I. Introduction and Context

Country Context

Brazil faces a number of complex challenges as it continues to build its agenda for socially equitable and environmentally responsible economic growth. In a context of unequally distributed water resources, both spatially and temporally, as well as of rapid urbanization (82 percent of the population lives in urban areas), Brazil’s basic services, such as water supply and sanitation, have struggled to keep pace with population growth and concentration. Once at the forefront of the country’s economic transformation, Brazilian cities are now grappling with the problems of rampant informality, rising crime and violence, inadequate service provision and environmental degradation.

Water resources and associated infrastructure services are essential to more inclusive and environmentally sustainable development. The increased recurrence of flooding and droughts have had significant negative social and economic impacts in Brazil. Given the devastation experienced due to repeated droughts, flooding and landslides, enhancing its institutional capabilities and protecting its population and infrastructure from the anticipated impacts of climate change remains a challenge for Brazil.

The State of Espírito Santo (SES) is currently confronted with these challenges. As SES faces rapid industrial and population growth in the Greater Vitoria Metropolitan Region (GVMR), additional
pressure is imposed on the availability and the quality of water resources. Historically, land use and occupation in the State of Espírito Santo (SES), particularly in the rural areas, happened in a predatory manner through deforestation of large areas, improper land use planning and without the use of suitable conservation practices.

The loss of forest coverage has contributed to the reduction in groundwater recharge as well as the increased velocity of surface runoff. Upstream of the GVMR, land use patterns have resulted in severe erosion, substantially increasing silt loads and reducing the quality and timely delivery of water supplies. In addition, unplanned land use and occupation at the margin of urban rivers have contributed to high levels of pollution and resulted in a risk-prone and vulnerable environment in which recurring floods have become more frequent.

**Sectoral and Institutional Context**

The SES has suffered from extensive environmental degradation over the past 50 years. In the past 20 years, less than 5 percent of the area in the State’s main water basins had native vegetation cover. In addition, land use patterns have contributed to a reduction in the groundwater recharge and an increase in the speed of superficial runoff (about 40 percent of the area in SES is used as pasture). Just in the period between 1991 and 2010 the State had 377 floods that affected 92 percent of its municipalities. The State is exposed to many adverse natural events, such as droughts, landslides, coastal erosion, forest fires and windstorms, which have cost it significant human and economic losses. Therefore, the SES has recognized the importance of and is committed to a more proactive approach to dealing with disasters.

In the last decades, the State has registered severe droughts in which increased water scarcity has accentuated the conflicts between the various water uses, leading to the construction of ad-hoc hydraulic infrastructure without adequate planning. In 2010, the losses to rural producers due to drought totaled an estimated R$400 million in the State.

Given this situation, the State has developed a pilot program to increase forestry cover and has sparked a state-wide debate over the development of a program aimed at improving water resources through reforestation efforts in addition to the already prioritized interventions in water and sanitation. The State has made forest and watershed conservation and sustainable management of its natural resources one of the central themes in its 20-year plan (Vision 2025), which envisages a significant scaling up of this pilot experience. The SES has also expressed its commitment to performing a comprehensive review of the way in which water resources and hydraulic infrastructure are being managed in the State in general, and in particular in the GVMR. This review is expected to indicate potential institutional improvements, measures and tools to better plan and manage infrastructure investments (drainage, dams, etc.) as well as to reduce risks and better respond to natural disasters.

On the issue of sanitation, the SES has made sustained progress with Bank assistance in the past 15 years. With the last operation, 1,688,485 people have benefited from improved water supply services (40 percent of which considered low income) and sewerage coverage in the GVMR increased from 20 to 60 percent between 2004 and July 2012. Over the same period, the State Water Utility (CESAN): (i) reduced its water losses from 45.8 to 35.6 percent (which represents a reduction from 676 liters/connection/day to 459.6 liters/connection/day); (ii) reduced its expenses as a share of revenues from 74.4 to 66.7 percent; and (iii) increased its earnings before interest, taxes depreciation and amortization (EBITDA) margin from 26 to 30 percent between 2004 and 2011. The project also

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1 The Espírito Santo Water and Coastal Pollution Management Project (P087711), US$107.5 million.
assisted the State Secretariat for the Environment (SEAMA/IEMA) in improving and streamlining the process of issuing environmental licenses, as well as establishing and improving upon a system to issue licenses for water rights. The SES is fully committed to sustaining and building upon these results to promote an integrated management of water and the environment one of the key objectives of the Vision 2025.

Relationship to CAS

The proposed operation is fully consistent with the Country Partnership Strategy (CPS) developed for the 2012-2015 fiscal years. In the CPS, water is recognized as an important element to achieve higher rates of inclusive and sustainable growth, highlighting the importance of integrated water resources management and improved environmental management. The CPS also highlights the need for strategic infrastructure investments such as those needed to expand access to improved basic sanitation and for more effective disaster risk management (DRM). To further improve the sustainable management of natural resources and enhance resilience to climatic shocks, efforts are needed to reduce the vulnerability of Brazil’s territory (including coastal zones) to climate change.

II. Proposed Development Objective(s) (Display Only - Pulled from PCN)

Proposed Development Objective(s) (From PCN)

The proposed project’s development objective is to improve the efficiency of the SES in managing its water resources in a sustainable resilient and integrated manner.

The objective will be achieved by improving (i) the SES integrated water management capacity; (ii) the quality of coastal and surface water resources; and (iii) the SES disaster risk management capacity.

Key Results (From PCN)

The PDO will be measured against the following indicators:

a) Improvement in the quality of surface and coastal waters (reduced sediments and reduction in the pollution load discharged)

b) An integrated water monitoring network established and operational

c) A State policy/program in disaster risk management is adopted.

III. Preliminary Description

Concept Description

The proposed project will go a step further in the previous Bank partnership with the SES to achieve enhanced and more equitable access to sanitation services and support a move towards a long-term, innovative approach to integrated water management and towards a more systematic approach to DRM. The proposed project will have the following components:

Component 1: Integrated Water Management. This component aims at improving the SES’ capacity for and efficiency in managing its water resources as well as urban drainage infrastructure. More specifically, it would support the State’s efforts in, inter alia: (a) developing a comprehensive set of policies and inter-sectoral instruments and arrangements for water and environmental resources management and planning; (b) strengthening its capacity in water and environmental resources management; (c) developing policies and municipal capacity building activities for adequate integrated urban drainage management in the GVMR and in the process strengthen metropolitan governance mechanisms; and (d) implementing priority small works identified in the drainage master plan to be developed for the metropolitan region.
**Component 2: Improvement in the Quality of Surface and Coastal Waters.** This component will mainly focus on integrating forest cover recovery and its relationship with the quality of water sources, with the generation of opportunities and revenue for rural producers (payment for environmental services scheme), as well as sewerage collection and treatment investments. These interventions ultimately will result in a better quality of drinking water in the GVMR, as a large portion of the areas proposed for intervention are the source of water supply to the GVMR. More specifically, this component will support:

(a) Undertaking sewage collection and treatment works in the municipalities of the Santa Maria da Vitória, Jucu and Caparaó river basins, as well as in the GVMR. Specifically in peri-urban areas of the GVMR, the project will integrate sanitation interventions with urban community outreach programs under a framework of urban upgrading interventions that include crime and violence prevention. In addition, support will be provided to the State Water Utility (CESAN) in the development of a comprehensive water loss reduction program as well as providing technical assistance to improve the company’s overall strategic long-term planning and effectiveness.

(b) Reducing the levels of sedimentation in surface water through: (i) reforestation in selected river basins; and (ii) developing, implementing and evaluating the impact of a pilot demonstration project aimed at building a sustainable watershed-based water treatment model. The model will include the development of payment for environmental services mechanisms as well as rehabilitating and developing sustainable methods for the maintenance of rural roads, deemed critical in reducing the transport of sediments to the water bodies.

**Component 3: Disaster Risk Management.** This component will support the SES in developing adequate planning and monitoring instruments for risk reduction and response to adverse natural events, i.e., institutionalizing DRM. More specifically, it will support the State’s efforts in, inter alia: (i) structuring its DRM policy framework; (ii) identifying and monitoring risks, including consolidating its hydro-meteorological network; and (iii) improving early warning systems and its preparation for disasters, including strengthening the Civil Defense system.

**Component 4: Project Management and Supervision.** Activities under this component relate to the institutional support and capacity development for project management and implementation, including training, staffing and project development activities associated with project execution. In line with successful experience from previous operations in the State, this component also finances the support brought to the project implementation units by a project management/engineering firm, who will be responsible for providing technical, administrative and financial management support and supervising contracts for works, goods and consultants.

### IV. Safeguard Policies that Might Apply

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