

**PROJECT INFORMATION DOCUMENT (PID)
CONCEPT STAGE**

Report No.: 58195

Project Name	Sergipe Water Project
Region	LATIN AMERICA AND CARIBBEAN
Sector	General water, sanitation and flood protection sector (100%)
Project ID	P112074
Borrower(s)	GOVERNMENT OF SERGIPE
	State of Sergipe Brazil
Implementing Agency	
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Environment Category	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input checked="" type="checkbox"/> TBD (to be determined)
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1. Key development issues and rationale for Bank involvement

Key Development Issues

1. Water is an essential element of Brazil's strategy to promote sustainable, equitable, and inclusive economic growth. Brazil's achievements over the past fifty years have been closely linked to development of its water resources and to the expansion of water supply and sanitation (WSS) services; however, many challenges have yet to be addressed, such as water scarcity, pollution control, and universal access to services. The State of Sergipe is emblematic of these water challenges, with State as a whole and its capital city Aracaju in particular struggling to with these problems in the context of rising urbanization, informality and pollution.

2. Sergipe is the smallest state in the relatively impoverished northeast. With an area of approximately 22,250 km² and a population of 2 million, Sergipe is a coastal state, partially located in the semi-arid northeast, an area of great water scarcity. The Coastal, region (18 percent of the State's territory) is the most urbanized and developed, with the highest concentration of population. The Metropolitan Region of Aracaju (RMA), which comprises 43.7 percent of the state's population and 55 percent of the state's GDP, has attracted relatively poor migrants in search of employment who often end up living in slums or informal settlements on the perimeter of the cities and on the banks of the Sergipe river, its small tributaries and drainage canals. The lack of proper sanitation solutions in these informal settlements has contributed to the contamination of the nearby water resources. The Center-south and Sertão regions (24 and 58 percent of the State's territory, respectively) are more arid and rural, thus less developed than the

more dynamic eastern region. Traveling from the Coastal region westward towards the Center-south and Sertão, rainfall drops from 1,200 mm/year to 800 mm/year and to 400 mm/year, respectively, and the population becomes more dispersed, notably poorer and more dependent on public services and economic activities such as cattle and agriculture for survival. In terms of water resources, the Center-south and Sertão regions suffer from water scarcity due to lack of rain and the temporary nature of many of the small rivers and streams, but the main problem facing the coastal region is water pollution and the resulting environmental deterioration.

3. The Sergipe river basin is a synthesis of the water scarcity and water quality pressures facing the State. A water demand/availability study found that overall water demand is 260,000 cubic meters per day while the total volume of water provided by the basin itself is only 55,000 cubic meters per day, indicating a water deficit of over 80 percent. Water scarcity is further exacerbated by the contamination of water resources in urban areas in and around the RMA. Vast informal occupations on the outskirts of the city, spreading beyond the lower stretch of the Sergipe river and invading the neighboring estuary, pollute the surrounding water bodies. In the State as a whole, 88.3 percent of all households have access to the water network and 74.6 percent have access to the sewerage system or a septic tank, but this means that there are still approximately 237,000 people without in-house access to drinking water and 514,000 people without proper sanitation.

4. The lack of investment in wastewater treatment and inefficient service provision are the principal reasons for the deficit in WSS coverage and the resulting contamination of the Sergipe river basin. The Sergipe State Water Supply and Sanitation Company (DESO) operates WSS services through municipal concessions in almost all of the cities and towns across the State. As the principal user of water resources, DESO shoulders much of the responsibility for the deficit in sanitation services in the resulting environmental degradation from wastewater that is not collected and adequately treated. This is rather a national and regional than only a state problem, as it has resulted from decades of insufficient financing sources and schemes for both wastewater infrastructure and service provision. One area requiring urgent attention is the high level of water losses, which reaches 47 percent.

5. Development of irrigated agriculture potential in the Sergipe river basin is limited by water scarcity, pollution and conflicts for water allocation due to urban demand. However, existing irrigation infrastructure could generate a more effective and efficient use if infrastructure is modernized, service delivery is improved and modern irrigation techniques are made available to farmers. Inefficient management of the irrigation perimeters is also a constraint that needs to be addressed to guarantee their sustainability and optimize positive social and economic results.

6. Currently, the State of Sergipe does not have an adequate institutional framework and set of tools in order to be able to plan, manage and regulate water resources and water service provision in an integrated manner. The State has several agencies for water and environmental policies and management, irrigation and agricultural development, but the institutional capacity of such agencies is very limited and roles and responsibilities need to be clarified. There have been advances in the legal framework of WRM, the information systems and planning efforts at state and river basin levels, but implementation of governance instruments for modern water management and services regulation is very incipient. The State is engaged in a participatory

planning process that involved public consultations with civil society and identified priority areas of intervention. This participatory planning process served as a key input to the State's 2008-2011 economic development and government action plan, which selected integrated management of natural and water resources, solid waste and sanitation services as one of the State's key priorities.

Rationale for Bank involvement

7. The Project aims to tackle Sergipe's myriad water scarcity and water quality challenges from an integrated standpoint and multi-sectoral perspective. Institutional capacity and development, expansion of basic WSS services to the poor and vulnerable informal communities living on the river banks and improvements in irrigation to enhance the productive capacity of the agricultural sector, all in the context of critical water scarcity and pollution, are intrinsically linked and thus necessitate an integrated approach. Traditionally, Brazil has managed these issues in isolation, with no source of financing for a program that brings together various sectors in addition to supporting institutional rehabilitation and reform.

8. The Bank possesses extensive expertise in the fields of water pollution control, urban WRM and basic service provision urban slums and other peri-urban areas. The Bank is also a key player in leveraging international experience and past knowledge from Brazil to support innovative approaches to the challenges facing Sergipe. The problems facing Sergipe are similar to those affecting almost all metropolitan areas in Brazil and throughout the developing world. Sergipe looks toward the Bank as a knowledge conduit to bring together experience and lessons from Brazil and elsewhere to bear on project design and implementation as well as share the project's lessons with other Brazilian cities and those in other countries suffering similar water scarcity and pollution pressures. The Bank would also impart its specific sector knowledge and technical skills.

9. Lastly, the Bank has a unique role to play in bringing the various levels of government and society together to tackle the State of Sergipe's complex water resources challenges. The intersection of the water scarcity and water quality problems, combined with the need for institutional reform, can only be tackled and reversed if such horizontal and vertical collaboration can be maintained and replicated in the medium to long-term. Bank support would provide the institutional consolidation for this cooperation and the crucial continuity needed during the frequent electoral cycles. Sergipe asserts that the Bank is crucial in moving such a complex agenda forward, a role no other national or international partner has demonstrated the capacity and flexibility to undertake.

2. Proposed objective(s)

10. The proposed project development objective is to promote the efficient and sustainable use of water in the Sergipe River Basin, by strengthening sector governance, enhancing land management practices and improving water quality. This objective will be measured through the following indicators tied to: (i) the establishment of integrated procedures and tools for environmental licensing and water rights; (ii) the improvement in efficiency and water

productivity in targeted irrigation perimeters; and (iii) the reduction of pollution discharged into the Sergipe river basin.

3. Preliminary description

11. The proposed US\$117.1 million project, of which US\$70.28 million would be financed by the Bank, will strengthen the State's institutional framework for integrated WRM and environmental protection and undertake investments to revitalize the Sergipe river basin. The project encompasses three components:

Component One: Integrated WRM and Institutional Development (US\$14.84 million)

12. This component will support the strengthening of the State of Sergipe's WRM and environmental governance through the promotion of improved integrated WRM policies and practices and the coordination among related agencies charged with tackling the challenges related water resources planning and management, water pollution control, environmental protection and management and efficiency of WSS service provision in rural areas and small towns and solid waste management model in the Sergipe river basin. It will also include support for Project management, monitoring and evaluation as well as the dissemination of results.

Component Two: Water and Irrigation (US\$14.21 million)

13. This component will enhance the sustainability of the Poção da Ribeira and Jacarecica I irrigation perimeters, provide technical assistance to support improvements in the Jacarecica II perimeter and promote improved environmental soil and water practices within targeted municipalities of the Jacarecica river sub-basin. It will support the State through the provision of assistance to improve irrigation planning and practices as well as structural interventions in the existing irrigation infrastructure of the Jacarecica I and Poção da Ribeira perimeters.

Component Three: Water and Cities (US\$83.6 million)

14. This component will complement ongoing government efforts and finance activities aimed at improving the quality of life for residents in targeted municipalities in the Sergipe river basin. It will comprise two subcomponents: (i) wastewater services expansion in the RMA, and (ii) expansion and improvements of WSS services in the Sergipe river basin. The former will be fully financed by counterpart funds. The latter will support activities related to urban water issues, including the expansion of water supply conveyance systems, sanitation and drainage services in selected municipalities of the Sergipe river basin, outside of the RMA and the improvement in the operational efficiency and corporate governance of DESO.

4. Safeguard policies that might apply

15. It is envisioned that the interventions will contribute to the environmental recovery of the Sergipe river basin and an improvement in the quality of life of the local population. Specific improvements are expected in water quality, infrastructure and in the consolidation of sustainable WRM strategies for the State of Sergipe. Inadequate infrastructure means that

wastewater is regularly discharged directly into the Sergipe river basin without any kind of treatment, leading to environmental degradation and compounding the problem of water scarcity in the State. The removal of these sources of pollution through the proper collection and transport of household wastewater to treatment stations operating in accordance with standards of quality are crucial elements of a strategy to improve the overall water quality of the river basin. The end results will be the improvement in the quality of life for the population residing within the basin, the environmental recovery of the basin and the sustainable use of water resources. Moreover, extending household connections to the potable water and sanitation system as well as constructing wastewater treatment plants to serve these areas will result not only in improved water quality in the river basin but also in improved coverage levels for WSS services, especially in the densely populated poor communities. The greater access to WSS services will contribute to improved health, environmental and urban development indicators in the State. Finally, the consolidation of sustainable development and WRM strategies will provide technical assistance to these state institutions to improve their capacity for water planning, management and service regulation.

16. The State has an adequate capacity to implement safeguards policies, as proven by the satisfactory implementing of the PROAGUA project financed by the Bank, and implemented by the State Secretariat of Water Resources. The following Bank safeguard policies were triggered in the preparation of the Project:

- *Environmental Assessment (OP 4.01)* Through its focus on environmental recovery and improvement in the quality of life for local residents, the project will primarily have positive environmental impacts, notably by (i) structuring and improving WRM in the State; (ii) introducing more efficient irrigation techniques to ensure an optimal use of the Sergipe river basin; (iii) increasing the efficiency of WSS services in and around the basin; (iv) preparing a solid waste management plan for the basin and financing interventions to guarantee its implementation.
- *Natural Habitats (OP 4.04)* Interventions under components 2 and 3 will affect Permanent Preservation Areas (APPs) which are protected by the Brazilian Forest Code - Federal Law 4.771/65. All interventions will take the necessary measures to avoid interference with these conservation and protection areas. In the case of intervention in protected areas which permit certain types of sustainable use, the necessary authorizations will be obtained from the local environmental authorities.
- *Forests (OP 4.36)* The Project will rehabilitate degraded riparian vegetation and extend the area with appropriate vegetation as well as promote reforestation.
- *Physical Cultural Resources (OP 4.11)* The construction and excavation of land to expand and rehabilitate infrastructure could potentially uncover cultural, archeological and paleontological resources in some of the intervention areas. The State will include procedures for screening any known and unknown cultural property in the project area and incorporate 'chance find' procedures in the event that culturally significant resources are discovered during implementation.
- *Involuntary Resettlement (OP 4.12)* It is not expected that the rehabilitation and modernization of the Jacarecica I and Poção da Ribeira irrigation perimeters will require resettlement. The irrigation perimeter of Jacarecica II has issues of informal occupation by families and organized social movements; however, no physical interventions will be

financed in this perimeter under the Project. No resettlement is envisioned for works undertaken to expand WSS services in the targeted areas. Nevertheless, a Resettlement Policy Framework stating principles and procedures for the Project is under preparation and it will be used to guide the resettlement process in the unlikely case it becomes necessary.

- *Safety of Dams (OP 4.37)* Physical interventions for the rehabilitation of irrigation perimeters and the expansion of the water supply network within the Sergipe river basin involve water that is supplied from local dams. Although an increase in storage is not envisioned, dam safety issues will be included in the environmental assessment to ensure that relevant Bank policies will be applied.

5. Tentative financing

Source:		(\$m.)
Borrower		46.85
International Bank for Reconstruction and Development		70.28
	Total	117.13

6. Contact point

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