



# Project Information Document/ Integrated Safeguards Data Sheet (PID/ISDS)

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Concept Stage | Date Prepared/Updated: 30-May-2018 | Report No: PIDISDSC23752



**BASIC INFORMATION**

**A. Basic Project Data**

|  |  |                                      |   |
|--|--|--------------------------------------|---|
| Country<br>Brazil                                    | Project ID<br>P165695                    | Parent Project ID (if any)           | Project Name<br>SABESP Improving Water and Sanitation Service Access and Efficiency (P165695) |
| Region<br>LATIN AMERICA AND CARIBBEAN                | Estimated Appraisal Date<br>Jun 25, 2018 | Estimated Board Date<br>Sep 28, 2018 | Practice Area (Lead)<br>Water   |
| Financing Instrument<br>Investment Project Financing | Borrower(s)<br>SABESP                    | Implementing Agency<br>SABESP        |   |

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**Proposed Development Objective(s)**

The Project Development Objective is to support SABESP to providing secure access to water services to people in low income areas of the Metropolitan Region of São Paulo.

**Financing (in USD Million)**

**SUMMARY**

|                           |        |
|---------------------------|--------|
| <b>Total Project Cost</b> | 350.00 |
| <b>Total Financing</b>    | 350.00 |
| <b>Financing Gap</b>      | 0.00   |

**DETAILS**

|   |        |
|---|--------|
| <b>Total World Bank Group Financing</b> | 250.00 |
| World Bank Lending                      | 250.00 |
| <b>Total Government Contribution</b>    | 100.00 |

Environmental Assessment Category  
B-Partial Assessment

Concept Review Decision



Have the Safeguards oversight and clearance functions been transferred to the Practice Manager? (Will not be disclosed)

Yes

Other Decision (as needed)

## A. Country Context

**1. Poverty and access to water and sanitation services (WSS).** Brazil has experienced a high rate of urbanization, with 85.2 percent of the country's population living in urban areas in 2013. As a result, despite the lower incidence of poverty in urban areas, almost 17 million or around 60 percent of the poor in the country live in cities. Despite substantial progress over the past decades, the country faces tremendous challenges in providing access to water and sanitation services in low-income and informal settlements in peri-urban and rural areas. According to IBGE<sup>1</sup> 2016 data, an estimated 12 percent of Brazilians live in households without access to water supply via a distribution network (6 percent in urban areas), while 41 percent of the population live in homes that are not connected to a sewage collection network (32 percent in urban areas). These numbers increase to 16 and 54 percent when considering only the bottom 40 percent of incomes. Nationwide, only 62.1 percent of Brazilians have access to all three basic sanitation services: water supply, sewage and garbage collection. This number declines to 40.4 percent when considering only the poor in Brazil. More innovative and alternative citywide inclusive approaches are needed to achieve the goal of access of WSS to all.

**2. Water security is a critical condition for equitable and sustainable growth in Brazil.** Brazil is characterized by a huge diversity in terms of needs and local conditions for water. It is home to 19 percent of total world freshwater resources and water resources are unevenly distributed. Whereas 70 percent of Brazil's freshwater is in the Amazon basin -- which houses less than 5 percent of the population -- only 1.6 percent of water resources are available in the state of São Paulo, where one-fourth of the population resides. The country's contrasting climates, population densities, and development patterns have resulted in wide differences in water availability and demand among regions. The 2014 World Bank Report (Turn Down the Heat)<sup>2</sup> predicts that climate change will significantly impact Latin America going forward, increasing the likelihood of droughts, floods, and other extreme weather events with adverse effects on the poor and the overall economy. The recent drought and water crisis that affected São Paulo is likely to become more frequent and severe. The availability of water is rapidly becoming a major constraint of growth, especially in large metropolitan regions such as São Paulo, and the poor are more directly and disproportionately affected by the lack of water.

**3. Uncontrolled discharge of wastewater is affecting the poor and scarce water resources.** Rapid and irregular urbanization and the lack of WSS have led to uncontrolled discharge of wastewater and water pollution, which has emerged as a major challenge in urban areas. According to SNIS<sup>3</sup> 2016 data, while water coverage was estimated at 88 percent for Brazil, sewage coverage reached 59 percent and the actual treatment of generated sewage trailed significantly behind at 45 percent. These problems are the most urgent at the poorest fringes of metropolitan areas where people settle in flood plains and along rivers and lakes without proper connection to WSS. Beyond the severe health impacts, this leads to direct discharges of untreated sewage into water bodies with severe consequences to quality and availability of

<sup>1</sup> IBGE (*Instituto Brasileiro de Geografia e Estatística*) - Brazilian Institute of Geography and Statistics

<sup>2</sup> 4<sup>o</sup> Turn Down the Heat: Confronting the New Climate Normal.

<sup>3</sup> SNIS (*Sistema Nacional de Informações sobre Saneamento*) - National Sanitation Information System



water around urban areas. In addition, there are major health impacts related to water-borne diseases affecting poor communities without proper sanitation services. Increasing coverage will help increase the resilience of communities, especially the poor, and secure that the scarce water resources will be available for years to come.

**4. Innovative approaches are necessary to reach WSS for all in a sustainable way.** Brazil has been investing only about 0.21 percent on average in WSS over the last decade, which has left the country with a considerable deficit in connectivity and quality of systems in Brazil. Given the current fiscal constraints, state and local government and public utilities will have to increasingly leverage private sector finance to close the investment gap. In addition, there is a strong need to reduce losses and increase overall efficiency of the system to help cover costs of providing services to poorer and more complex peri-urban and rural areas. The introduction of performance based contracts and long-term financing will help reduce the time frame of achieving the goal of WSS for all. In addition, the efficiency gains will help attract private sector financing to the sector. This project will introduce and solidify some innovative approaches and draw lessons from these experiences to help other utilities in Brazil and around the world.

## B. Sectoral and Institutional Context

**5. Socio-economic Context of the Metropolitan Region of São Paulo.** According to IBGE 2017 data, the Metropolitan Region of São Paulo (MRSP) has about 21.4 million inhabitants and the municipality of São Paulo has little over 12 million inhabitants. Out of the 39 municipalities in the MRSP, 35 are located in the Alto Tietê River basin – an area with scarce superficial water resources. Securing adequate supply of water is critical to the sustainable growth of the region and Brazil. The MRSP generates half of São Paulo state's Gross Domestic Product (GDP) and an estimated 20 percent of Brazil's GDP. Nevertheless, the São Paulo Social Vulnerability Index (*Índice Paulista de Responsabilidade Social - IPVS*)<sup>4</sup> shows that roughly 5 million residents (23 percent of the MRSP's population) are in the high and very high social vulnerability segments, located mostly in precarious urban settlements in the outskirts of the region. Despite good progress over the last decade, 12.2 percent of people in São Paulo state live below the poverty line of US\$ 5.50 income per day, which is about 10.5 percent of the total amount in Brazil<sup>5</sup>. In São Paulo, as elsewhere in Brazil, households headed by single women with children were overrepresented among the families living below the poverty line<sup>6</sup>, many of which live in vulnerable and high-risk areas with poor water and sanitation services.

**6. Water security a real problem in São Paulo.** In 2014 and 2015, the State of São Paulo faced one of the most serious droughts in recorded history. This event, which is likely to happen more frequently, led to a drastic reduction in the availability of water in major reservoirs, substantially affecting water supply, irrigation and hydro power generation capacity. The Cantareira water supply system operated for several months below the minimum quota as the Cantareira dam recorded an average of 10.9 m<sup>3</sup>/s in 2014, less than a third of the historical average recorded since 1944. As a result, the population was impacted by drastic rationing of water supply and the government invested considerably in demand management policies, measures to reduce losses and illegal connections and control water pressure in waterpipes.

**7. Water supply and sanitation services in the MRSP.** While 95.6 percent of households are connected to the water supply network, only 79 percent is connected to the sewage network and only 62 percent of the sewage is treated.

<sup>4</sup> Since 2002, Seade Foundation developed the São Paulo Social Vulnerability Index (IPVS), based on information derived from the Census. The index considers not only income data, but also various determining factors of social vulnerability situation such as schooling, health, family structure, labor market, access to public services, among others.

<sup>5</sup> IBGE, Síntese de Indicadores Sociais 2017, available at <https://biblioteca.ibge.gov.br/visualizacao/livros/liv101459.pdf>.

<sup>6</sup> In Brazil, 55.6 percent of this type of household lived with a daily *per capita* income equal to US\$ 5.5 in 2011.



Meaning that a considerable amount of wastewater is discharged directly on water bodies, further impacting the availability of water in the region. Half of the 22 water basins in São Paulo State already face water shortages, and the problem is most critical around the MRSP, where water demand exceeds the availability. SABESP<sup>7</sup> is responsible for supplying water to 79 percent of the urban population of the MRSP. Six municipalities buy treated water from SABESP and distribute it to their population themselves. There are about 300,000 households in low-income areas without continuous water supply in the MRSP. These areas face major challenges with illegal connections and high incidence of commercial water losses. Many of these people have access to unsafe water. As part of its response to the water crisis, SABESP started piloting the *Programa Água Legal* through performance based contracts to: (i) expand access to safe water in poor neighborhoods; (ii) reduce water losses in these areas; and (iii) increase efficiency and payments for services based on social tariffs. The goal is scale-up this successful program and connect 240,000 households to water supply system in the MRSP by 2027.

**8. Water losses and unaccounted water are considerable.** It is estimated that around 28 percent of the water is lost. This is partially the result of illegal connection, but also due to an aging pipeline network that needs replacement. Out of the 36,000 kilometers network in the MRSP about 6 thousand kilometers require replacement soon. Unfortunately, the current replacement rate has not been able to substantially reduce the annual leakage rates of 70 to 85 per 100 km of network<sup>8</sup>. The replacement of these networks is critical to improve the efficiency of SABESP's operations and reduce losses in the system, as well as support the expansion of systems in poorer neighborhoods in peri-urban areas and improve the system's resilience.

**9. The scarce water resources in the MRSP are being threatened by urbanization and pollution.** The Integrated Water Supply System of the MRSP comprises eight water production systems: Cantareira, Guarapiranga, Alto Tietê, Alto Cotia, Baixo Cotia, Rio Grande, Rio Claro and Ribeirão da Estiva. The main problems are the increasing encroachment and pollution of the Guarapiranga Reservoir that supplies water to one-fourth of the MRSP's population. Uncontrolled urban growth, irregular settlements and untreated discharge of wastewater continue to rapidly deteriorate the quality of water in this critical reservoir. The problem is further aggravated by the precarious sanitation and housing conditions of these families, who are exposed to water-borne diseases and vulnerable to floods and landslides. Since the 1990s, the government has been investing in the Guarapiranga Program<sup>9</sup> and the Mananciais Program<sup>10</sup> to support SABESP and the State Water and Sanitation Secretary in cleaning up the reservoir. Unfortunately, the programs were not sufficient to complete the universalization of sanitation services and clean-up of the water basin. SABESP continues to invest in sanitation services and the cleanup of this important basin for improving the water security and sustainable development of the MRSP. As a result, there is a need to continue to invest heavily in the reduction of pollution discharges in this and other reservoirs and improve water supply services in surrounding areas where many of the poorest of the population in the MRSP live.

**10. Rationale for supporting SABESP.** SABESP is among the largest water and sanitation companies in the world and is responsible for 26.5 percent of the investment in the sector in Brazil. Despite the very large investment needs in the sector, the company has reached its indebtedness capacity. Between 2007 and 2015, SABESP invested about BRL 21.3 billion in WSS, with BRL 8.2 billion coming from retained earnings and BRL 13.1 billion from loans. While SABESP can

<sup>7</sup> SABESP (*Companhia de Saneamento Básico do Estado de São Paulo*) – São Paulo State Water Utility

<sup>8</sup> Benchmark indicators: International Water Association (IWA) is 13 per 100km/year; the United States varies from 18-36 per 100km/year; Germany 18 per 100km/year.

<sup>9</sup> IBRD Project - P006541, closed in September 1997.

<sup>10</sup> IBRD Project - P006553, closed in March 2017.



increasingly rely on commercial financing, concessional financing is critical for the company to achieve the goal of universal access to WSS by 2030, which will require substantial investments in poor and complex peri-urban and rural areas. Unfortunately, the options of passing the higher costs of private financing to customers is limited due to the unwillingness of the government to substantially increase tariffs. The State Government also does not transfer any resources to SABESP, and this scenario is unlikely to change given the current fiscal situation. International Finance Corporation (IFC) and the World Bank are helping the State Government in developing a strategy to recapitalize SABESP through a Holding Company and open space for future financing through private and concessional loans. This blending of private and concessional financing is an innovative way to improving the performance and efficiency of SABESP while meeting the goals of increased water security and access to water and sanitation for all. Besides, the World Bank team will continue to be engaged with SABESP on addressing critical water scarcity and pollution problems, and helping improve the management and tariff structure to ensure affordable and sustainable access of services to the poor, promote more efficient and rational water use, and improve overall operational efficiency and of performance of the company. The World Bank funding will allow SABESP to cover financial gaps that exist due to the insufficient incentives to engage in areas with lower cost-recovery potential and with weaker projected financial flows. One important innovation will consist on the social promotion of legal connections and water valuation from potential poor customers so that they can generate steady sources of revenue over time.

**11. Developing innovative approaches that can be replicated elsewhere.** The proposed project is designed to increase water security in the MRSP by increasing access to WSS to more vulnerable groups in peri-urban areas of the MRSP and help reduce the pollution loads on the main water supply reservoirs in the region. Supporting SABESP in reducing water losses and improving efficiencies will help the sustainability of investments and further reduce water scarcity risks. The project will also continue to support SABESP's efforts to leverage private sector investments in the sector and its capacity to manage and operate the WSS in the MRSP and state. The use of performance based contracts will be scaled up, expanded and improved under the Project to create better incentives for both the public and private sector in achieving the goal of universal access to WSS in the state and draw lessons for other utilities around the world. The continuous dialogue with SABESP will help draw important lessons on how to leverage private sector finance in the sector and develop innovative models to reach the goal of access to WSS for all in Brazil and the rest of the world. In addition, SABESP will benefit from access to international experience for it to improve performance and ensure sustainability of the model over time.

### C. Relationship to CPF

**12. Alignment with CPF.** The proposed project aligns well with the FY18-23 Country Partnership Framework (CPF)<sup>11</sup> for Brazil. The CPF proposes a reorientation of new lending and advisory services and analytics toward supporting the Government in addressing the main development constraints identified in the Systematic Country Diagnostic, water security being one of them, with emphasis on the third focus area of the framework: equitable and sustainable development. As stated in the CPF, "the third requirement for improved livelihoods and economic opportunities is the smarter management of Brazil's natural resources and the better mitigation of environmental pollution and the risk of natural disasters. Three principal issues in natural resource management stand out and affect the B40 directly and indirectly through their effects on growth and incomes: access to land and secure property rights, water management, and, more broadly, environmental management. These are largely governance issues where the state acts as a mediator

<sup>11</sup> World Bank. 2017. Brazil: Country partnership framework for the period FY18 - FY23. Report n. 113259



between competing private interests, including the poor and vulnerable who are least able to protect their interests". The Project will address this issue by increasing access to WSS and water security in the MRSP.

**13. Third focus area of the CPF.** The project is directly related to the third focus area of the CPF. As stated in Objective 3.2 of the CPF (Increase urban resilience and provide more inclusive and sustainable urban services), "While Brazilian cities have become engines of economic growth, their competitiveness is below similar-sized cities in East Asia, Europe, and the U.S. Furthermore, many cities face tremendous challenges in terms of reducing water and air pollution, improving the quality of the urban environment, reducing disaster risks, and addressing problems of water scarcity and lack of access to basic services". As mentioned in the CPF, the World Bank will continue to invest in water and sanitation to foster resilience against the increased variability of water supply, while also focusing on pricing policies to ensure that water charges reflect provision costs, representing key areas of the proposed project. Also, as mentioned in the implementation management section of Brazil's CPF, the World Bank will be more selective, focusing on water and sanitation, urban transport, land use planning, risk management and resilience, and energy efficiency. These priorities are fully consistent with the new eligibility criteria set by COFIEX (Foreign Financing Committee – Ministry of Planning).

**14. Long term impacts and the twin goals.** The proposed project activities would increase access to water and sanitation, contribute to reduce water losses and improve the quality of the water of a key water reservoir. These are expected to have positive impacts on public health of the poor families living in the MRSP by reducing waterborne diseases and associated loss of income due to loss of days worked and any out-of-pocket healthcare costs. Besides improving the living conditions, the *Programa Água Legal* is expected to improve the sense of citizenship of the community as it increases social awareness and mobilization, and it implements the street addresses/numbering which gives the population an opportunity to receive additional service provision (such as local delivery of services). The cleanup of the Guarapiranga Reservoir may also contribute to reduce SABESP's costs of using algicides to control the quality of the water close to the water intake and treatment costs. In addition, it may create incentives for multiple uses of the reservoir for leisure purposes. Finally, the replacement of aging pipes is expected to reduce water loss, decrease the risks of water contamination, improve resilience of the network, and increase availability of water in the system therefore minimizing the investment in new water sources for future needs.

### C. Proposed Development Objective(s)

**15.** The Project Development Objective is to support SABESP to providing secure access to water services to people in low income areas of the Metropolitan Region of São Paulo.

#### Key Results

**16.** The proposed PDO indicators for the project would focus on securing the long-term access of communities to safe water by SABESP and ensuring water resources are protected for the future. The following indicators will measure these proposed outcomes<sup>12</sup>:

- Increase in number of direct people (by income and gender) provided with access to 'Improved Water Sources' under the project
- Reduction in number of annual water leakages per 100 km of pipelines in project area

<sup>12</sup> The increase in number of people (by income and gender) provided with access to "Improved Sanitation" under the project will become an intermediate indicator as the main goals is to reduce pollution loads on scarce water resources in MRSP.



- Reduction in volume of pollution load (Biochemical Oxygen Demand and Phosphorus in kg/day) directly discharged in surface water.

#### D. Concept Description

#### Project Components

##### 17. Component 1 – Expand access and reduce water losses in the MRSP (US\$ 256.2 million):

- Subcomponent 1.1: Increase WSS access to vulnerable population (US\$ 78.0 million).** The scope of this subcomponent is to scale up the “Água Legal” Program, already under implementation by SABESP since 2016. The Project will benefit up to 190,000 families in low income areas in the suburbs of the MRSP, by providing access to water supply and sanitation and connecting them to the existing SABESP WSS network. This subcomponent will also reduce the illegal water connections and commercial water losses in low-income neighborhoods. Performance-based contracts with private companies will be used based on SABESP’s experience and successful results.
- Subcomponent 1.2: Reducing leakages in the water network (US\$ 178.2 million).** To further reduce the losses and enable SABESP to expand water services in peri-urban areas, this subcomponent will scale up SABESP’s current replacement program of critical aging water networks. The subcomponent will replace up to 1,000 km of pipelines in the MRSP to reduce water losses, improve the quality and quantity of the supplied water, increase resilience and water availability, and reduce operational costs. These efficiency gains will be important in making expansion of water services in peri-urban sustainable and reduce pressure on existing water resources. It is estimated that the interventions will indirectly benefit about 600,000 inhabitants.

##### 18. Component 2 – Reduce pollution of scarce water resources in the MRSP (US\$ 69.3 million):

- Subcomponent 2.1: Expanding sanitation services (US\$ 50.3 million).** This subcomponent aims to support the municipalities of Embu das Artes and Itapeverica da Serra to reduce the direct discharge of sewage on water bodies upstream of the Guarapiranga reservoir, responsible for 25 percent of the MRSP’s water supply. Project investments will include sewerage networks; collectors and pumping stations and connection to the existing Barueri Wastewater Treatment Plant (WWTP) (activated sludge treatment plant). Beyond reducing pollution loads, the investments will directly benefit about 5,000 low-income families in Embu das Artes and 4,000 low-income families in Itapeverica da Serra.
- Subcomponent 2.2: Reduce nutrient loads in rivers (US\$ 19.0 million).** To further help reduce the pollution loads reaching the Guarapiranga reservoir, the subcomponent will invest in innovative approaches to remove nutrients from rivers. The Embu Mirim river would be a first pilot as it contains about 41 percent of the phosphorus load currently released in the reservoir. A performance based contract is being designed to engage private sector in providing the most cost-effective solutions. This activity would also assist in accomplishing the maximum target of pollution load reaching the Guarapiranga reservoir, as defined in the water quality law for the reservoir.

**19. Component 3 – Institutional strengthening and technical assistance (US\$ 24.5 million).** This component aims to support SABESP with project supervision demands (auditing and safeguard-related aspects included), as well as institutional strengthening and technical assistance. It will also include preparing key strategic studies, documenting case studies and best practices, providing training material, and promoting knowledge-sharing events, among other activities,





to support SABESP in responding to key sector or institutional challenges. The contracting of firms to assist with project supervision would be fully paid with counterpart funds. Identified studies and activities may include, among other things:

- a. Strengthening of SABESP's capacity to respond to post-holding deal investment demands;
- b. Energy Efficiency Program;
- c. Tariff Structure Revision;
- d. Technical Training and Institutional Capacity Building Activities;
- e. Automation Plan for integrating water and sewage;
- f. Support for the improvement of regulatory accounting - as a basis for regulatory review;
- g. Social and Environmental Capacity Building.

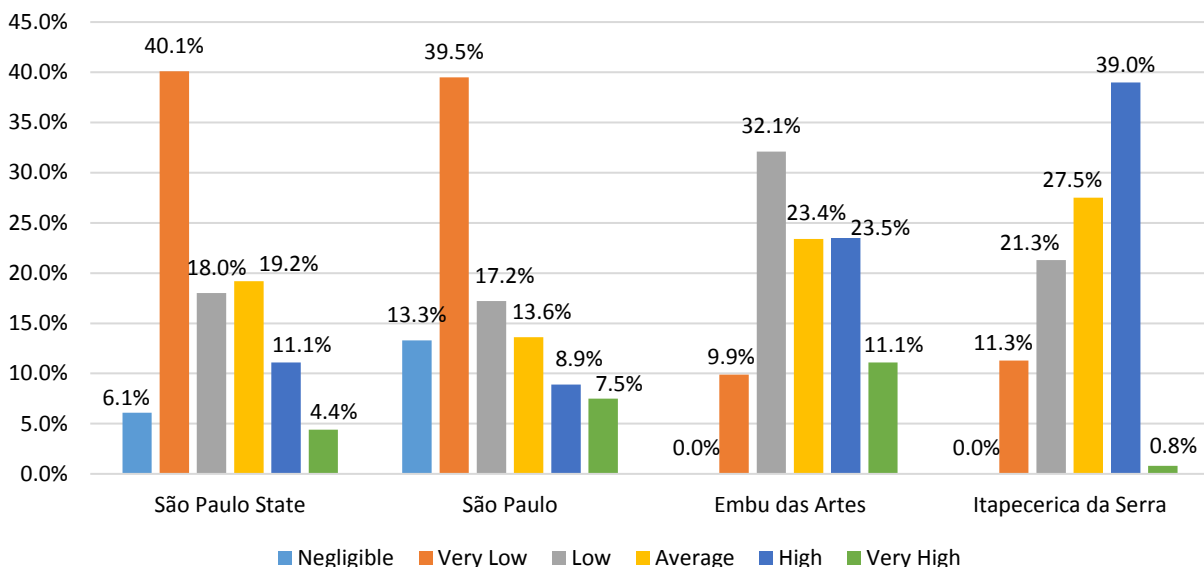
**20. Component 4 – Contingent Emergency Response Component (CERC).** The objective of this component is to support SABESP to respond to a major natural disaster or other emergencies in a quick and efficient manner. This component is a zero-budget disaster recovery contingency component that could be used in the event of a crisis or an emergency. By triggering it, it allows for the rapid reallocation of uncommitted funds towards response-activities. During project preparation, the definition of the key aspects of the CERC will be developed and included in an annex to the Operational Manual.

**21. Beneficiaries.** The project would contribute to increase the safe and legal access to water supply systems for up to 190,000 low-income families living in areas in the metropolitan region with high social vulnerability.<sup>13</sup> In addition, it will increase access to sanitation to about 9,000 families living in the municipalities of Embu das Artes and Itapeceira da Serra, which present worse levels of high and very high social vulnerability as measured by IPVS, presented in Figure 11, compared to the state's level. Furthermore, an additional 600,000 people are expected to indirectly benefit from the replacement of old water supply networks in the MRSP which would contribute to reduce the high rate of water losses and the number of system failures that cause leaks in the intervention areas, to ensure continuity of water supply and reduce complaints due to water quality. Overrepresented in the higher levels of social vulnerability according to IPVS, the beneficiary families of these project activities are characterized by poor socioeconomic and living conditions as well as by large parcels of households headed by youth, women, and the elderly. In addition, the average monthly household per capita income of the inhabitants of the municipalities of Embu das Artes (BRL 474) and Itapeceira da Serra (BRL 487) are about half of the average of the MRSP, 44 percent lower than the state average and 57 percent lower than the average monthly household per capita income of the city of São Paulo.

<sup>13</sup> Indicators of high social vulnerability areas include household income per capita, average income of the head of the family by gender, percentage of heads that are literate, average years of study, percentage of children 0 to 5 years old, among others.



Figure 1. Social Vulnerability Index (2010)



Source: SEADE Foundation/Assembleia Legislativa do Estado de São Paulo - <http://indices-ilp.al.sp.gov.br/view/index.php?selLoc=0&selTpLoc=2&prodCod=2>.

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**22. Social assessment.** For this proposed project, a full assessment of the environmental and social impacts and benefits of project activities would be carried out before appraisal. The Environmental and Social Management Framework (ESMF) would give special consideration to impacts and benefits for vulnerable social groups. The assessment of social impacts and benefits would incorporate a gender-sensitive lens to the extent possible and would propose, to the extent needed, specific actions to close identified gender gaps as well as indicators to monitor actions designed to address or narrow these gaps. Potential adverse impacts related to involuntary resettlement would be addressed through the preparation of a Resettlement Policy Framework (RPF) and Resettlement Action Plans (RAPs) for works occurring in the first year of implementation.

**23. Citizen engagement.** Consultations with key stakeholders, beneficiaries, and affected people would be carried out by the borrower during preparation. These consultations would take advantage of the committee of the Alto Tiete River basin, which convenes representatives of the civil society, nongovernmental organizations, and academia. Local community leaders would also be consulted. These consultations would address the findings of the social and environmental assessment and evaluate the identification of impacts and benefits derived from project activities as well as the proposed measures to avoid, minimize, and/or mitigate adverse impacts. Consultations would be recorded and the feedback received would be incorporated in the final versions of the project’s ESMF and RPF. SABESP already relies on a robust strategy of engagement with interested parties for the works of its *Programa Água Legal*. This strategy starts with a mapping exercise of community leaderships and continues during project implementation through periodic meetings with them to evaluate the provision of WSS. The project would rely on this network of community leaderships and their meetings to increase awareness about the efficient use of water resources and the protection of water sources, promote environmental and sanitary education, and improve civil participation.

**24. Grievance Redress Mechanism (GRM).** SABESP has already in place several channels for receiving and redressing complaints. In addition to service agencies in all municipalities covered by SABESP, these channels include a website, online chat, and free telephone lines with special services for hearing- and speech-impaired persons. On top of this,



SABESP has an Ombudsman Office (with a dedicated free phone line, website, and e-mail address). The project's GRM would rely as much as possible on these structures, processes, and procedures that are already in place in the implementing agencies. The institutional capacity assessment would consider the adequacy and efficiency of SABESP's GRM. Measures may be proposed to improve it and would be described in the project's ESMF. The RPF may also define specific processes, procedures, and channels to be locally operated to attend to the demands of project-affected persons.

**25. Gender integration.** As previously mentioned, the assessment of social impacts and benefits would incorporate a gender-sensitive lens. It was also mentioned that SABESP has built a network of community leaderships in the low-income areas of intervention of the *Programa Água Legal*. Many of these community leaders are women. These community leaders meet periodically and, in consequence, their network provides a first critical entry point to address gender equity issues and promote women's agency. The project would cooperate with SABESP to incorporate topics related to gender equity/women's agency in the agenda of the periodic meetings and would use this platform to increase awareness about these issues. In addition, the *Programa Água Legal* comprises social assistance works for beneficiary families through periodic household visits for 24 months and the project would explore the possibilities of incorporating the gender equity agenda on this work. Finally, the social assessment to be carried out by the borrower for the preparation of the ESMF will assess gender issues and to the extent possible include specific actions to close identified gender gaps as well as indicators to monitor actions. As households headed by single women with children are overrepresented among the most socially vulnerable groups of the state and the country population, this gender-sensitive analysis may point out how the project can bring further benefits for this vulnerable group.

**26. Screening for climate change and disaster risks.**

- (a) **Mitigation.** Subcomponent 1.1 is relevant to greenhouse gas (GHG) accounting. The project will require applying the Shadow Price of Carbon based on the GHG results to the economic analysis. Subcomponent 1.3 in particular may be relevant to mitigation co-benefits depending on the result of the GHG accounting analysis.
- (b) **Adaptation.** Each project component shows the potential to qualify for some level of adaptation co-benefits. The three criteria required for writing an adaptation co-benefits narrative are (i) identifying the risks, (ii) explicitly stating a desire to address these risks through the project, and (iii) explaining how individual project components/activities will build resilience to these risks.

## SAFEGUARDS

### A. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

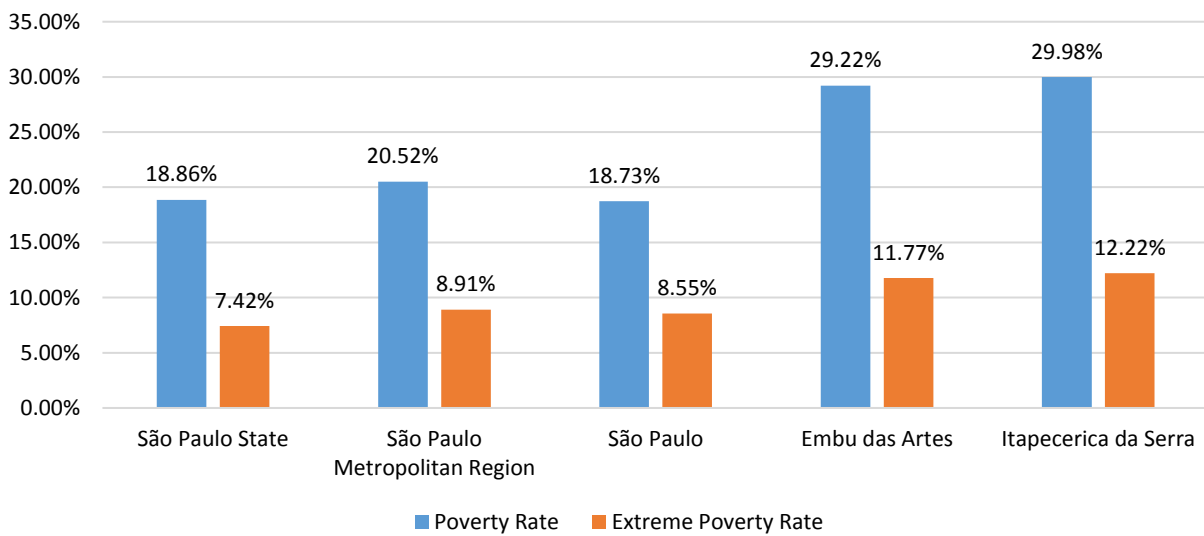
**27. Project activities will take place within the Metropolitan Region of São Paulo (MRSP), which is composed by the state capital city of São Paulo and 38 neighboring municipalities.** The MRSP is situated on a plateau, at an average altitude of 750 meters above sea level and distant about 60 km from the coast. The MRSP comprises an area of 8,000 km<sup>2</sup>. Thirty-four of these municipalities are located in the Alto Tietê River basin. Extending over 5,985 km<sup>2</sup>, the Alto Tietê basin covers a highly urbanized area. The Alto Tietê River basin is characterized by low levels of water availability, comparable to that prevailing in the driest areas of the Brazilian Northeast. Its superficial water resources are scarce. Water supply and demand balance is a critical issue for sustainable growth in the MRSP's. The MRSP houses a population of nearly 21 million people. The MRSP generates half of the Gross Domestic Product (GDP) of the State of São Paulo and about 20 percent of the Brazilian GDP. Nevertheless, about 4 million people living in the MRSP are socially vulnerable, whereas 5.6 million live



under the poverty line (per capita household income up to US\$ 5.50 per day) in the state of São Paulo<sup>14</sup>. Mostly of them live in the peripheral areas of the MRSP and in precarious urban settlements.

**28. The proposed project would include activities that aim to regularize the supply of water at low-income areas of the MRSP.** It would also include the financing without costs for these low-income families of their intra-household connections to the sewage system as well as socioeducational works. In addition, about 600 thousand people will benefit from the works of replacement of old water supply networks in the MRSP, to ensure continuity of water supply and to reduce complaints related with water quality. The project also includes activities to improve sanitation in the Guarapiranga catchment area. These works will focus on the municipalities of Embu das Artes, Itapeçerica da Serra and the south and southwest administrative regions of the municipality of São Paulo. These areas show above than state’s average levels of high and very high social vulnerability as measured by the Sao Paulo Index of Social Vulnerability (“Índice Paulista de Vulnerabilidade Social” – IPVS)<sup>15</sup>. Thus, while only 16.4 percent of the state population lived under high and very high conditions of social vulnerability, in the municipalities of Embu das Artes and Itapeçerica da Serra these rates equal to 34.6 and 39.8 percent, respectively. Monetary poverty and extreme poverty rates<sup>16</sup> are also higher in these areas than in the state and in the MRSP.

Figure 2. Poverty and Extreme Poverty Incidence Rates (2015)



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<sup>14</sup> IBGE, Síntese de Indicadores Sociais 2017, available at .

<sup>15</sup> Since 2002, Seade Foundation developed the São Paulo Social Vulnerability Index (IPVS), based on information derived from the Census. The index is a multifactor poverty index that considers not only income data, but also various determining factors of social vulnerability situation. IPVS takes into consideration two main dimensions and nine indicators. The socioeconomic dimension includes as indicators: (i) the household *per capita* income; (ii) the average income of the women responsible for the household; (iii) the parcel of households with monthly *per capita* income up to ½ minimum wage; (iv) the parcel of households with monthly *per capita* income up to ¼ minimum wage; and (v) the parcel of people responsible for the household who are literate. The demographic dimension encompasses: (vi) the percentage of people responsible for the household from 10 to 29 years of age; (vii) the percentage of women responsible for households from 10 to 29 years of age; (viii) the average age of the person responsible for the household; and (ix) the percentage of children up to 5 years old in the household. It classified 60,000 census sectors in seven levels. The lower levels are characterized by poor socioeconomic conditions and large parcels of households headed by youth, women and the elderly. (Fundação SEADE, Índice Paulista de Vulnerabilidade Social, available at [http://indices-ilp.al.sp.gov.br/view/pdf/ipvs/principais\\_resultados.pdf](http://indices-ilp.al.sp.gov.br/view/pdf/ipvs/principais_resultados.pdf)).

<sup>16</sup> Measured as people living with monthly household per capita incomes up to ½ and ¼ of the minimum wage, respectively.



Source: IPEA - <http://www.ipeadata.gov.br/Default.aspx>

29. Regulating access to water and providing access to sewage, the proposed activities would contribute to reduce water losses and improve the quality of the water offered to the population. They are expected to have positive impacts on public health and the environment.

### B. Borrower’s Institutional Capacity for Safeguard Policies

30. **The Sao Paulo State Water Company (SABESP) is the major actor for water supply and wastewater collection and treatment.** SABESP has large and successful experience working with the World Bank and complying with its safeguard policies. SABESP, together with the Secretariat of Water Resources (SRH) of the government of the State of São Paulo, implemented the Brazil APL Integrated Water Management in Metropolitan Sao Paulo Project (P006553) that closed in March/2017. This project was designed and implemented to respond to land-use, water resources, pollution and social challenges faced by heavily urbanized areas that impact key water sources in the MRSP. It triggered OP 4.01 Environmental Safeguards, OP 4.04 Natural Habitats, OP 4.11 Physical Cultural Resources, OP 4.12 Involuntary Resettlement and OP 4.37 Safety of Dams. An Environmental Impact Analysis, a Social Assessment, an Environmental Assessment Report and a Resettlement Policy Framework were prepared by SRH and SABESP, which has also satisfactorily implemented some Resettlement Action Plans and managed environmental and social risks.

31. **For the proposed Project, a full assessment of the institutional capacity of SABESP to manage social and environmental risks would be prepared before appraisal.** A strategy of institutional capacity strengthening for the management of social and environmental risks and impacts would be proposed. Human and financial resources to improve SABESP’s system for managing environmental and social risks would be considered. The institutional capacity assessment and strengthening strategy would be included in the Project’s Environmental and Social Management Framework. The assessment of citizen engagement strategies – including stakeholder engagement and consultation processes, external communications and grievance redressing mechanisms, and systems for ongoing report to affected/beneficiary communities – would be a central part of this institutional capacity assessment. Therefore, the Project will contribute to SABESP’s vision by assessing/strengthening its system of social risk management.

### C. Environmental and Social Safeguards Specialists on the Team

Alberto Coelho Gomes Costa, Senior Social Development Specialist  
Maria Bernadete Ribas Lange, Senior Environmental Specialist  
Juliana Medeiros Paiva, Social Safeguards Specialist  
Alexandre Fortes, Environmental Safeguards Consultant

### D. Policies that might apply

| Safeguard Policies                  | Triggered? | Explanation (Optional)  |
|-------------------------------------|------------|---|
| Environmental Assessment OP/BP 4.01 | Yes        | The proposed project would include activities that aim to regularize the supply of water at low-income areas of the MRSP by making available the needed infrastructure for supplying water, measuring |

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consumption and collecting sewage and including construction of civil works - small physical interventions related to the complementation of sanitary sewage systems (networks, trunk collectors, interceptors and pump stations) and replacement of existing networks . As the adverse environmental and social impacts are expected to be site-specific, reversible and readily mitigatable through the project management; the project will likely be in category B. The potential impacts and mitigation measures can be discussed with the Borrower at an early stage of project preparation.

Although the proposed Project locations are not yet fully defined, mitigation measures would be required for the following potential environmental impacts which may arise because of typical project:

- Increased pollution from the improper disposal of construction materials and/or hazardous substances.
- Community infrastructure investments and other project activities may impact unknown physical or intangible cultural heritage.
- Construction activities can bring about noise, dust, and wastes.
- Communities can be affected by the use of local roads for construction, affecting traffic patterns and local infrastructure, increasing levels of noise and dust and other nuisances thus generating conflicts with local communities.

Based on a preliminary assessment, the existing wastewater treatment plants (WWTPs) have adequate capacity to receive additional volume of wastewater to be treated. The Barueri WWTP, for instance, has a treatment capacity of up to 16m<sup>3</sup>/s, but currently treats an average of 13m<sup>3</sup>/s.

The WWTPs operations should be consistent with the applicable state/national requirements and World Health Organization (WHO) guidelines. The Environmental and Social Management Framework – ESMF to be prepared will detail this aspect.

The mitigation of environmental and social impacts during construction will require the application of good practices and close supervision of contractors.



The application of Environmental, Social and Health requirements during construction will be a prerequisite. A full assessment of the environmental and social impacts and benefits of project activities would be carried-out before appraisal.

Since many of the actions still do not have the specific location and technical details defined, this assessment should constitute an Environmental and Social Management Framework (ESMF).

This Assessment should contemplate the proposal for environmental guidelines, including special care in the case of replacement of cement-asbestos networks, to be specified in the Environmental Construction Manual, which will be part of the ESMF.

The ESMF would give special consideration to impacts and benefits for vulnerable social groups. This assessment of social impacts and benefits would incorporate a gender sensitive lens.

The Social Impacts Assessment would provide inputs to the project's Environmental and Social Management Framework (ESMF). Potential adverse impacts related with involuntary resettlement would be addressed through the preparation of a Resettlement Policy Framework (RPF) and Resettlement Action Plans (RAPs) for works occurring in the first year of implementation.

An institutional capacity assessment of the implementing agency for management of social and environmental risks would also be carried-out before appraisal and would provide inputs for an institutional capacity building strategy to be set at project's Environmental and Social Management Framework (ESMF).

The ESMF and the RPF would also define the processes and procedures for the operation of Grievance Redress Mechanisms (GRMs). The GRMs would rely as much as possible on the structures already in place in SABESP, which capacity would be also evaluated as part of the institutional capacity assessment.



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Consultations with key stakeholders, beneficiaries and affected people would be carried-out by the Borrower during preparation. These consultations would take advantage of the committee of the Alto Tiete River basin, which convenes representatives of the civil society, NGOs and Academia. Local community leaders would also be consulted. These consultations would address the findings of the social and environmental assessment and evaluate the identification of impacts and benefits derived from project activities as well as the proposed measures to avoid, minimize and/or mitigate adverse impacts. Consultations would be recorded and the feedback received would be incorporated in the final versions of the project’s ESMF and RPF.

The proposed Project would involve construction of civil works, but no significant labor influx is expected. Nevertheless, the project Environmental and Social Management Framework (ESMF) and bidding documents would include specific measures to address labor requirements and performance, assess and manage labor influx risk, as well as monitor potential impacts from labor influx.

The ESMF would also set the guidelines and principles of a proper “Code of Conduct” to rule the daily relationships between laborers and local people.

Specific Environmental and Social Management Plans (ESMPs) – based on the ESMF – would be prepared for the civil works to be carried out during implementation. ESMPs’ preparation would include location-specific consultations with stakeholders.

Natural Habitats OP/BP 4.04

Yes

This policy is being triggered. The project (components 2.1 and 2.2) may intervene in riparian Permanent Preservation Areas (APPs in Portuguese).

Based on the Brazilian legal framework, an APP is an area, covered by native vegetation or not, with the environmental function to preserve water resources, landscapes, geological stability and biodiversity, facilitate genetic flows of fauna and flora, protect the soil, and ensure human wellbeing. APPs include both riparian areas that protect riverside forest buffers, and





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areas at hilltops, high elevations, and steep slopes. However, the declivity limit inserted for rural areas where hillsides shelter crop and animal husbandry activities are not valid for human occupations in urban areas.

It is notice that in the case of urban areas, as understood by those included within the urban perimeter as defined by municipal law, and in metropolitan areas and urban agglomerations, throughout the embraced territory, the disposed shall be observed within the respective master plans and land use legislation, respecting the principles and limits referred to in this article (Included by Law No. 7,803 from 7.18.1989).

The Forest Code also allows the removal of vegetation in urban APPs and consolidated activities until 2008, provided by public utility or social interest of low environmental impact, including water and sanitation services. The urban APP's surrounding lakes and natural reservoirs must maintain a strip of 30 meters in urban areas where there are manmade lakes and reservoirs. In compliance with the Brazilian Legislation, the Borrower should have to request previous authorization from the State Environmental Agency to convert natural vegetation and implement activities involving conversion or degradation of natural habitats.

Specific screening criteria should be designed into the ESMF to ensure that any potential habitat impacts are identified, prevented, and mitigated during the project implementation.

The component 2.2 intends to invest in phosphorus management strategies that could involve engineered wetlands, flotation plants or other systems that will be used to reduce the contribution of phosphorus to the Guarapiranga reservoir.

Forests OP/BP 4.36

No

The proposed Project does not intend to invest in the forest sector and will not support plantations or any forest related activities, therefore the policy should not be triggered at this time.



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|--|-----|--|
|  |     | In addition, due to the nature of the interventions, the proposed project would not affect the welfare of forest dependent communities.  |
| Pest Management OP 4.09                | No  | This policy is not triggered because the proposed Project will not support the purchase or increase the use of pesticides and other agricultural chemicals and defined under the policy. The proposed Project will not include any support for agriculture land use which could promote pest management.   |
| Physical Cultural Resources OP/BP 4.11 | Yes | <p>This policy is being triggered on a precautions basis, as there is no indication, so far, that the proposed Project works may interfere with known physical cultural resources. Nevertheless, some interventions under the proposed Project would require earthworks and excavation.</p> <p>Therefore, the ESMF would include procedures for screening any known physical cultural resources in the Project areas and 'chance find' procedures if culturally significant resources are discovered during the proposed Project implementation.</p> <p>Brazil has a well-developed legislation and normative framework for managing physical cultural property.</p> <p>The 'chance find' procedures would be defined in accordance with requirements from IPHAN (National Institute for Historical and Artistic Resources - Instituto de Patrimônio Histórico e Artístico Nacional) and from OP 4.11.</p> |
| Indigenous Peoples OP/BP 4.10          | No  | OP/BP 4.10 Indigenous Peoples would not be triggered because there are no indigenous lands within the Project's area of intervention. There are not Indigenous Peoples groups that have lost "collective attachment to geographically distinct habitats or ancestral territories in the project area" due to forced severance within the Project's area of intervention. In addition, in Brazil, the provision of water and sanitation services to Indigenous Peoples is an exclusive attribution and duty of SESAI (Indigenous Health Special Secretariat under the Ministry of Health).  |
| Involuntary Resettlement OP/BP 4.12    | Yes | This OP would be triggered. Land acquisition – with potential adverse impacts related with involuntary resettlement – is envisaged in the works related with the depollution of the Guarapiranga Reservoir and in  |



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construction of civil works - small physical interventions related to the complementation of sanitary sewage systems (water and sanitation mains as well as sewerage pumping stations).

It is expected that the adverse impacts related with land acquisition for the construction of sewerage pumping stations would be small in number and site specific. The installation of water and sewerage mains would only partially affect a small number of plots of lands for the acquisition of rights of ways. Adverse impacts related with involuntary resettlement in consequence of land acquisition will be minimized as much as technically feasible by the selection of vacant and unoccupied plots of land.

As many of the works to be supported by the proposed operation are in the concept stage of their engineering designs and their potential adverse impacts related with involuntary resettlement cannot be fully assessed until appraisal, the Borrower would prepare, publicly disclose and consult a Resettlement Policy Framework (RPF) which would guide the implementation of all project activities which would be defined after appraisal. The RPF would also contain provisions to handle temporary impacts related with the replacement of 1,000 kilometers of old water supply pipes in the MRSP. These works would rely on non-destructive methods and technologies, reducing their potentially adverse impacts on the beneficiary neighborhoods.

The Borrower would also prepare a Resettlement Action Plan (RAP) for the works occurring in the first year of implementation. This RAP would be consulted with the affected people.

RAPs for each intervention occurring after the first year of implementation and entailing involuntary resettlement would be prepared together with the engineering designs during Project implementation. Each RAP would be sent to the Bank for review and clearance before the associated civil works contract is signed.

Safety of Dams OP/BP 4.37

Yes

This policy is being triggered as a precautionary measure.

Component 1 would increase access to water services to low income population living in the MRSP by



regularizing the service provision to the existent irregular costumers. The MRSP is supplied by an integrated water production system, based on a series of reservoirs benefitting a total of around 18 million people served by SABESP. The population served by the dams includes the beneficiaries under component 1 that are already getting water regulated by the dams.

Most of the reservoirs systems (e.g. Alto Tietê, Cantareira, Guarapiranga and Rio Grande/Billings) that supply the MRSP are operated by SABESP with supervision by ANA - National Water Agency and DAEE/SP - São Paulo State Agency for Water and Energy. The operation of the Guarapiranga reservoir is the responsibility of EMAE - Metropolitan Water and Energy Company.

Component 2 would focus on reducing pollution loads reaching the Guarapiranga reservoir. So, activities would be upstream to the reservoir and it is not anticipated indirect and/or long term environmental or social impacts. Today, the run off carrying the fecal materials along others is discharged directly in the basin going to the reservoir. The proposed component will not increase the volume of discharge to the reservoir, but will divert the wastewater to the WWTP. The proposed interventions may have net positive impacts on the local ecosystems, reducing nutrients loads in rivers and in the Guarapiranga reservoir.

Component 4. CERC component may have some dependence on dam storage and/or operation. Activities financed using the previous Mananciais Program loan resources, for instance, in response to the drought, included construction of a water-transfer pipeline from the Billings Reservoir to the Taiacupeba Reservoir (in Alto Tiete).

Given the uncertainties and rapid changes inherent in emergency situations and responses, the ESMF will include a section on the CERC, including the types of activities likely to be financed and evaluate potential risks and mitigation reassurances associated with them; and the design around a flexible, “adaptive management” approach, with emphasis on monitoring of key outcomes and mechanisms. In case of CERC activation, the following elements will be considered:



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(i) confirming which activities can proceed, with no additional environmental or social assessment and which ones require assessment prior to being initiated; (ii) rapidly assessing the environmental and social baseline of planned CERC activities and location; (iii) preparing specific safeguards instruments, including, as necessary, mobilizing, consultation, stakeholders engagement, institutional arrangements, monitoring and evaluation procedures and estimating the costs for safeguards preparation and implementation.

As part of Project preparation, the Borrower should provide the Bank with the following information: (i) map which indicates the location of those existing dams; (ii) most recent dam safety reports of the system; (iii) operation & maintenance plans and, if available, any contingency / emergency action plans of those dams.

The required measures regarding dams safety will be discussed with SABESP and EMAE based on the results of the dam safety assessment and with due consideration to their regulators views of the owner's compliance with the regulations; and agreed measures/procedures with the Bank would be included in the ESMF and Project manual; and eventually supported by the Project technical assistance component.

The ESMF shall describe the dam safety requirements /procedures adopted by SABESP and EMAE for this set of reservoir dams, in compliance with the regulations, criteria and procedures established by the National Dams Safety Act (2010), CNRH (National Council of Water Resources), and by ANA, and DAEE agencies and evaluate if the dam owners, i.e. SABESP and EMAE, comply with the Brazilian dam safety requirements, such as dams risk/hazard classification, dam safety plan, regular safety inspection/periodic dam safety review, etc. and OP4.37 and whether supplementary remedial measures are needed both in structural and non-structural elements.

Projects on International Waterways  
OP/BP 7.50

No

The proposed Project activities will take place within the Metropolitan Region of São Paulo (MRSP) mainly in the Alto Tiete water basin. This policy is not



triggered since the Project activities will not affect any international waterways as defined under the policy.

Projects in Disputed Areas OP/BP 7.60      No

This policy is not triggered as the Project will not work in any disputed areas as defined under the policy. Project activities will take place within the Metropolitan Region of São Paulo (MRSP).

**E. Safeguard Preparation Plan**

Tentative target date for preparing the Appraisal Stage PID/ISDS

June 15, 2018

Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the Appraisal Stage PID/ISDS

The Borrower would prepare an Environmental and Social Management Framework, a Resettlement Policy Framework and a Resettlement Action Plan for the works occurring during the first year of Project implementation. Preliminary versions of these documents will be sent to the Bank for review before public disclosure. A public consultation hearing would be carried-out by late May or early June 2018. Feedback received from the process of public consultation would be incorporated – as appropriated – to the final versions of the ESMF, RPF and RAP before submission to the Board.

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**APPROVAL**

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**Approved By**

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