit department which works in a coordinated manner with the CGE-PR.

55. **CGE-PR is also implementing the Internal Audit Capability Model (IA-CM) to strengthen the internal audit functions in all entities that execute the state budget.** IA-CM is a framework that identifies the fundamentals needed for effective internal auditing in the public sector. IA-CM intends to ensure that internal audit becomes an integral component of effective governance in the public sector and helps organizations achieve their objectives and account for their results. IA-CM consists of five levels, tied to leading practices, and level 3 (integrated) is where internal audit management and professional practices are uniformly applied following international practices. The World Bank will support the Government's

[75] https://datastudio.google.com/u/0/reporting/14W0LAZn2UAHV2Q3KGgCD_3B2fhpAWiJk/page/uQ2PB.

effort to achieve level 3 of IA-CM by the operation's Closing Date, through financing some activities via the TA component. It is expected that the internal audit department in CGE-PR will conduct evaluation on the adequacy and effectiveness of internal controls in the project implementing agencies, throughout Program implementation, including the review of the potential eligible expenditures support documentation for Program expenditures implemented at the decentralized level.

Program Governance and Anticorruption Arrangements

56. **The Brazilian Anti-Corruption Law (Federal Law 12,846) establishes the civil and administrative liability of legal entities in relation to acts of corruption.** The law implements the Organization for Economic Co-operation and Development Anti-Bribery Convention, strengthens anti-corruption enforcement, and is broadly in line with (and, in some respects, even stricter than) similar legislation found in other jurisdictions—such as the US Foreign Corrupt Practices Act and the UK Bribery Act. Brazil's law represents a significant step, exposing companies—not just individuals—to liability and fines for the first time.

57. **However, legislation and regulations do not include some of the required ACG clauses.** In accordance with the World Bank's ACG for PforR operations, the borrower needs to ensure that "any person or entity debarred or suspended by the World Bank is not awarded a contract under or otherwise allowed to participate in the Program during the period of such debarment or suspension." The borrower needs to comply with this requirement through the inclusion of clauses in the various Portarias governing the Program. To further mitigate this risk, the external auditors' ToRs will include a requirement to review Program expenditure for such ineligible contracts, confirming if any contract was awarded to debarred firms/individuals.

58. **SEPL will agree with SESA on adequate measures to be introduced at the decentralized level, including the insertion of a link on their websites.** SEPL will immediately report any allegation of fraud and corruption to the World Bank, through exchange of letter, and every semester (together with the IFRs) a report will be prepared containing all alleged cases with an updated status of the respective actions taken. All implementing agency staff must observe the highest standard of ethics, take all appropriate measures to prevent, refrain from engaging in, and report allegations of fraud and corruption in connection with the use of the Program proceeds, maintain appropriate fiduciary and administrative arrangements, cooperate with World Bank investigations, take timely and appropriate action to address the problem, and follow other applicable government and corporate-related rules and guidelines.

External Auditing

59. **The TCE-PR will audit the Program.** It is mandated to audit externally financed projects at the state level**.** The TCE-PR is the current financial statement auditor for all state-level projects being financed by the World Bank and has the capacity to deliver a quality audit on time.

60. **The TCE-PR will follow agreed ToRs acceptable to the World Bank** and will conduct the audit in accordance with International Standards on Auditing (issued by the International Auditing and Assurance Standards Board of the International Federation of Accountants) or national auditing standards if, as determined by the World Bank, these do not significantly depart from international standards. The audited financial statements of the Program (that is, the last semester IFR of the fiscal year) will be

prepared in accordance with accounting standards acceptable to the World Bank (that is, IPSAS issued by the International Public Sector Accounting Standards Board of the International Federation of Accountants or national accounting standards where, as determined by the World Bank, they do not significantly depart from international standards).

61. **The auditors will be required to issue an opinion on the Program's annual financial statements and produce a management letter in which any internal control weaknesses are identified, with a view to contributing to the strengthening of the control environment.** The auditor's report will be submitted to the World Bank no later than 10 months after the end of the fiscal year.[76] The World Bank will review the audit report and will periodically determine whether the audit recommendations are satisfactorily implemented. The World Bank also requires the borrower to disclose the audited Program financial statements (but not the management letter) in a manner acceptable to the World Bank. Following the formal receipt of these statements from the borrower, the World Bank will make them available to the public in accordance with the World Bank Policy on Access to Information.

62. **SEPL needs to ensure adequate staffing for FM, audit, and controls.** SEPL and each implementing agency have a team of fiduciary staff (FM and procurement) that is responsible for monitoring the implementation of the Program's integrated fiduciary aspects at the state and municipal levels. Staff are professional, experienced, and knowledgeable on the World Bank's and governmental policies and procedures. Adequate staffing arrangements will be put in place at the Secretary of Health level to mitigate risks associated with staff shortage, especially in reviewing supporting documentation for the transfers made to the municipal level.

63. **Program systems and capacity improvements.** The following tables provide a summary of procurement and FM risks and mitigation measures.

Table 4.2. Summary of Procurement Risks and Mitigation Measures

	Risk Assessment				Risk Mitigation Measures	Timing[77]	Type of Action	Residual Risk
	H	S	M	L				
Register and custody of documents			X		Provide appropriate space and furniture to the procurement function including locked.	During implementation	Borrower's operations	L
Knowledge of procurement rules and polices		X			Train all the procurement and technical staff on World Bank procurement policies.	No later than three months after project signing	PAP	M
Lack of procurement specialist in World Bank's policies			X		Procurement experts and sufficient support staff for the commission of bidding	No later than six months after project signing	PAP	L

[76] Request was submitted by the borrower and TCE and the exception was approved by ELCG1 PM.
[77] These are not signing conditions.

	Risk Assessment				Risk Mitigation Measures	Timing[77]	Type of Action	Residual Risk
	H	S	M	L				
Systems of control			X		Electronic system to control procurement procedures	No later than one year after project signing	PAP	L
Permanent training			X		Develop and implement a permanent training program and a certification/qualification system for procurement staff.	During implementation	PAP	M
Contract Management		X			Members of the team with responsibility for the formal control of the execution of contracts, controlling and monitoring the progress of the contracts, and the milestones for their development, such as deadlines, readjustments (when applicable), and so on	During implementation	Borrower´s operations	M
Quality of ToRs and technical specifications		X			Obtain expert advice on the definitions of the ToRs and technical specifications. Technical no-objection to technical documents to be issued by the World Bank	During implementation	Borrower´s operations	M
Weak and imprecise cost estimates					Look for budgeting based on data that reflect the market and not just on official tables issued by various spheres of government.	During implementation	Borrower´s operations	M
Overall rating			M					M

Note: H = High; L = Low; M = Moderate; S = Substantial.

Table 4.3. Summary of FM Risks and Mitigation Actions

Risk	Risk Assessment				Risk Mitigation Measures	Timing[78]	Type of Action	Residual Risk
	H	S	M	L				
There are several State budget lines that comprise the Program and will require monitoring of a considerable range of information, from various sources and government units and systems		S			• Use of SIGMA-PP and SIAF will be used for tracking the Program-related budget lines' execution and respective eligible expenditures • The World Bank will request SEFA that full direct access to SIAF be provided to the World Bank's Financial Management Specialist • Financial Management Specialist will be appointed in the PMU to coordinate all FM aspects of the Program, including the relationship with all the executing agencies and the preparation and monitoring of the FM reports required by the Bank	No later than one month after Program signing	• SPN • SPN • PAP	S
Insufficient State revenues being collected leading to budget restrictions, resulting in possible delays in its implementation and the achievement of DLIs and respective disbursements		S			• Monitoring by the task team • High level and frequent interactions between the CMU (CD) and state Leadership will be undertaken, to ensure priority funding for the Program	During implementation	• SPN SPN	S

[78] These are not signing conditions.

Time required to receive and review the respective supporting documentation may cause delays in monitoring the execution, auditing, and consolidation of the eligible expenditures	**H**				• Improve SESA's monitoring system to ensure that the funds are included in the Municipal budget on a timely basis • CGE-PR will review the supporting documentation and proper use of funds throughout Project implementation • The Bank will provide training to staff at the State level on Program implementation and the Bank's fiduciary procedures and activities are included within the TA component to assist the State in expanding its capacity • SEPL will oversee/monitor the amounts paid and documented by the Municipalities, and not simply consider the amounts initially transferred to the Municipalities as the eligible expenditures	During implementation	• SPN • SPN • SPN • SPN	**S**
Expedited approval or non-standard approval processes for COVID-19 related expenditures	**S**				• External auditor reports will include a specific note on the eligibility of all COVID-19 related expenditures and should identify any case/practice of fraud and corruption	During implementation	• SPN	**M**
Contracts may be awarded to firms and/or individuals debarred or suspended by the World Bank		**S**			• All implementing agencies, both at the state and municipal levels, will be instructed/required by official document to comply with the World Bank's ACG, to ensure that no contract will be awarded to a firm or individual that is on the World Bank's debarred list • TORs for the external auditors will include a	During implementation	• PAP • SPN	**M**

					requirement to review Program expenditures for such ineligible contracts.			
Overall rating		**S**						**S**

64. **Implementation support.** The proposed fiduciary implementation support activities include the following:

a) Reviewing the implementation progress, focusing on the achievement of Program results and implementation of the Action Plan

b) Monitoring the performance of fiduciary systems and audit reports, including implementation of the PAP and application of the PforR ACG

c) Monitoring the PforR financial statement reporting process and assisting the client as necessary

d) Monitoring changes in fiduciary risks of the Program and, as relevant, compliance with the fiduciary provisions of legal covenants

e) Reviewing the Program implementation with the sector team to assess the timeliness and adequacy of the Program funds appropriation

f) Helping the Borrower with institutional FM and procurement capacity building

g) Continually assessing and monitoring the performance of the FM and procurement systems under the Program and providing suggestions for improvement.

Fiduciary and Disbursement Arrangements for the TA Component

65. **The TA component fiduciary arrangements will rely on the same procedures and systems of planning and budgeting, accounting, internal controls, financial reporting, and auditing highlighted earlier for the PforR component.** In most cases, they will follow the same implementation arrangements as the previous World Bank SWAp for Paraná Multi-sector Development Project (P126343). The IFRs and audit report arrangements will comprise both PforR and TA components. The TA component will be accounted under budget line 5013.

66. **The disbursement of TA funds will be processed in accordance with World Bank procedures as stipulated in the Legal Agreement and DFIL.** During implementation, the following disbursement methods will be available for use under the TA component: reimbursement and advances (there are no lapsed loans). In the case of the primary disbursement method, advances, funds will be transferred to a specific segregated bank account (Designated Account) administered by SEPL. This account will be opened at a commercial bank (Banco do Brasil S/A) acceptable to the World Bank. The account will be denominated in Brazilian reais. From this account, payments will be made to providers/suppliers of goods and services. Payments and invoices will be registered in the accounting system SIAF once incurred, received, and paid, and the records will be reconciled at the end of each month.

67. **The Designated Account will have a variable ceiling based on the submission of forecasts of expenditures to be paid in the next six months.** The minimum application size for reimbursement Was will be US$500,000 equivalent. The documentation of the use of advances and reimbursement requests will be through Statement of Expenditures, specified in the DFIL. SEPL will be responsible for preparing and sending WA to the World Bank. The Program will also have a six-month grace period to document expenditures incurred before the Closing Date. The frequency for the presentation of eligible expenditures paid from the Designated Account is at least once every six months.

68. **The following reports will be included in the overall semiannual IFRs (prepared in Brazilian reais and US dollars) and will be submitted to the World Bank within 90 (ninety) days after the end of each semester, covering both project components:**

a) IFR 1: Sources and uses of funds by component and category (period to date, year to date, Program/Project to date) showing budgeted amounts versus actual expenditures (that is, documented expenditures), including a variance analysis

b) IFR 2: Achievement of DLIs

c) IFR 3: Designated Account bank reconciliation

d) IFR 4: Disbursement forecast of expenditures

69. **The General Conditions require the borrower to retain all records (contracts, orders, invoices, bills, receipts, and other documents) evidencing eligible expenditures and to enable the World Bank's representative to examine such records.** They also require the records to be retained for at least one year following receipt by the World Bank of the final audited financial statement required in accordance with the Legal Agreement or two years after the Closing Date, whichever is later. The borrower is responsible for ensuring that document retention beyond the period required by the Legal Agreement complies with its government's regulations.

Table 4.4. Category of Expenditures and Financing Percentages (expressed in US$)

Category (including Disbursement Linked Indicator as applicable)	Disbursement Linked Results (DLRs)	Amount of the Loan Allocated (expressed in US$)	Percentage of Eligible Expenditures to be financed (inclusive of Taxes)
(1) DLI #1: Number of SUS hospital beds available to treat COVID-19 patients during the Peak of the Pandemic in the Borrower's territory	Average of 4,000 ICU and clinical beds/day	30,125,000	N/A
(2) DLI #2: Number of Small Hospitals converted into Multi-professional Care Units (UCM)	(a) SESA 'Resolution' issued and published (b) 40 UCMs established	(a) 5,000,000 (b) 35,000,000 to be disbursed as follows: (i) 8,750,000 upon the first 10 UCMs established, and (ii) 875,000 for each UCM established thereafter Total: 40,000,000	N/A
(3) DLI #3: Production Rate of Selected UCMs	(a) At least 50% Production Rate (b) Up to 65% Production Rate (c) Up to 75% Production Rate	(a) 3,693,000 (b) 2,770,000 (c) 2,772,000 Total: 9,235,000	N/A
(4) DLI #4: Deployment of Online Intelligent Platform for environmental management containing Key Health Surveillance Information and Key Disaster Risk Information.	(a) GeoPR Health Surveillance Dashboard containing geospatial data of: (1) reported cases of dengue and leptospirosis, (2) outbreaks of waterborne and foodborne diarrheal diseases, and (3) water quality for human consumption. (b) GeoPR Health Surveillance Dashboard integrating the following data at the municipal level: (a) cases of dengue with environmental sanitation, sewage, solid waste collection and treatment, and land disposal sites; and (b) cases of leptospirosis with floods and natural environmental disasters data.	(a) 8,750,000 (b) 7,500,000 (c) 5,625,000 (d) 2,500,000 (e) 625,000 Total: 25,000,000	N/A

Category (including Disbursement Linked Indicator as applicable)	Disbursement Linked Results (DLRs)	Amount of the Loan Allocated (expressed in US$)	Percentage of Eligible Expenditures to be financed (inclusive of Taxes)
	(c) I9 Portal containing an updated Air Quality Alert System, including on-line real-time alerts. (d) Planialtimetric base of the Borrower's territory at a scale of 1:10.000 available at GeoPR Portal (e) (i) Selected GeoPR Portal Data available online at I9 Portal, and (ii) updated SISMAAD containing spatiotemporal stochastic models for precipitation and risk		
(5) DLI #5: Development of Regional Productive Development Plans and a new public investment management system in support of post COVID economic recovery	(a) Eight Selected Regions have completed the Diagnostic Phase for the preparation of their Regional Productive Development Plans (b) Eight Regional Productive Development Plans have been approved and published (c) Eight Short Term Investment Projects under the Regional Productive Development Plans appraised and with implementation started (d) Decree establishing the PIM System (e) PIM System deployed	(a) 4,900,000 (b) 4,900,000 (c) 4,000,000 (d) 1,540,000 (e) 800,000 Total: 16,140,000	N/A
(6) Goods, non-consulting services, consulting services, Operating Costs and Training for the Project		9,500,000	100%
Total Amount of the Loan	-	**130,000,000**	-

ANNEX 5. SUMMARY ENVIRONMENTAL AND SOCIAL SYSTEMS ASSESSMENT

1. **This annex summarizes the ESSA for the PforR component of the proposed Program.** This is a hybrid operation of US$130 million comprising a PforR component (US$120.5 million) and an IPF component (US$9.5 million). The operation has been proposed by the state of Paraná (Southern Brazil) to support activities included in four key government programs as defined in PPA 2020–2023. [79]

2. **The Program will be implemented by the state of Paraná, located in the southern region of Brazil.** The state of Paraná is organized into 22 administrative regions and 399 municipalities, of which 77 percent have less than 20,000 inhabitants. With a surface area of about 200,000 km^2 (2.35 percent of Brazil's territory), the state of Paraná covers 10 phytogeographic regions that feature geomorphological and climate peculiarities. Paraná has an ethnically diverse population of 11.5 million (5 percent of the total Brazilian population) and an urbanization rate of 86.4 percent. The state's socioeconomic indicators are above national averages. Paraná is one of the highest-income and highest-capacity states in Brazil, but there are significant pockets of poverty and inequality in access to essential public services, particularly in rural areas. Economic inequality is equally high. In 2018, the richest 1 percent accounted for 10.2 percent of the total mass of income, while the poorest 20 percent held only 4.2 percent of the wealth. In the same year, 13.7 percent of the state population lived in poverty (less than US$5.5 per day) and 2.7 percent in extreme poverty (less than US$1.9 per day).[80]

3. **The proposed operation will be jointly implemented by five state secretariats with the support of associated entities.** The implementing entities are SEPL, SEAP, SESA, IAT and the Governor's Chief of Staff Secretariat (*Casa Civil*, CC). These entities have substantial experience working with previous World Bank-supported projects and the World Bank's principles and operational policies. In addition to the implementing agencies, key roles in Program implementation and environmental and social risk management of Program activities shall be played by IAT, the State Coordination of Civil Defense and Protection Civil Defense, the State's Comptroller General and General Ombudsman Office, and the General Superintendence of Dialogue and Social Interaction, due to their legal attributions.

4. **The E&S risks of the activities included in the PforR component have been classified as Moderate.** The few potential negative risks and impacts of the proposed PforR component are likely to be predictable, temporary, and/or reversible. They will be low in magnitude and site specific, without likelihood of impacts beyond the actual footprint of a few construction sites. They have a low probability of serious adverse effects to human health and/or the environment and routine safety precautions are expected to be sufficient to prevent accidents. They can also be easily mitigated in a predictable manner.

5. **The assessment of the expected E&S effects of activities included in a PforR considers the six core principles (and their key planning elements) set by the World Bank Guidance Program-for-Results Financing Environmental and Social Systems Assessment (issued and effective September 18, 2020).** These core principles refer to the Program E&S management system's capacity to (a) promote E&S sustainability in the Program design, avoid, minimize, or mitigate adverse impacts, and promote informed decision-making relating to the Program's E&S effects; (b) avoid, minimize, or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the Program; (c) protect public and

[79] The PPA covers 2020–2023. However, to calculate the Program, the period of 2021–2023 was considered.
[80] Synthesis of Social Indicators (SIS) of IBGE 2018.

worker safety against the potential risks associated with (i) the construction and/or operation of facilities or other operational practices under the Program, (ii) the exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials under the Program, and (iii) the reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards; (d) manage land acquisition and loss of access to natural resources in a way that avoids or minimizes displacement and assists affected people in improving, or at the minimum restoring, their livelihoods and living standards; (e) give due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of indigenous peoples and to the needs or concerns of vulnerable groups; and (f) avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

6. **First Core Principle: The ESSA notes that there has been a weakening of the institutions responsible for environmental management, but the borrower is taking measures to address such an issue.** The responsible agencies provide services in an anachronistic and time-consuming manner, with a lack of standardization and transparency, environmental enforcement, analyses, and monitoring. The state of Paraná recognizes the need to improve environmental governance, the quality of institutional analysis, and the ability to monitor living natural resources and is making significant technological improvements aimed at increasing the efficiency of the current EMS and enhancing the institutional capacity of the responsible state agencies to enforce the environmental regulatory framework by providing digital electronic tools and evidence-basis for an effective performance.

7. **Second Core Principle: The ESSA highlights that the activities supported by the PforR component are not expected to involve large civil works which may lead to significative adverse impacts on natural habitats and cultural heritage.** On the one hand, civil works and operation of UCMs and hospitals require attention to ensure appropriate management of solid waste generated by health services, measures relating to occupational health and safety (to protect workers from injury, illness, or impacts associated with exposure to hazards encountered in the workplace or while working), and exposure of patients to health and safety risks. The regulatory framework on these issues is robust. A Health Services Solid Waste Management Plan is a prerequisite of the operation of health service facilities. The Paraná Health Code requires the adoption of strict measures of occupational safety and health to allow the operation of health service facilities. The agencies responsible for the enforcement of these measures have a strong capacity in the state of Paraná. Finally, these activities are not likely to constitute a significant source of gross GHG emissions. On the other, the preparation of regional productive development plans may lead to downstream and future effects on the environment and society that are not foreseeable. The activities supported by these plans will have very positive E&S impacts—conducive to a green development path—as far as they are based on principles of E&S sustainability.

8. **Third Core Principle: The supported activities are not expected to involve works under significant risky and unsafe workplace conditions and the borrower's E&S system is well developed and able to deal with the risks associated with occupational health and safety conditions.** Health sector activities within UCMs and existing hospitals to respond to COVID-19 may expose health workers to health hazards, but these risks are not unprecedent and can be managed by well-known standard procedures. The protocols that rule the operation of health service facilities in Brazil are rigorous and strongly enforced across the state of Paraná. The Brazilian labor regulatory framework comprises proper standards of occupational health and safety for the operation of health service facilities. These workplaces are ruled and managed according to restricted, well-implemented, and closely oversighted occupational health and

safety standards and measures. These rules require public and private employers to develop and provide training to their employees on preparedness and response to emergency plans, environmental risk prevention programs, and occupational health and medical control programs.

9. **Fourth Core Principle: The activities supported by the PforR component are not expected to have direct adverse impacts related to land acquisition and involuntary resettlement.** This conclusion minimizes the fact that the borrower's E&S system shows a few gaps with the requirements set by Core Principle 4: the compensation amount due to adverse possession under conditions in which claims to land or assets are recognizable under the national law; provisions with regard to resettlement assistance for tenants and co-inhabitant families; distinction on entitlements between persons who encroach on the area before or after a cutoff date; and provisions for the establishment of a grievance redress mechanism to deal exclusively with claims on involuntary resettlement. As the regional productive development plans may lead to downstream effects related to land acquisition as some infrastructure facilities may be included in the list of investments to be supported, capacity building on this topic for the staff working in the preparation of the plans has been proposed as a recommended measure.

10. **Fifth Core Principle: The activities supported by the PforR component are not expected to cause relocation of indigenous peoples or have adverse impacts on (a) land and natural resources subject to traditional ownership or under customary use or occupation; (b) indigenous knowledge; (c) indigenous peoples' cultural heritage that is material to their ethnic identity; or (d) cultural, ceremonial, or spiritual aspects of their lives.** The borrower's E&S system comprises robust measures to ensure not only meaningful consultation with and participation of indigenous peoples, thus devising opportunities to their benefit from the Program, but also appropriate attention to groups vulnerable to hardship or discrimination. However, due to the 'digital divide' (access to technologies and 'digital illiteracy'), some of these disadvantaged and vulnerable groups may face disproportionate challenges and barriers to participate and benefit from the supported activities.

11. **Sixth Core Principle: The PforR component is not expected to lead to marginalization of social groups, the exacerbation of conflicts among social groups, or social unrest.** On the contrary, some activities tend to be socially inclusive and have positive distributive effects. The government of Paraná's focus on disadvantaged and vulnerable social groups on the provision of access to COVID-19 response initiatives reduces the risk that certain groups could come to believe they are underserved and marginalized due to their identities and status.

12. **The ESSA concludes that the PforR component will be developed in a legal or regulatory environment where there is significant certainty about the jurisdiction of the implementing agencies, which enjoy stability and strong oversight by judicial and extrajudicial bodies (including mass media and public opinion).** The state of Paraná has a well-established institutional and regulatory framework in all sectors included in the result areas to be supported by the PforR component. The governance structures and legislation enjoy stability and strong oversight by judicial and extrajudicial bodies (including mass media and public opinion). There are established mechanisms to foster transparency, social control, and accountability. Social participation in policy decision-making is an integral part of the public governance of these sectors. Paraná has also developed over the years both the adequate regulatory framework and the capacity needed to undertake the necessary E&S due diligence with respect to the potential impacts that the supported activities may cause. The PforR component will be developed in a state legal or regulatory environment where (a) there is significant certainty about the jurisdiction of the

implementing agencies, (b) the legislation and regulatory framework adequately address potential E&S risks and impacts of complex projects, and (c) enforcement is strong. The legal and regulatory authority of all supported activities is clearly established. The workforce planning exercise in the State Secretariat of Health will exclusively influence the recruitment policy of new staff and will not affect the rights of the civil servants already in the job, who—following the Brazilian legislation—enjoy job stability.

13. **The ESSA also concludes that the borrower's and the implementing agencies' experiences in developing programs and projects of the same level of complexity are relevant and their track record regarding E&S issues is good.** There are no significant concerns related to their capacity and commitment and track record in relation to stakeholder engagement. The technical and institutional capacity of the borrower, its track record, and the financial and human resources available for management of the PforR component and its E&S risks and impacts are adequate. No critical changes to the legal or regulatory framework are needed before the operation can proceed.

14. **A few measures are recommended and required to ensure adequate management of the envisaged E&S risks and the following Action Plan was agreed to enhance the borrower's Environmental and Social Risk Management System.** Some of these actions will be supported by the IPF TA component of the Program. The PMU will record evidence of compliance with the environmental, health, and labor measures of the 40 selected hospitals that will be converted into UCMs and hospitals with an expanded number of beds to respond to COVID-19.

Table 5.1. The environmental and a social issues and proposed actions.

Issue	Proposed Action
Environmental and social risks management	The PMU will include one environmental and social risks management specialist throughout the Program life cycle. This specialist will be responsible for ensuring this Action Plan is followed, monitoring and reporting on its achievements. Each executing agency will keep a focal point for the management of E&S risks of its activities according to the relevant ESS.
Management of working environment and solid waste in health service facilities	The PMU will submit a Report on compliance with the measures provided for in SESA Resolutions 544/2020 and 1268/2020 to the World Bank. The PMU will report on (a) the publication of the SESA "Resolution' that will establish the Multi-professional Care Unit – UCM in the State of Paraná and will set the guidelines and criteria for adherence and structuring, as well as funding and investment resources and (b) compliance with this Resolution to evidence the environmental and social eligibility of expenses related to the conversion of the 40 selected hospitals into UCMs.
Potential constraints that indigenous peoples and other disadvantaged and vulnerable groups may face in terms of access to digital platforms and channels due to the digital divide as well as to fair and equitable access to health services and facilities supported by the Program (including those related to COVID-19 response) due to their identities and	A broad process of dissemination of the Program among the representatives of the existing State Councils and Committees that have broad representation of vulnerable social groups and their consultation on measures that might be taken to ensure that the constituencies they represent are benefitted by the Program. Monitoring of accesses and level of satisfaction of indigenous peoples and other disadvantaged and vulnerable social groups with Government's

Issue	Proposed Action
status	digital services.
Limitations faced in the environmental licensing and risk management processes in the state of Paraná.	Definition of measurable and attributable indicators to monitor the results achieved in terms of improving the performance and effectiveness of the agencies responsible for environmental licensing and management as a result of environmental innovation.
Regional productive development plans must pave the road toward sustainable development and green and inclusive growth	Adoption of principles and criteria of environmental sustainability and social inclusion in the selection of activities to be supported from the regional productive development plans, based on the Sustainable Development Goals. Training on appropriate measures, best practices, and lessons learned to address (avoid, minimize, and mitigate) adverse impacts related to land acquisition, restriction on land use, and involuntary resettlement for the teams working on the preparation of the Productive Regional Development Plans.
Transparency, stakeholder engagement, citizen engagement, and social accountability in the management of Program-supported activities	Implementation of an information dissemination campaign of Program-supported activities, mass media, a dedicated official webpage of the Program (including a citizen information service and FAQs), and social media.
	Continued dissemination of the State Ombudsman System, its attributions, and channels to lodge complaints.
	Continued monitoring of requests of information, suggestions, and grievances related to Program-supported results areas and activities that reaches this system.
	Retrofitting of the planning and implementation of Program-supported activities based on the analysis of these citizens' manifestations.

ANNEX 6. PROGRAM ACTION PLAN

Action Description	Source	DLI#	Responsibility	Timing		Completion Measurement
1. The World Bank will request SEFA to provide direct access to SIAF, so the Bank's Financial Management Specialist can properly monitor Program execution and prevent additional fiduciary risks.	Fiduciary Systems		The World Bank with support of SEPL/PMU	Due Date	31-May-2022	Access provided.
2. State to appoint a Financial Management Specialist (FMS) for the Program Management Unit (PMU) and CGE-PR to review support documentation.	Fiduciary Systems		SEPL and CGE-PR	Other	In accordance to the LA on the establishment of PMU.	PMU FMS and CGE-PR team appointed and trained.
3. Official document issued by the Secretariat of Health (SESA) instructing all the municipalities to comply with the World Bank's ACG.	Fiduciary Systems		SESA	Due Date	31-Jul-2022	Document available and public.
4. Internal Audit Function.	Fiduciary Systems		CGE-PR	Due Date	29-Oct-2027	Achieve level 3 of IA-CM.
5. State to appoint a procurement specialist.	Fiduciary Systems		SEPL/PMU	Other	In accordance to the LA on the establishment of PMU.	Procurement expert in place to support the Program implementation.
6. To train all the procurement and technical staff on World Bank-	Fiduciary Systems		The World Bank with support of SEPL/PMU	Other	Once the team is in place.	Staff prepared to perform procurement activities with due diligence.

procurement policies.						
7. To implement electronic system to control procurement procedures.	Fiduciary Systems		CGE with the support of SEPL/PMU	Due Date	31-Jul-2023	Electronic system in place and information used for monitoring and correction purposes.
8. To develop and implement a permanent training program for procurement staff under TOR agreed with the World Bank.	Fiduciary Systems		SEPL/PMU	Recurrent	Continuous	Staff qualified to perform their tasks.
9. The PMU will include an environmental and social risks management specialist and each executing agency will designate a focal point.	Environmental and Social Systems		SEPL/PMU	Recurrent	Continuous	Environmental and Social Risks Management staff assigned
10. The PMU will submit a Report on compliance with the measures provided for in SESA 'Resolution's 544/2020 and 1268/2020 to the World Bank.	Environmental and Social Systems		SESA/PMU	Recurrent	Yearly	Compliance Verification Forms for each contracted hospital submitted by to the Bank.
11. Monitoring of accesses and level of satisfaction of Indigenous Peoples and other disadvantaged and vulnerable social groups with governments' digital services.	Environmental and Social Systems		PMU	Recurrent	Yearly	Number of meetings with the State Health Council and the State Council of Indigenous Peoples and Traditional Communities. Satisfaction Surveys completed.
12. To use the data on cases of complaints related to fraud and corruption to support the design and implementation of the public sector	Fiduciary Systems		SEPL	Recurrent	Continuous	Systems in place and information used for monitoring and correction purposes

technical assistance activities.						
13. The PMU reports on compliance with the measures related with management of environmental, social and occupational health and safety risks that will be established by SESA 'Resolution' creating the UCMs.	Environmental and Social Systems		SESA/PMU	Recurrent	Yearly	Commitment Agreements signed by the municipalities and compliance with measures for the management of environmental, social and occupational health and safety risks required by SESA.

ANNEX 7. IMPLEMENTATION SUPPORT PLAN

1. **The Implementation Support Plan is based on the Program's risk profile, the lessons learned from the implementation of previous operations with the state of Paraná, and other operations involving a results-based approach with a TA component.**

2. **A PMU is established in CDG in SEPL.** The PMU will be responsible for coordinating, monitoring, and reporting on Program activities and results. The Program will rely on the state's M&E systems while contributing to their strengthening through TA. While the number of participating agencies and government programs will place a large burden of coordination on SEPL, experience with the previous operation demonstrates that the state's capacity is strong.

3. **The World Bank biannual formal implementation support missions will be complemented by a continuous dialogue on program challenges and progress.** This interaction will cover technical and nontechnical aspects of Program implementation, including FM, procurement, and safeguards for the TA component. Implementation Status and Results Reports will be filed after every mission. The procurement of all activities under the TA component will be carried out by the PMU. ToRs will be prepared in coordination with the respective agencies and reviewed by the World Bank team for technical quality as well as compliance with relevant ESS. The PMU has qualified personnel who have experience with World Bank procurement procedures. The World Bank will continue to provide procurement training as needed.

4. **The Implementation Support Plan will be reviewed annually to ensure that it continues to meet the implementation support needs of the Program.** At the halfway point of the operation, a midterm review will be undertaken with a view to making any changes to the design and implementation arrangements, including any changes to the Loan Agreement that would require a restructuring. The World Bank task team will work with the PMU and designated officials to clarify the requirements necessary to effect any changes. It is understood that any changes to the Program that require amendments to the Loan Agreement will require a formal request from the Government's signatory.

5. **Six months before the Closing Date of the operation, the Government will commence preparation of its Implementation Completion and Results Report (ICR).** The ICR author from the World Bank will participate in the final implementation review and gather the necessary information to prepare the World Bank ICR.

Table 7.1. Main Focus of Implementation Support

Time	Focus	Skills Needed	Resources Estimate	Partner Role
First 12 months	Technical, implementation and fiduciary	Project management; technical skills in health, environmental management, digital government specialist, PIM, HRM; operational (including M&E), fiduciary, E&S specialist.	• Quarterly implementation support mission • Technical expert support/visits on demand basis • Quarterly monitoring of results framework, achievement of DLIs and disbursements	n.a.

Time	Focus	Skills Needed	Resources Estimate	Partner Role
12–48 months	Technical, implementation and fiduciary	Project management; technical skills in health, environmental management, digital government specialist, PIM, HRM; operational (including M&E), fiduciary, E&S specialist	• Quarterly implementation support mission • Technical expert support/visits on a demand basis • Quarterly monitoring of results framework, achievement of DLIs and disbursements	n.a.
Completion	Technical, operational		• One mission • ICR	n.a.

Table 7.2. Task Team Skills Mix Requirements for Implementation Support

Skills Needed	Number of Staff Weeks (per year)	Number of Trips (per year)	Comments
Project management (task team leaders)	20	2–4	HQ and field based
Environmental management specialist	4–6	2	Field based
Digital government specialist	2–4	1–2	HQ or field based
HRM specialist	2–4	1–2	HQ or field based
Operations officer	4	1–2	HQ or field based
Procurement specialist	4–6	2	Field based
FM specialist	4–6	2	Field based
E&S specialists	4–6	1–2	Field based

ANNEX 8. INVESTMENT PROJECT FINANCING COMPONENT

1. **The IPF component will finance the costs of Program management and TA in strategic areas in support of the Program and results areas where the Government has identified a need for access to World Bank support, knowledge, and expertise** The objectives of the TA activities are aligned with the results and objectives of the Program as outlined in the Results Framework, with a focus on cross-cutting systems that are critical for the COVID recovery effort, including the need to increase the efficiency of new public investments and existing public assets, ensure transparency and close monitoring of regional plans, and strengthen HRM for service delivery. Activities are as listed in the following paragraphs.

2. **PIM (US$1,000,000).** TA will support an assessment of the PIM system, the investment portfolio, and constraints in project preparation and implementation and development of a methodology and technical manuals for PIM. These will be developed as separate thematic modules that cover all aspects of investment project preparation, including, but not limited to, (a) guidelines for project concept preparation; (b) initial concept budgeting; (c) CBA including shadow prices and social discount rates, including specific treatment of climate change; (d) environmental and social safeguards; (e) climate change and disaster risk screening tools; (f) a matrix with project evaluation criteria and scoring methodology; (g) design of an electronic PIM system to allow for a structured way of following investment project proposals through preparation and implementation including a public interphase where relevant information on all public investment projects will be published.

3. **Public asset management (US$900,000).** The TA will carry out an assessment of current use and occupancy of all buildings owned or used by public sector entities and foundations. The assessment will include an initial desk-based mapping followed by on-site verification visits, creation of occupancy and dimensioning parameters for all institutional properties, adaptation of the existing property management system to receive the compiled information such as building plans/sketch, and the number of personnel and operational needs. On this basis, the study will present options to strengthen real estate management efficiency including staff relocation and consolidation when appropriate—and in line with prevailing technical occupancy standards regarding building use and access, maintenance and conservation, minimal office size. Finally, an occupation manual will be prepared to provide guidance for public managers in their planning for the use of public real estate. The assessment will include an energy audit and a climate change risk and vulnerability assessment.

4. **Regional productive development plan platform (US$1,195,000).** TA will be provided for the preparation of a monitoring and management platform for the regional productive development plans supported under the PforR component. The objective of this activity is to provide a collaborative platform during the preparation of the plans, including features for soliciting and receiving feedback and inputs from civil society, and to ensure transparency and monitoring of the implementation of the plans once they have been approved, including public access to specific initiatives financed as part of the regional productive development plans.

5. **Digital innovation platform (US$1,700,000).** The TA will support the preparation of an open collaborative digital platform to increase public-private interaction and private sector involvement in innovative digital solutions to solve public challenges. Increasing collaboration with the private sector in public policy is one of the objectives of the state's innovation initiative for improving public services and

outlined in the complementary New Research and Innovation Arrangements, which requires open source as the default option to encourage competition and innovation.

6. **HRM (US$2,185,000).** TA will be provided for the development of a tool and methodology for strategic workforce planning, establishment of a talent pool and talent management system which will enable horizontal mobility to solve specific agency demands; modernization of human resource recruitment and competency assessment, strengthening HRM practices in compliance with the state HRM legal framework, and assessment of the civil service health insurance program (*Sistema de Assistência a Saúde*) and options for reforms. The HRM strategy and practices will strengthen opportunities for women and underrepresented groups in the public sector and increase opportunities for their mobility.

7. **PMU operational costs and capacity building (US$2,520,000).** The investment component will finance the running costs of the PMU including purchase of equipment and consumables as well as implementation of the Governance Risk Assessment System to identify possible fraud in public expenditures and the Spend Analysis System for strategic procurement, strengthening of the internal audit function at the State Controllership Secretariat, and capacity-building activities for implementing institutions to be defined in consultations with stakeholders and in line with Program objectives.