

PROJECT PROFILE

SURINAME

I. BASIC DATA

Project Name:	Water Supply Modernization Program		
Project Number:	SU-L1058		
Project Team:	Evan Cayetano, Team Leader (WSA/CJA); Corinne Cathala, Alternate Team Leader (INE/WSA); Manuela Velasquez, Liliana Lopez (INE/WSA); Marle Reyes (WSA/CGY); Sarah Mangones, Heidi Fishpaw (VPS/ESG); Cesar Andres Negret (LEG/SGO); Raijant Gangadin (CCB/CSU), Mariska Tjon A Loi, Vikash Bhagirath (FMP/CSU).		
Borrower:	Republic of Suriname		
Executing Agency:	Suriname Water Company (N.V. Surinaamsche Waterleiding Maatschappij - SWM).		
Financial Plan:	IDB (Ordinary Capital):	US\$	25,000,000
	Total:	US\$	25,000,000
Safeguards:	Policies triggered:	OP-102; OP-704; OP-761; OP-765, OP-703 (B.1, B.2 B.3, B.4, B.5, B.6, B.10, B.11, B.17)	
	Classification:	B	

II. GENERAL JUSTIFICATION AND OBJECTIVES

- 2.1 The Republic of Suriname is in the northeastern Atlantic coast of South America and has a population of 541,638 people¹. About 80% of Suriname's inhabitants live on the Coastal Plain. Paramaribo, Suriname's capital, has a population of 240,924¹ and is located about 20 kilometers south of the Atlantic coast. The Savannah Belt is sparsely populated while the Interior², which makes up 80 to 85% of the total area, consists of hills, mountains, and tropical rainforests that are inhabited mainly by dispersed indigenous people.
- 2.2 Suriname is a small open economy that is heavily dependent on gold and crude oil exports which together account for 71% of total exports. The country experienced strong economic growth in the 2000s due mainly to favourable commodity prices and investments in the mining sector: economic growth averaged 4.4% over the period 2001-2014, with relatively small deficits on the fiscal balance and current accounts. However, a reversal of commodity fortunes in 2015 contributed to a 9% contraction in real GDP accompanied by a strong depreciation of the nominal exchange rate, high double-digit inflation, large fiscal and external imbalances, and a significant increase in public debt. The fiscal deficit averaged 9% of GDP from 2015-2018 and the debt ratio more than doubled over the same period reaching 73% of GDP in 2018. As of the beginning of 2017 there

¹ Suriname Census 2012.

² The interior is comprised of Sipaliwinie, Brokopondo, Para and lower part of Marowijne Districts.

have been signs of a recovery in the real sector—economic growth returned, exchange rate stabilized, and inflation declined to single digits—due largely to a better performance of the mining sector. Nevertheless, fiscal and debt positions remain challenging areas and reforms to strengthen those areas are ongoing.

- 2.3 **Water and Sanitation Sector.** The water sector in Suriname is composed primarily of two government-owned drinking water service providers, the Suriname Water Company (SWM from its Dutch acronym), responsible for water supply in the coastal area, and the Department of Water Supply (NH/DWV) responsible for water supply in the interior. The Ministry of Natural Resources is responsible for water supply services and oversees SWM's performance and guides water management. Other agencies with responsibilities in the water and sanitation sector include: (i) the Ministry of Health, which oversees monitoring environmental health; (ii) the Ministry of Agriculture Animal Husbandry and Fisheries, which oversees irrigation; (iii) the Ministry of Public Works, Transport and Communication (MPWTC) and the Ministry of Regional Development, which oversee drainage systems and wastewater management; (iv) and water boards that have specific regulatory functions over water management.
- 2.4 Most of the water supply infrastructure in the rural areas of the coast are in poor conditions. Some of the problems experienced are: (i) depleted infrastructure due to age and limited maintenance, with high Non-Revenue Water (NRW) levels; (ii) difficulties in servicing large areas with low population density since installation of pipe works for scattered household is uneconomical; (iii) absence of a revenue collection mechanism, where water supply is available in rural areas beneficiaries are not being charged; (iv) lack of data; (v) absence of a water quality program; and (vi) limited inspection. Due to these difficulties, during the last decade the GOS has been implementing a program to hand over water supply responsibilities in the semi-urban and rural coastal areas from NH/DWV to SWM. Since April 2016, water supply on the coastal region is under the responsibility of SWM. As for the Interior Region, since December 10, 2018 the Ministry of Natural Resources started the transfer of services to SWM for 13 Interior areas. These systems are often handed over in poor condition³. Apart from the urgent need for rehabilitation, there is the need to connect the existing customers to SWM supply as well as to include them in the billing system⁴. The takeover process is carried out gradually, considering the organizational capacities of SWM, the size of the service area involved and the technical status of the NH/DWV production systems and distribution networks to be transferred. Before a station formally is transferred from NH/DWV to SWM, the latter company prefers to improve the technical facilities up to SWM standards prior to the formal take over. In the future, SWM will be the sole government-owned water supply provider in the country. However, the Government has not specified clear timelines for this to happen. The intent of the transfer is for the Department (DWV) to focus on policy and oversight and not the operation of water supply systems.

³ These conditions include for pump stations: lack of maintenance on mechanical equipment, electrical systems are not safe, there is no back up system. For network pipes: aged infrastructure (40 to 50 years), sedimentation in pipes, frequent breakdowns.

⁴ PCR 2451/OC-SU (2018)

- 2.5 **SWM indicators and determinants of the main problems.** SWM is a government-owned utility that provides water supply services to 122,000⁵ households (approximately 488,000 people). SWM has 800 staff, with a ratio of about six employees per 1,000 connections⁶. Overall, production capacity is estimated at 160,000 m³ per day, which is predominantly abstracted from three aquifers: the Zanderij, the Coesewijne, and the A-sand aquifer, with the Zanderij being the largest source of water. Most of the revenue originates from Central Region (Paramaribo, Wanica and Para), where 85% of SWM's customers reside. Collection efficiency has averaged at about 86%, a well-performing utility has a collection rate greater than 90%⁷. For benchmarked utilities in the Caribbean⁷, it takes an average of 80 days to collect amounts billed to costumers, for SWM accounts receivable are 126 days. With regards tariffs, there is no tariff-setting regime as there is no independent economic regulator. SWM relies on the Government subsidies to cover operating expenses and to finance its capital investments⁸. In 2013 and 2014, Government subsidies represented 20% and 8%, respectively of SWM revenues. Government subsidies do not typically cover all expenses. Subsidies are typically ad hoc, with little regard to SWM's actual cost of service. For this reason, the utility was able to record net income of SRD3.6 million (US\$480,000) in 2013 after subsidies but reported net losses of SRD36.7 million (US\$4.9M) in 2014⁹.
- 2.6 The water supply system in Greater Paramaribo, which relies on groundwater extraction, is operating under constant challenges, the main problems including: (i) old pipes, the majority installed 40 to 50 years ago (including 7% of asbestos-cement pipes laid in the 1950s and the 1960s)¹⁰; (ii) insufficient maintenance of the infrastructure and limited rehabilitation activities (SWM lacks a systematic processes for asset management and maintenance of the network is reactive); (iii) increasing demand for water, with an average annual population growth in the Greater Paramaribo area estimated at approximately 1.2% (from census data);

⁵ Number of connections in the last 4 years: 2014 (102,410); 2015 (105,054); 2016 (111,850) and 2017 (120,243). The number of connections increased significantly in 2016 and 2017 due to the transferring of areas under the NH/DVW.

⁶ The average in LAC is four staff per 1,000 connections (ALOAS, 2008). It is considered that between two and three staff per 1,000 connections is reasonable (IDB, 2017).

⁷ 2017 (Castalia). Governance Position Paper on the Caribbean Water and Sanitation Sector. Final Report and Action Plan.

⁸ Subsidies from Government are inconsistent and unreliable. subsidies dropped from SRD20 million (US\$2.6 M) in 2013 to SRD6 million (US\$0.79M) in 2014. SWM has not received direct subsidies from the Government since 2015. However, the Government has been financing SWM's capital expenditures, often with the support of multilateral banks. For example, the Government provided EUR9 million to finance the construction of a water treatment plant in Commewijne in 2017. From 2013 to 2017, the Government also financed a portion of the Water Supply Infrastructure Rehabilitation Project for SWM—the Government contributed US\$500,000 to the project, which was worth approximately US\$12.5 million and funded primarily by the IDB. Most recently, the Government paid SRD3.6 million (US\$478,000) and SRD5.4 million (US\$718,000) to finance the expansion of SWM's services in the Hinterland in 2018 and 2019, respectively. Amounts expressed in US dollars are based on exchange rate of 7.52 SRD to 1 USD.

⁹ Exchange rate is 7.52 SRD to 1 USD from July 29, 2019.

¹⁰ The Dutch programs, KTID (Short Term Investment program in the Drinking water supply) and CRASH executed during 2005-2007 and 2009-2011, respectively, supported the rehabilitation of pumping stations, wells and transmission and distribution network. Thereafter, the SWSMP (2011) identified capital investments of US\$250M. The US\$12.5 million, IDB financed, Water Supply Infrastructure Rehabilitation Project financed rehabilitation of about 55 km of the network. The Loan was closed in 2017.

(iv) limited capacity in SWM to plan and manage water supply in the interior¹¹, and (v) billing based on metered consumption is only about 60%, which affects revenues. As a result, these problems have led to: (i) low levels of service¹², (ii) gradual deterioration of the network, with NRW high levels of non-revenue water (NRW), estimated at 46% for the Central Region^{13,14,15,16}, (iii) insufficient financial capacity to cover needed capital investments; and (iv) inadequate financial performance, SWM financial performance indicators (2014) include Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) margin at -61.6%, Debt service coverage ratio of -40.8, net income SRD -42.8 million (US\$5.6M), and economic value added of SRD -59.3 million (US\$7.8)¹⁷.

- 2.7 **IDB assistance.** The Bank has been supporting SWM with Technical Cooperation and Loan financing. A US\$525,000 “Suriname Water Supply Master Plan (SWSMP)” (ATN/SF-11374-SU) was completed in 2011, which identified capital investments of US\$250 million to improve water services. Some of the more relevant problems encountered in the system, are summarized as follows: old infrastructure; insufficient maintenance and rehabilitation of the infrastructure; inefficient energy use; increasing demand for water; lack of an integrated management information system within SWM; lack of financial resources and autonomy¹⁸; uncertainty of the aquifer’s safe yield¹⁹; and lack of a comprehensive water quality monitoring system.
- 2.8 As a result of this TC, the Water Supply Infrastructure Rehabilitation Program (2451/OC-SU; SU-L1018) was formulated in 2010 to respond as a first step in addressing the most pressing issues in water supply in priority districts of the coastal area and in strengthening the growing institutional and executing capacity of the SWM. The objective of this operation was to improve the access to water of the population of Suriname through the rehabilitation of key potable water

¹¹ The responsibility to supply water to a part of the interior was assigned to SWM in 2018. SWM currently has no Plans to guide their work in such task, therefore limited capacity. Component 3 will contribute to enhance capacity by financing a Study for water supply solutions for the hinterland.

¹² This includes coverage, which in 2018 was 78.2%, service continuity, and pressure. While SWM does not measure service continuity it is a key indicator to assess a water utility’s service quality. SWM has pressure targets of 1-meter water column (mwc) in the Central supply area, and 6 mwc in the East and West supply areas. However, these target pressure levels are relatively low.

¹³ The NRW levels in the Easter and Western Regions are estimated to be above 50%, since these Regions include areas SWM has taken over from NH/DWV.

¹⁴ Among the benchmarked utilities in the Caribbean (2017, Castalia), NRW averaged about 45%. The optimal NRW value for a water utility depends on the cost of production and distribution of its water supply. However, in general, it is understood that most water utilities with NRW above 30% will benefit from reducing it.

¹⁵ The NRW Audit for the Central Region using 2013 data estimated that 63% was due to real losses, 19% due to apparent losses, and 18% to unbilled authorized consumption. Real losses, refer to water losses through leaks, sometimes also referred to as physical losses. Apparent losses refer to water losses refer to unauthorized consumption (illegal connections) and metering inaccuracies.

¹⁶ SWM cannot cover its operating expenses with revenue from tariffs, the utility has recorded net losses for the last 6 years, and SWM relies on Government subsidies to cover operating expenses and to finance its capital investments.

¹⁷ Exchange rate is 7.52 SRD to 1 USD from July 29, 2019.

¹⁸ Because SWM is dependent on the Government for financial resources, and there is no independent economic regulator, SWM does not chart its own future and does not have the ability to finance its investment needs.

¹⁹ The Master Plan recommended a groundwater study to clarify this. This study was financed under ATN/OC-14410-SU. The study concluded there is abundant fresh groundwater available in the coastal plain of Suriname to serve the drinking water supply needs through 2040 and beyond.

infrastructure and the strengthening of SWM, the water utility in Paramaribo and coastal areas. The Loan was closed in 2017 having demonstrated some reduction in NRW (from 45% to 39% in areas targeted by the project), replaced some transmission and distribution mains, improved energy efficiency of pumping stations, and provided for some institutional strengthening of the SWM (e.g. the time response to complaints went from 10 days to 5 days). Additionally, with the Loan, more than 16,600 households benefited with a connection to an upgraded water supply network. SWM has since been working towards advancing the implementation of this plan. However, to manage increasing investment programs, as well as maintaining and operating the facilities to be constructed, requires a strong, resilient, and efficient institution. Additionally, as SWM continues to take over the assets and operations of Department of Water Supply (NH/DWV), there is an urgent need to increase its operations efficiency. In 2014, a US\$500,000 Technical Cooperation ATN/OC-14410-SU "Assessment of aquifer vulnerability and yield potential of coastal aquifers in Suriname" was approved.

- 2.9 Notwithstanding the above-mentioned interventions, there is much more that needs to be done in terms of further reduction of NRW, network mains replacement, household connections and metering, rehabilitation and expansion of water production facilities as identified in the Water Supply Master Plan. The Bank is currently executing ATN/OC-16778-SU "Support to SWM Institutional and Operational Strengthening" through which an Institutional Strengthening Plan for the SWM will be developed to identify aspects of SWM performance that need to be improved. Additionally, a groundwater pollution risk assessment of La Vigilantia area will be prepared.
- 2.10 **Program objectives.** The general objective of the proposed operation is to improve efficiency, quality, and financial and environmental sustainability of the potable water services provided by SWM. The specific objectives are: (i) Reduction of NRW levels in the Central and Western Regions through the implementation of critical aspects of the 2015 NRW reduction strategy; (ii) Increase availability of water supply services in critical areas of Suriname through upgrading water production infrastructure; (iii) Modernize the operations and management of SWM through the implementation of key recommendations of the Institutional Strengthening Plan (ISP)²⁰ and the development of a water supply strategy for the Interior. The preparation of the operation will also be informed by studies and planning updates being undertaken by other development partners (i.e. AFD, which is also working with SWM to increase production but in the areas of Commewijne). All activities financed under this Loan will be prioritized in order to best achieve the goals of medium- and long-term planning of SWM.
- 2.11 **Component 1: Non-Revenue Water (NRW) reduction (US\$12 millions).** This component will be based on the 2015 NRW reduction Strategy developed under 2451/OC-SU with specific focus in the Central (Paramaribo, Wanica, and Para)

²⁰ The ISP will be prepared under ATN/OC-16778-SU and will review all aspects of SWM's operations and provide a detailed roadmap to guide future interventions for SWM institutional modernization to improve the efficiency of its operations, including institutional aspects to support NRW management. The Final ISP is expected to be available by November 30, 2019.

and Western (Nickerie²¹) Regions of Suriname. Specific activities will include: (i) Strengthening of the NRW unit²²; (ii) installation of meters and service connections; (iii) pressure management; and (iv) energy efficiency. A critical aspect for the success of this component will be the readiness of the NRW unit at SWM to start this aspect of the Program during the first year of execution. While SWM management has already approved the establishment of the unit, this unit still needs to be staffed and SWM may need further guidance on staff requirements aspects. The Bank will support SWM in both aspects by facilitating an individual consultant through a Technical Cooperation (ATN/OC-17519-SU)²³ for SWM to define the details of NRW unit. Additionally, the TC will finance an exchange between the SWM and the Jamaica National Water Commission (NWC) to learn from the Jamaican NRW experience in executing NRW improvements through a Co-Management contract. This component will also benefit from the recommendations of the Institutional Strengthening Plan (ISP) to be developed under ATN/OC-16778-SU²⁴ and will take into consideration any relevant input from other studies financed by other donors.

2.12 Component 2: Upgrading water production infrastructure (US\$8 millions).

Activities financed under this component will address the more salient interventions under the framework of the Master Plan (SWSMP) and SWM current needs. The component will finance infrastructure works required to rehabilitate pump stations in poor conditions and for SWM to increase the treatment capacity and be able to meet projected demands²⁵. Two options are being considered; both will address water supply concerns for the medium to long term in their respective Districts. Both options have comparable cost estimates. The Program will finance only one of the two options identified by SWM: (1) Helena, Christina in Wanica, where an additional production capacity of 240m³/h is required²⁶; (2) Kampong Baroe, Groningen, and Peperhol in Saramacca, where an additional 300m³/h are required in total²⁷. The definition of the intervention location(s) will be discussed with GOS based on a technical analysis²⁸ to confirm its feasibility, estimated costs, and cost-effectiveness. Prioritization criteria will be developed as part of the Technical Analysis to select the most cost-effective option. Consideration will also

²¹ For Nickerie, the Caribbean Development Bank is funding a feasibility study for expansion of production in the area, this will include also an NRW assessment of the area that will guide specific interventions of this Loan at that Region.

²² The modality of the contract with a specialized NRW reduction company would provide for training of SWM's NRW unit staff. A Co-Management contract framework has been discussed as an option for SWM. The benefits considered are (i) the availability of adequate NRW reduction experience during execution of the Program, (ii) a dynamic and hands-on approach for NRW management knowledge transfer, (iii) SWM would maintain ownership of the NRW program which will be critical for its continued sustainability.

²³ The ATN/OC-17519-SU was approved on August 14, 2019.

²⁴ The recommendations of the ISP applicable to this Component include the development of a fixed asset registry, expansion of district metered areas (DMAs), meter accuracy test study, and meter replacement plan.

²⁵ The technical analysis will assess water demand needs considering potential water savings from NRW interventions in the proposed areas.

²⁶ The Government of Suriname may finance this intervention since it is high priority for the short term.

²⁷ This intervention was identified in the 2011 SWSMP with an estimated cost of US\$4.1M. The technical analysis will update the estimated costs of the intervention.

²⁸ The technical analysis is expected to be available by November 30, 2019 and will be financed through ATN/OC-17519-SU.

be given to other critical aspects such as environmental, social, and disaster risk criteria to factor the selection of one of the two options.

- 2.13 **Component 3: Institutional Strengthening (US\$2.5 millions).** This component will finance the modernization of SWM operations and management, improving its planning, management and operations capacity, as well as prepare the SWM for taking over responsibility for water supply in the interior. Specific activities will be guided by the ISP to be developed under ATN/OC-16778-SU. The following activities will be considered under this component: (i) Study for water supply solutions for the Interior²⁹; (ii) Financial and human resources strengthening; (iii) Improved capacity of SWM's water quality laboratory towards accreditation; (iv) implementation of selected recommendations of the ISP³⁰, and (v) capacity building at the operational level³¹.
- 2.14 **Project Management and other costs (US\$2.5 millions).** This component will finance management costs, including supervision and technical support for the Project Execution Unit (PEU), as well as, audits and project evaluation.
- 2.15 **Gender.** The production facility(ies) to be financed under Component 2 will be designed to satisfy future demands of the population and adequate access to services by women and men within the beneficiary area(s). The project will include training for women and men on the maintenance of septic tanks³². Any training related activities under Component 3, to be informed by the operations and Management, will explore gender considerations in terms of quotas for women participation. Additionally, the Social and Environmental Analysis (SEA) will study the relationship between the activities of the Program and gender, the ESMP will discuss mitigation measures that will be applied to address gender gaps in SWM and in the implementation of infrastructure activities.
- 2.16 **Innovation.** The NRW reduction component considers the execution of this component through a specialized NRW reduction firm. The NRW contract will include implementation of the NRW strategy in defined program areas, through a Co-management contract. The co-management contract envisions the assignment of obligations for contract implementation on both the contractor and the client for contract execution. This co-manage-based approach, which has not been applied before in Suriname, is expected to bring substantial benefits in terms of hands-on training, transfer of obligations from the contractor to SWM, provide for institutionalization of NRW reduction within SWM, as well as the pace of implementation of the NRW strategy. In addition, the implementation of NRW will include the use of Smart Water Infrastructure Technologies (SWIT), which have

²⁹ The study will include an environmental and social framework of the proposed solutions as well as designs and tender documents when required.

³⁰ This include the following studies and its implementation: Fixed asset registry; Accounts receivable analysis; Cost recording and financial reporting consultancy; Valuation of the asset registry; Cost of service study; Staff satisfaction survey; Information technology; and preparation of SWM Business Plan.

³¹ This activity will be guided by recommendations from the Operations and Management Audit being conducted under ATN/OC-16778-SU. The final recommendations of the Audit study will be ready by November 30, 2019.

³² This activity will require coordination with the Ministry of Public Works, which is responsible for sanitation issues. Any training will be aligned with relevant National Regulations.

the potential to contribute significantly towards improved service delivery and efficiency of water operators³³.

- 2.17 **Sustainable Infrastructure.** The proposed Program is designed considering the four dimensions of Infrastructure Sustainability³⁴: (i) *Environmental Sustainability including Climate Resilience*, as activities will be guided by the principle of efficient use of water resources and energy consumption reduction, especially in activities related to NRW and expansion of production facilities. The SEA will propose an adequate strategy for the management of waste derived from the proposed activities during its construction, execution and decommissioning; (ii) *Institutional Sustainability*, an important part of the activities will be based on the recommendations of the ISP, which aims at strengthening SWM operation and management capacities through improvement of its management systems and capacity building activities; (iii) *Social sustainability*, the activities of the Program aim to strengthen SWM as a service provider, specifically improving the efficiency, quality and reliability of its operations and management, which will positively impact the livelihood and social well-being of the beneficiaries; (iv) *Economic & Financial Sustainability*, the ISP will recommend activities to be implemented to improve the financial sustainability and more efficient service delivery by the SWM. In addition, for the new infrastructure developed, operation and management plans will be developed by the contractors. SWM relevant staff will be trained as part of commissioning.
- 2.18 **Inclusion of people with disabilities.** The ESA study will include an assessment of accessibility to public SWM facilities and other areas of opportunity for inclusion. The program activities will include the implementation of the more critical aspects of the assessment.
- 2.19 **Productive Local Development.** Under component 2, the production capacity in Wanica or Saramacca will be expanded. This will certainly benefit economic activities of the areas since the water supply service will increase its quality and reliability. The study for water supply in the Interior will include an assessment of economic activities that will benefit from an improved water supply service.
- 2.20 **Expected Results.** The direct beneficiaries of the Program will be the inhabitants in the locations of NRW reduction and upgraded production capacity interventions. It is expected that the quality of the water supply services delivered in these areas will improve in terms of pressure and reliability. SWM will directly benefit in terms of recovered water losses and in function of the improved revenue through the NRW reduction strategy. Additionally, SWM is expected to improve its planning and management capacities for water supply in the Interior.
- 2.21 **Link to National Development Plan.** The proposed operation is aligned with the Suriname Policy Development Plan 2017-2021, which includes the development of the water sector within the 1st Pillar of the Development Plan and recognizes the availability of healthy drinking water as a necessary link in the social economic development of the society.

³³ IDB (2017). Evaluation of Smart Water Infrastructure Technologies (SWIT)

³⁴ As defined in *What is Sustainable Infrastructure? A Framework to Guide Sustainability Across the Project Cycle*. Technical Note No. IDB-TN-1388.

- 2.22 **Strategic Alignment.** This operation is aligned to the IDB Group Country Strategy with The Republic of Suriname (2016-2020 (GN-2873) and its strategic area of “Modernize the Public Sector”. Under this strategic area the operation is aligned to the objective 1.4 of the results matrix of the IDB Group Country Strategy with The Republic of Suriname to reduce Central Government financing to state-owned enterprises. The Loan will take a close view of SWM’s services that require improvement in Governance, Regulatory Framework, Operations efficiency, Restructuring, and greater accountability and transparency. Ultimately, the operation is expected to contribute towards improving SWM’s performance, reducing SWM costs, and reduction of subsidies³⁵. The program is consistent with the Update to the Institutional Strategy (UIS) 2010-2020 (AB-3008) and is aligned with the development challenges of social inclusion and equality, and productivity and innovation by strengthening SWM and improve the quality of the water supply service. It is also aligned with the cross-cutting issues of gender equality and diversity by considering gender specific activities in trainings and with climate change by contributing to the reduction of water losses and energy consumption. The proposed project is aligned with the Water and Sanitation Sector Framework Document as it will contribute to improving SWM’s service quality and management efficiency. The proposed operation will take in consideration the Public Utilities Policy (OP-708) criteria: (i) Financial sustainability: and (ii) economic evaluation; and its objectives: (i) promote access, the program will contribute to increase access to service by Suriname population, including valuable groups; (ii) deliver a reliable quality service, program activities will contribute to increased levels of service, including water quality, and pressure; (iii) deliver a service efficiently, the NRW component will support SWM to increase its efficiency in water supply provision. The implementation of the program will result in enhanced operation of the network with the aim of reducing operating costs and increase SWM’s revenue through the decrease of commercial and physical losses; (iv) create suitable incentives for service demand, the NRW component will include a water metering program which is the most commonly toll used by water utilities to regulate user demands and use of resources; and (v) promote sustainability of the public utilities, the program will consider the three pillars of sustainability, financial sustainability, environmental sustainability and social sustainability as per the Policy.

III. TECHNICAL ISSUES AND SECTOR KNOWLEDGE

- 3.1 **Execution and complementary activities required.** The lending instrument to be used for this operation is a Specific Investment Loan US\$25 million from Ordinary Capital resources. The lending instrument is adequate since the proposed loan will finance 3 specific interdependent projects with specific purposes. The proposed execution period is 5 years. The project’s preliminary design, cost, and technical, financial and economic feasibility will be available before the approval of the Loan. The Borrower for the proposed program will be the Republic of Suriname, and the Executing Agency will be the SWM. SWM staff became familiar with the Bank’s procurement and financial management policies and procedures as it executed 2451/OC-SU and ATN/OC-14410-SU. The proposed Project Execution Unit (PEU) will include a dedicated Project

³⁵ Direct or indirect subsidies.

Manager, a Financial officer, Procurement officer, Environmental and Social officer, Communications specialist, Component 2 Coordinator, Component 3 Coordinator. The NRW Unit³⁶ will function as a coordinator body for Component 1 (NRW activities). It would be beneficial for the project execution if staff already familiar with Bank's Policies remains available for this new operation. The Bank notes that SWM may have limitations to fully staff the PEU. Therefore, Loan resources will be used to finance specific positions of the PEU (including the NRW unit)³⁷. The number of positions will be defined in the next mission in consultation with SWM.

- 3.2 **Lessons learned and past knowledge.** Lessons learned from past operations include the following recommendations: (i) Assessment of the Project Management Capacity within SWM and other technical assistance required for project preparation and execution is key to ensure the allocation of adequate resources to address the needs; (ii) The PEU during the execution of SU-L1018 was comprised of SWM staff and was physically operating from SWM offices. This was beneficial for project execution, while the team had to go through a learning curve, the PEU grew stronger and contributed to a sense of project ownership by SWM. The PEU benefited from building capacity and will contribute to ensuring sustainability of the project activities. However, this aspect will need to be balanced and in line with SWM staff availability and capacities considering the parallel execution of other capital investment programs with other donors; (iii) Full involvement of SWM during project preparation and definition of the Results Matrix is key and will contribute to adequate planning during execution; (iv) Procurement planning should be as efficient as possible, minimizing the number of procurement processes and ensuring the PEU is familiar with Bank Procurement and Financial Management Policies; (v) Ensure local contractors have full understanding of Bank Procurement requirements, and when necessary promote the use of Dutch translated bid documents for clarifications; (vi) The results matrix outputs should be as specific as possible. In cases when information regarding a proposed output may not be available, defining milestones can help for the teams to fully understand the development intentions; and (vii) the PEU should be adequately staffed to properly fulfill social and environmental management requirements and implement the Environmental and Social Management Plan (ESMP) resulting from the Environmental and Social Analysis (ESA).
- 3.3 **Donors Coordination.** SWM is currently executing a Loan with the French Development Agency (AFD) of 12.5M Euros. The scope related to production facilities, SCADA implementation, surface water use. Additionally, a 3M Euros grant is being executed also with AFD to update the 2011 Master Plan. SWM is also working with Caribbean Development Bank (CDB). A technical cooperation of US\$834,000 is being executed and will finance a blueprint for institutional strengthening of the operations department of SWM.
- 3.4 **Risks.** A preliminary identification of risks for the operation was carried out. A critical risk identified is Limited capacity of SWM to implement and monitor multiple

³⁶ While the NRW Unit will be under the execution structure of the Program, it is expected also that the Unit will maintain direct communication and will execute responsibilities assigned by SWM management as required in the Co-Management contract.

³⁷ The positions to be financed by the Loan resources will be confirmed during the Analysis Mission to be conducted in November 2019.

programs at the same. Other risks identified are: (i) Disruption of services associated with the rehabilitation of the network; (ii) Delays in the preparation of designs for the technical interventions; (iii) Decreased support from management to implement the Institutional Strengthening Action Plan; (iv) Delays in procurement activities; (vi) Continued macro-economic crisis could impact the pace of implementation of the loan due to limited/constrained fiscal space; among others.

IV. ENVIRONMENTAL SAFEGUARDS AND FIDUCIARY SCREENING

- 4.1 In accordance with the Bank's Safeguards Policy (OP-703), this operation is classified as Category "B" due to the expected local and short-term environmental and social impacts (ESI) for which effective mitigation measures are available and will be implemented. The safeguard filters have been completed. A detailed ESA and ESMP will be prepared for the operation (looking at both the construction and operation phase). The completed Environmental Social Strategy (ESS) is presented in Annex III.
- 4.2 **Retroactive Financing.** Retroactive financing may be needed for Institutional Strengthening activities. The Bank may finance retroactively eligible expenses incurred by the Borrower prior to the date of loan approval up to the amount of US\$3.75 million (15% of the proposed Bank financing), if they satisfy requirements substantially like those set out in the loan agreement. The expenses may include consultancy studies related to Component 3, in accordance with Section 1.12 of GN-2350-9. These expenses must have been incurred on or after the approval date of this project profile, in no case will expenses incurred more than 18 months before the date of approval of the loan by the Board of Directors be included.

V. OTHER ISSUES

- 5.1 As mentioned in paragraph 3.2, the Bank is currently executing ATN/OC-16778-SU "Support to SWM Institutional and Operational Strengthening" through which an Institutional Strengthening Plan for the SWM will be developed. Timely execution of the activities under this TC will be key for timely preparation of the Project. No major issues are expected considering that critical inputs from the ISP are already available and the final Action Plan will be ready by November 30, 2019.

VI. RESOURCES AND TIMETABLE

- 6.1 The Bank expects to approve the Program in the first quarter of 2020. The inputs of ATN/OC-16778-SU and ATN/OC-17519-SU are expected by November 30, 2019. The disclosure of the ESA was disclosed on November 7, 2019. The Analysis Mission will be thereafter. The Proposal for Operation Development (POD) will be ready for QRR distribution by December 2, 2019 and the Loan Proposal (LP) would be ready for consideration by the Board of Executive Directors by February 12, 2020. An estimated US\$72,990 from the Bank's administrative budget and US\$200,000 from ATN/OC-17519-SU to finance key technical and feasibility studies will be needed for program preparation.

CONFIDENTIAL¹

¹ The information contained in this Annex is deliberative, and therefore confidential, in accordance with the exception regarding “Deliberative Information” referred to in paragraph 4.1 (g) of the Bank’s “Access to Information Policy” (Document GN-1831-28).



Safeguard Policy Filter Report

Operation Information

Operation		
SU-L1058 Water Supply Modernization Program		
Environmental and Social Impact Category	High Risk Rating	
B		
Country	Executing Agency	
SURINAME	SU-SWM - Surinaamsche Waterleiding Maatschapij	
Organizational Unit	IDB Sector/Subsector	
Water & Sanitation	WATER SUPPLY URBAN	
Team Leader	ESG Primary Team Member	
EVAN STEPHEN CAYETANO	SARAH OCWIEJA MANGONES	
Type of Operation	Original IDB Amount	% Disbursed
Loan Operation	\$25,000,000	0.000 %
Assessment Date	Author	
29 Oct 2019	SMANGONES ESG Primary Team Member	
Operation Cycle Stage	Completion Date	
ERM (Estimated)	18 Jul 2019	
QRR (Estimated)	12 Dec 2019	
Board Approval (Estimated)	12 Feb 2020	
Safeguard Performance Rating		
Rationale		

Safeguard Policy Items Identified

[B.1 Bank Policies \(Access to Information Policy– OP-102\)](#)

The Bank will make the relevant project documents available to the public.

[B.1 Bank Policies \(Disaster Risk Management Policy– OP-704\)](#)

The operation is in a geographical area exposed to [natural hazards](#) ([Type 1 Disaster Risk Scenario](#)). Climate change may increase the frequency and/or intensity of some hazards.



Safeguard Policy Filter Report

B.1 Bank Policies (Disaster Risk Management Policy– OP-704)

The sector of the operation is vulnerable to natural hazards. Climate change may increase the frequency and/or intensity of some hazards.

B.1 Bank Policies (Gender Equality Policy– OP-761)

The operation has the potential to affect negatively women or gender equality ([Negative gender impacts may include the following](#))

B.1 Bank Policies (Gender Equality Policy– OP-761)

The operation will offer opportunities to promote [gender equality](#) or [women's empowerment](#).

B.1 Bank Policies (Indigenous People Policy– OP-765)

The operation is designed specifically to address indigenous people's issues.

B.1 Bank Policies (Indigenous People Policy– OP-765)

The operation will offer opportunities for indigenous people

B.2 Country Laws and Regulations

The operation is expected to be in compliance with laws and regulations of the country regarding specific women's rights, the environment, gender and indigenous peoples (including national obligations established under ratified multilateral environmental agreements).

B.3 Screening and Classification

The operation (including [associated facilities](#)) is screened and classified according to its potential environmental impacts.

B.4 Other Risk Factors

The borrower/executing agency exhibits weak institutional capacity for managing environmental and social issues.

B.5 Environmental Assessment Requirements

An environmental assessment is required.

B.6 Consultations

Consultations with affected parties will be performed equitably and inclusively with the views of all stakeholders taken into account, including in particular: (a) equal participation by women and men, (b) socio-culturally appropriate participation of indigenous peoples and (c) mechanisms for equitable participation by vulnerable groups.

B.7 Supervision and Compliance

The Bank is expected to monitor the executing agency/borrower's compliance with all safeguard requirements stipulated in the loan agreement and project operating or credit regulations.

B.11. Pollution Prevention and Abatement



Safeguard Policy Filter Report

The operation has the potential to pollute the environment (e.g. air, soil, water, greenhouse gases).

[B.17. Procurement](#)

Suitable safeguard provisions for the procurement of goods and services in Bank financed operations may be incorporated into project-specific loan agreements, operating regulations and bidding documents, as appropriate, to ensure environmentally responsible procurement.

Potential Safeguard Policy Items

[B.1 Bank Policies \(Resettlement Policy– OP-710\)](#)

The operation has the potential to cause physical displacement of people living in the project area of influence (see also Resettlement Policy)

Recommended Actions

Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.

Additional Comments

[No additional comments]



Safeguard Screening Form

Operation Information

Operation		
SU-L1058 Water Supply Modernization Program		
Environmental and Social Impact Category	High Risk Rating	
B		
Country	Executing Agency	
SURINAME	SU-SWM - Surinaamsche Waterleiding Maatschappij	
Organizational Unit	IDB Sector/Subsector	
Water & Sanitation	WATER SUPPLY URBAN	
Team Leader	ESG Primary Team Member	
EVAN STEPHEN CAYETANO	SARAH OCWIEJA MANGONES	
Type of Operation	Original IDB Amount	% Disbursed
Loan Operation	\$25,000,000	0.000 %
Assessment Date	Author	
29 Oct 2019	SMANGONES ESG Primary Team Member	
Operation Cycle Stage	Completion Date	
ERM (Estimated)	18 Jul 2019	
QRR (Estimated)	12 Dec 2019	
Board Approval (Estimated)	12 Feb 2020	
Safeguard Performance Rating		
Rationale		

Operation Classification Summary

Overriden Rating	Overriden Justification
Comments	



Safeguard Screening Form

Conditions / Recommendations

Category "B" operations require an environmental analysis (see Environment Policy Guideline: Directive B.5 for Environmental Analysis requirements)

The Project Team must send to ESR the PP (or equivalent) containing the Environmental and Social Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports. These operations will normally require an environmental and/or social impact analysis, according to, and focusing on, the specific issues identified in the screening process, and an environmental and social management plan (ESMP). However, these operations should also establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.) where necessary.

Summary of Impacts / Risks and Potential Solutions

Borrower and/or third party has only a partial commitment/capacity to comply with applicable [ILO requirements](#) (including commitment to non-discrimination, equal opportunity, [collective bargaining](#) and rights of association) and national employment in relation to [working conditions](#).

Ensure the Development of Adequate Labor Policy and Practices: The borrower should be required to improve employment and employment rights including (as appropriate): (a) clarification of employment practices and terms; (b) support of collective bargaining; (c) approaches to workers' organizations (d) non-discrimination and equal opportunity; (e) fair and transparent retrenchment/redundancy amongst workers; and (f) development of appropriate grievance mechanisms. These issues should be defined in a human resources policy. Depending on the financial product, the policy should be referenced in appropriate legal documentation (covenants, conditions of disbursement, project completion tests, etc.) and require regular (bi-annual or annual) reporting and independent review of implementation.

Borrower is committed to complying with applicable [ILO requirements](#) (including commitment to non-discrimination, equal opportunity, [collective bargaining](#) and rights of association) and national employment in relation to [working conditions](#) but does not fully address all employment requirements.

Confirm Labor Practices are Adequate: The borrower should be required to improve employment and employment rights including (as appropriate): (a) clarification of employment practices and terms; (b) support of collective bargaining; (c) approaches to workers' organizations; (d) non-discrimination and equal opportunity; (e) fair and transparent retrenchment/redundancy amongst workers; and (f) development of appropriate grievance mechanisms. These issues should be defined in a human resources policy. Depending on the financial product, requirements should be referenced in appropriate legal documentation (covenants, conditions of disbursement, etc).

Generation of solid waste is [moderate](#) in volume, does not include [hazardous materials](#) and follows standards recognized by multilateral development banks.

Solid Waste Management: The borrower should monitor and report on waste reduction, management and disposal and may also need to develop a Waste Management Plan (which could be included in the ESMP). Effort should be placed on reducing and re-cycling solid wastes. Specifically (if applicable) in the case that national legislations have no provisions for the disposal and destruction of hazardous materials, the applicable procedures established within the Rotterdam Convention, the Stockholm Convention, the Basel Convention, the WHO List on Banned Pesticides, and the Pollution Prevention and Abatement Handbook (PPAH), should be taken into consideration.

In an area of exposure to [natural hazards](#) with a [moderate](#) impact severity, project activities and structures increase vulnerability of area of influence to [natural hazards](#) and exacerbates risks to property and the environment, or to the project itself.

A Disaster Risk Assessment, that includes a Disaster Risk Management Plan (DRMP), may be necessary, depending on the complexity of the project and in cases where the vulnerability of a specific project component may compromise the whole operation. The DRMP should focus on the potential for the project to exacerbate risks to people and the environment during construction and operation, and propose measures to manage or mitigate these risks. Measures should include siting and engineering options, disaster risk preparedness and response, as well as financial protection for the project. They should also take into account the country's disaster alert and prevention system, general design standards and other related regulations. Focus should be given to replacing and enhancing resilience functions, with special attention given to reefs, dunes, mangroves, marshes, flood plains, drainage paths, slope vegetation, etc.

Likely to have [minor](#) to [moderate](#) emission or discharges that would negatively affect [ambient environmental conditions](#).

Management of Ambient Environmental Conditions: The borrower should be required to prepare an action plan (and include it in the ESMP) that indicates how risks and impacts to ambient environmental conditions can be managed and mitigated consistent with relevant national and/or international standards. The borrower should (a) consider a number of factors, including the finite assimilative capacity of the environment, existing and future land use, existing ambient conditions, the project's proximity to ecologically sensitive or protected areas, and the potential for cumulative impacts with uncertain and irreversible consequences; and (b) promote strategies that avoid or, where avoidance is not feasible, minimize or reduce the release of pollutants, including strategies that contribute to the improvement of ambient conditions when the project has the potential to constitute a significant source of emissions in an already degraded area. The plan should be subject to review by qualified independent experts. Depending on the financial product, this information should be referenced in appropriate legal documentation (covenants, conditions of disbursement, etc.).

Project activities will moderately impact [water quality](#), [water quantity](#) and/or [water availability](#).

Water Resources: A targeted Water Resources Assessment should be undertaken, which in addition to undertaking the relevant analyses, must include justification for assigning a moderate risk classification. Project activities (and any associated facilities) will be required to be constructed and operated so as to avoid impacts to water quality, water quantity and/or water availability. Evidence of appropriate stakeholder consultation should also be provided. Monitoring requirements should be included in relevant legal documentation.



Safeguard Screening Form

Project construction activities are likely to lead to localized and temporary impacts (such as dust, noise, traffic etc) that will affect local communities and [workers](#) but these are [minor](#) to [moderate](#) in nature.

Construction: The borrower should demonstrate how the construction impacts will be mitigated. Appropriate management plans and procedures should be incorporated into the ESMP. Review of implementation as well as reporting on the plan should be part of the legal documentation (covenants, conditions of disbursement, etc).

Safety issues associated with structural elements of the project (e.g. dams, public buildings etc), or road transport activities (heavy vehicle movement, transport of [hazardous materials](#), etc.) exist which could result in [moderate](#) health and safety [risks](#) to local communities.

Address Community Health Risks: The borrower should be required to provide a plan for managing risks which could be part of the ESMP; (including details of grievances and any independent audits undertaken during the year). Compliance with the plan should be monitored and reported. Requirements for independent audits should be considered if there are questions over borrower commitment or potential outstanding community concerns.

The project has or will have [minor](#) negative impacts on [Indigenous Peoples](#).

Mitigation Framework: Include specific mitigation measures as needed in consultation with affected IPs. Consult with Indigenous Peoples specialist. Incorporate measures in legal documentation (covenants, conditions of disbursement, etc.). Include mitigation measures as part of overall environmental and social management plans or provisions.

The project is located in an area prone to [coastal flooding](#) from [storm surge](#), high wave activity, or erosion and the likely severity of the impacts to the project is [moderate](#).

A Disaster Risk Assessment, that includes a Disaster Risk Management Plan (DRMP), may be necessary, depending on the complexity of the project and in cases where the vulnerability of a specific project component may compromise the whole operation. The DRMP should propose measures to manage or mitigate these risks to an acceptable level. The measures should include risk reduction (siting and engineering options), disaster risk preparedness and response (contingency planning, etc.), as well as financial protection (risk transfer, retention) for the project. They should also take into account the country's disaster alert and prevention system, general design standards, coastal retreat and other land use regulations and civil defense recommendations in coastal areas.

The project is located in an area prone to [inland flooding](#) and the likely severity of the impacts to the project is [moderate](#).

A Disaster Risk Assessment, that includes a Disaster Risk Management Plan (DRMP), may be necessary, depending on the complexity of the project and in cases where the vulnerability of a specific project component may compromise the whole operation. The DRMP should propose measures to manage or mitigate these risks to an acceptable level. This must take into consideration changes in the frequency and intensity of intensive rainfall and in the patterns of snowmelt that could occur with climate change. The DRMP includes risk reduction measures (siting and engineering options), disaster risk preparedness and response (contingency planning, etc.), as well as the financial protection (risk transfer, retention) of the project. The DRM Plan takes into account existing vulnerability levels and coping capacities, the area's disaster alert and prevention system, general design standards, land use regulations and civil defense recommendations in flood prone areas. However, the options and solutions are sector- and even case-specific and are selected based on a cost analysis of equivalent alternatives.

The project will mobilize personnel foreign to project zones and the borrower does not have a code of conduct or internal practices/rules prohibits the interaction with the local communities.

Ensure the borrower addresses Health and Community Safety: The borrower will deliver a code of conduct for his employees, contractors and subcontractors including clauses specifying those employees, contractors and subcontractors not to interact and relate with the local communities

Disaster Risk Summary

Disaster Risk Level

Moderate

Disaster / Recommendations

The reports of the Safeguard Screening Form (i.e., of the Safeguards Policy Filter and the Safeguard Classification) constitute the Disaster Risk Profile to be included in the Environmental and Social Strategy (ESS). The Project Team must send the PP (or equivalent) containing the ESS to the ESR.

The Borrower prepares a Disaster Risk Management Summary, based on pertinent information, focusing on the specific moderate disaster and climate risks associated with the project and the proposed risk management measures. Operations classified to involve moderate disaster risk do not require a full Disaster Risk Assessment (see Directive A-2 of the DRM Policy OP-704).

The Project Team examines and adopts the DRM summary. The team remits the project risk reduction proposals from the DRMP to the engineering review by the sector expert or the independent engineer during project analysis or due diligence, and the financial protection proposals to the insurance review (if this is performed). The potential exacerbation of risks for the environment and population and the proposed risk preparedness or mitigation measures are included in the Environmental and Social Management Report (ESMR), and are reviewed by the ESG expert or environmental consultant. The results of these analyses are reflected in the general risk analysis for the project. Regarding the project implementation, monitoring and evaluation phases, the project team identifies and supervises the DRM approaches being applied by the project executing agency.

Climate change adaptation specialists in INE/CCS may be consulted for information regarding the influence of climate change on existing and new natural hazard risks. If the project requires modification or adjustments to increase its resilience to climate change, consider (i) the possibility of classification as an adaptation project and (ii) additional financing options. Please consult the INE/CCS adaptation group for guidance.

Disaster Summary

Details



Safeguard Screening Form

The project is classified as moderate disaster risk because of the likely impact of at least one of the natural hazards is average.

Actions

Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.

Environmental and Social Strategy (ESS)	
Operation Name	Water Supply Modernization Program
Operation Number	SU-L1058
Prepared by	Sarah Mangones (VPS/ESG) and Heidi Fishpaw (VPS/ESG)
Operation Details	
IDB Sector	Water and Sanitation (INE/WSA)
Type of Operation	Loan – Specific Investment Operation (ESP)
Environmental and Social Classification	B
Disaster Risk Rating	Moderate
Borrower	Republic of Suriname
Executing Agency	Surinaamsche Waterleiding Maatschappij (SWM)
IDB Loan US\$ (and total project cost)	25 Million
Applicable Policies/Directives	OP-102; OP-704; OP-761; OP-703 (B.1, B.2 B.3, B.4, B.5, B.6, B.10, B.11, B.17)
Operation Description	
<p>The objective of the operation is to improve the efficiency, quality and sustainability of the potable water services provided by the Surinamese Water Supply Company (<i>Surinaamsche Waterleiding Maatschappij</i> or SWM). There are 3 components to the project; (1) Reduction of Non-Revenue Water (NRW) levels in the Central and Western Regions through the implementation of critical aspects of the 2015 NRW reduction strategy (US\$15 million); (2) Upgrading water production infrastructure which would increase treatment capacity of the network and work towards meeting projected demands for only one of the three options discussed below (US\$5 million); and (3) Implementation of key recommendations of the Institutional Strengthening Plan (ISP)¹ and the development of a water supply strategy for the hinterland including improved laboratory capacity (US\$2.5 million). The first two components include activities where Environmental, Social, Health and Safety (ESHS) impacts and risks are expected, during both construction and operation. There are no potential negative environmental and/or social impacts expected from Component 3 activities; however, the Component will include a study that will propose solutions to improve water supply access for indigenous communities. In Appendix 1, Figure 1 shows the implementation area for Component 1. This consists of areas the SWM is already working in (the Para, Wanica, Paramaribo, and Saramacca districts). After the network assessment is completed (part of Component 1) the exact locations of the valves, meters and other work will be determined after project approval. Currently there are 3 potential locations for Component 2 (Helena Christina production site; Uitkijk production site; and a group of production stations in Saramacca, including Kompong Baroe, Peperhol/Tijgerkreek and Boskamp), shown in Figure 2.</p> <p>Option 1: The work for Helena Christina would include the drilling of 2 new wells, rehabilitating 2 existing wells, expansion of the treatment plant and laying 12.6 km of pipeline to connect to Wanica Hospital.</p>	

¹ The ISP will be prepared under SU-T1102 and will review all aspects of SWM's operations and provide a detailed roadmap to guide future interventions for SWM institutional modernization to improve the efficiency of its operations, including institutional aspects to support NRW management.

Option 2: The work for Uitkijk pumping stations would include a new well, road restoration to the site, new equipment for aeration, sand filtration, storage tanks and distribution pumps.

Option 3: Kompong Baru upgrade would include a new well and rehabilitation and increasing treatment and water pumping with aeration, sand filtration, repair old storage tank, new storage tank and pumps for transport, distribution and backwash).

Peperhol upgrade would include a new well (with a max of 50 m³/hr) with access road and rehabilitating the existing capacity and adding new production for the treatment and water pumping (including sedimentation/flocculation, aeration, repair old storage tank, new storage tank and new distribution, transport and backwash pumps and rehabilitation of the site.

Boskamp upgrade would include rehabilitation of the intake structure and rehabilitation and increasing the water treatment and water pumping capacity (including sedimentation/flocculation, aeration, repair old storage tank, new storage tank and new distribution, transport and backwash pumps.

Suriname is known for the risk of coastal and inland flooding, creating a moderate disaster risk rating (type 1). There is also some overlap with the project intervention areas with key biodiversity areas.

Key Potential ESHS² Risks and Impacts

There are general impacts and risks for Components one and two of the operation. If the construction works are larger than expected or meet delays there might be livelihood impacts especially in component one.

During construction phase there are a variety of issues that need to be followed and addressed to ensure limited impact. Major risks are related to inadequate attention to gender issues, waste management and access/use to/of water. In addition, there may be other minimal temporary ESHS risks and impacts associated with the construction works such as: traffic disruption; dust and minimal air emission and affectation of air quality; noise, impacts on water/soil (including wastewater discharge), especially if waste and hazardous materials are not adequately managed; temporary noises; occupational and community health and safety.

Depending on the magnitude of the construction works to be performed there may also be a small influx of workers into the project area with potential impacts on adjacent communities. There are also ESHS risks and impacts that are associated with the operational phase of the water system and include the increased waste water due to increased water supply.

Impacts/Risks Component 1:

Due to the need to complete the network analysis to have the exact locations of the valves, meters, and network interventions the Environmental and Social Management Plan (ESMP) will create requirements/guidelines for each type of intervention. During these small works on the water network some of the risks/impacts include access to water (water shut off during interventions), disruption of traffic, impact on businesses, noises, impact on sidewalks and roadways (due to closure and improper completion of work). The ESA will create the consultation plan for this intervention that will allow consultations to take place at the neighborhood level and the ESMP will have a plan on how areas must be informed of the work and how to handle any potential economic impacts.

Impacts/Risks Component 2:

The final site will be chosen after a process of due diligence using information provided from the ESA. The interventions for this component are construction of larger infrastructure (only for the expansion of current production sites) for the network, this process will take many months which can lead to a

² Environment, Social, Health and Safety.

larger impact on the surrounding area. The impacts include gender and security issues due to an influx of workers, waste management (disposal of earthworks and trash), dust and noise.

Temporary/permanent and/or physical/economical displacement is not expected since works will be conducted in SWM production stations. However, as part of the Environmental and Social Analysis (ESA) this aspect (i.e. land and land use) will be confirmed. If resettlement or economic displacement is necessary, a resettlement plan (RAP) or livelihood restoration plan (LRP) respectively will be developed and implemented for each location. The work that is planned follows the Suriname Water Supply Master Plan completed in 2011 which determined the safe yield of ground and surface water resources as well as forecasted the water demand in Suriname to 2024.

Impacts/Risks Component 3:

This component will finance activities to strengthen SWM capacity in operation and management. It will include a study to propose the best options for improving access of indigenous communities to water services. Since there will only be a study, but it will address improved access to water services for indigenous communities, there are no impacts but it will be important to ensure that the study is designed in a socio-culturally appropriate way and there will be opportunities to promote participatory activities in the context of the study to ensure that there is no discrimination, and that the study proposes solutions to water access that are responsive to what the communities themselves say they need.

Further risks may arise from a limited capacity of the implementing agency, which may create risks during the construction phase.

Due to the location of the project area there is also the potential to exacerbate the disaster risk (type 2) therefore the design of the infrastructure and planned work will need to consider risks from flooding. The disaster risk assessment of these areas/sites will be addressed as part of the ESA.

Components 1 and 2 of the Operation will finance activities that are in regions of the country that do have indigenous population, therefore the Environmental and Social Analysis will verify whether any works or infrastructure will directly or indirectly adversely impact any indigenous communities as defined by IDB's Policy on Indigenous Peoples (OP-765), since the location of the works will be in the regions of Paramaribo, Wanika, Para, and Saramacca, all three of which have significant indigenous populations according to available data.

A previous sociocultural analysis for Suriname was completed as part of the SU-L1054 operation (<https://www.iadb.org/en/project/su-l1054>) and will be used as a starting point for the ESA to ensure consultations will be socio-culturally adequate.

Under Component 3 of the Operation, as mentioned previously, a study will be financed to analyze the best options for improving access to water supply to indigenous communities of Suriname. The results of this study, to be carried out during execution, would be to determine the most technically feasible and sustainable solutions, including community-managed systems, to reach this goal.

Information Gaps and Strategy for Analysis and Management

A specific NRW strategy has already been developed. In addition, a master plan covering a 13-year period (from 2011 until 2024) includes the analysis of water demands and the access to ground water. The SU-T1102 (Support to SWM Institutional and Operational Strengthening) technical cooperation is financing an Operation and Management audit of SWM.

An Environmental and Social Analysis (ESA) will need to be completed; it will look at each project area and will include an ESMP.

The ESA will complete an environmental and social baseline assessment of the intervention areas for Components 1 and 2, to gain a better understanding of the current situation and possible impacts. For Component 1 this will include a general understanding of the different area types and populations in the intervention areas. The ESA will provide a good description of the possible impacts of the interventions with a guideline and mitigation measures for each type of intervention that will need to be followed by the construction contractor and SWM to mitigate risks and impacts. These guidelines will need to address communication timeline regarding when and how long the work will take, if water access will be affected, grievance redress mechanism, safety of the intervention site, management of earthwork, drainage issues as well as other possible impacts.

For Component 2, the baseline will need to address how the land and the surrounding areas are currently being used and if there are risks for flooding or other natural disasters. Similar to Component 1, the baseline will also include a general understanding of the different area types and populations in the intervention areas. The ESA will provide a clear description of the works, impacts and risks of the infrastructure during construction and operation; more specifically it will evaluate water access and design a grievance redress mechanism, safety of the intervention site, management of earthwork, drainage issues as well as other possible impacts. The ESA will ensure adequate mitigation measures are included.

An estimated budget for these interventions will also be included in the ESA as well as information regarding responsibilities of the contractor for implementation of the ESMP and SWM regarding supervision.

Table 1 describes a tentative timeline and resources for the preparation of the different ESHS assessments.

The Borrower will need to undertake a stakeholder analysis as part of the ESA and prepare and carry out a Consultation Plan with all stakeholders (affected and interested parties) for all the project areas. Those consultations will include all the affected groups, no matter the legal status of their dwelling or economic activity. If the ESA detects indigenous communities as defined under OP-765 benefited or affected by the Operation, measures will be proposed as part of the Consultation Plan to ensure socio-culturally appropriate consultation process with them. Furthermore, measures will need to be put in place to encourage the participation of women, elderly and any vulnerable groups to ensure meaningful consultations. Their main goal will be to inform, gather comments, and adjust the ESA and the corresponding ESMP. A comprehensive Stakeholder Engagement Plan (SEP) and Grievance Redress Mechanism (GRM) will be prepared.

In addition, an analysis of the executing agency's organizational capacity to properly assess and manage all ESHS aspects of the operation, especially in relation to meaningful consultation activities (i.e. hiring a dedicated social and environmental specialist if not already present at the Executing Agency).

Activities to address gender-based exclusion at the operation level and to boost the positive impact of the operation for gender equality, through a proactive strategy, will be assessed in the ESA. The ESA will thoroughly evaluate the role of gender both in the current way communities' access and use water and based on that propose specific measures to close gaps in participation and girls or to tailor services and works to the needs of women and girls.

The ESA will verify whether populations benefited by the specific works under Components 1 and 2 are indigenous or not, given that they will take place in regions of the country that have significant indigenous population (Paramaribo, Wanika, and Para). This verification will build on an existing socio-cultural analysis for the Operation “Health Service Improvement Project (SU-L1054)” but deepening the analysis of the regions of intervention mentioned above. This is in order to know whether further steps are needed to comply with the Operation Policy on Indigenous Peoples (OP-765) (see Figure 4, map of indigenous and maroon peoples in Suriname). If indigenous communities as defined by OP-765 are detected, the ESA should carry out a socio-cultural analysis of the communities, including of their traditional and legitimate leadership and decision-making structures of them to include in the Consultation Plan. The Sociocultural Analysis will also analyze whether there may be any discrimination issues against indigenous communities associated with the activities financed by the Operation. In the hinterland of the country where most indigenous communities as defined by OP-765 reside, there is little access to water services and therefore the default situation is that these communities are excluded from services, however the Operation aims to address this gap particularly through the activities of Component 3, and there is no evidence that the activities financed in any of the components are associated with discrimination. If it is not possible to know in advance whether the beneficiary populations are indigenous, the ESA should include at a minimum a basic sociocultural analysis of the three regions, identifying indigenous communities present, their geographic location and ethnicity, and an analysis of whether they qualify as indigenous under Policy OP-765. This analysis would serve as an input to the ESMP in order to manage any potential sociocultural impacts during implementation.

Component 3 will finance a study to be carried out during the implementation phase of the Operation to determine the best options for providing water services to indigenous communities of the country. It is important that the study includes the participation of the indigenous communities in developing the solutions. To help ensure this, the team will develop the Terms of Reference (ToRs) for the study in collaboration with the ESG team members. The ToRs will integrate sociocultural analysis, including gender analysis, and socio-culturally appropriate participatory activities, to fulfill sociocultural analysis and consultation requirements in alignment with the culture, language, and decision-making structures of the communities, stipulated by the Operational Policy on Indigenous Peoples (OP-765).

The ESA and ESMP will also respectively assess and propose measures to mitigate natural disaster risks.

A fit-for-disclosure ESA, ESMP RAP/LRP (if necessary), and Consultation Plan must be ready for review and public disclosure prior to the Analysis Mission through the Borrower and IDB's webpage following the Access to Information Policy OP-102. No ESHS documentation have been yet submitted for review by the Borrower.

Table (1): ESHS Assessments – Tentative timeline and resources

<i>ESHS Documents</i>	<i>Current stage of development – Gap filling needed</i>	<i>Estimated resources needed to finalize</i>	<i>Estimated timeline to finalize and consult (as applicable)</i>
<i>Environmental and Social Analysis (ESA) including socio-cultural assessment</i>	<i>Will need to be include each project area</i>	<i>Entity in charge: IDB Estimated cost: 30,000-50,000 USD Consultants: TBD Source: Bank</i>	<i>Execution: 2-3 month Intended start: June 2019</i>

<i>Environmental and Social Management Plan</i>	<i>An ESMP needs to be created for the construction phase and for the operation phase of the operation for each project area, this can be completed as part of the ESA</i>	<i>Entity in charge: IDB Estimated cost: Included in ESA estimation. Consultants TBD Source: Bank</i>	<i>Execution: 2-3 month Intended start: June 2019</i>
<i>Consultation Plan as part of ESA</i>	<i>Consultations are required for each project area</i>	<i>Entity in charge: IDB Consultants: TBD Source: TBD</i>	<i>Consultation carried out about Component 1 and 2, and Consultation Report disclosed before Analysis Mission During Execution: Continued consultation</i>

Opportunities for IDB Additionality on Environment and Social matters

The ESA carried out could add value in terms of adapting project activities and infrastructure intended to benefit indigenous communities, to their specific reality and with their participation. Furthermore, the ESA offers the opportunity to understand better the role of gender in the operation, and to propose measures to ensure women are included. Finally, the analysis of disaster risk (particularly flooding) as part of the ESA can offer insight into how to adapt infrastructure to prevent vulnerability and risk that could be exacerbated by the Operation in the future.

Annex Table: Operation Compliance with IDB Safeguard Policies

See below

Additional Appendices

*Appendix 1: Maps
Appendix 2: Disaster Risk Maps*

Annex Table: Operation Compliance with IDB Safeguard Policies

Policies / Directives	Policy / Directive Applicable?	Rationale for applicability of Policy / Directive	Actions required during Preparation & Analysis
OP-703 Environment and Safeguards Compliance Policy			
B.2 Country Laws and Regulations	Yes	Applies to all projects	Contractual documents will ensure country laws and regulations are complied with.
B.3 Screening and Classification	Yes	The Operation has been screened and classified (Category B)	N/A
B.4 Other Risk Factors	Yes	Low capacity within Executing Agency/Borrower	Develop measures for managing risks; an assessment will be completed as part of the ESA
B.5 Environmental Assessment and Plans Requirements	Yes	Applies for Category A and B operations	An ESA including each project location will be completed and disclosed ESMP to be developed for construction and operation phases
B.5 Social Assessment and Plans Requirements (including Livelihood Restoration Plan)	TBD	Potential livelihoods affected during interventions in Component one	Please refer to the section on Information Gaps and Strategy for Analysis and Management for more details on timing for the different ESHS assessments
B.6 Consultation	Yes	Category B operations require at least one round of consultations	Consultations are needed for each project area and will be completed as part of the ESA process
B.7 Supervision and Compliance	Yes	Bank will monitor Executing Agency/Borrower's compliance	Safeguard requirements must be incorporated into Loan Contract
B.8 Transboundary Impacts	No	No presence of significant transboundary issues	N/A
B.9 Natural Habitats	TDB	Due to the overlap in the intervention areas and protected areas, the ESA will help determine if this applies	ESA to be completed for each project location in order to confirm that there are no impacts to natural or critical natural habitat

B.9 Invasive Species	No	No invasive species will be used	ESA to be completed for each project location in order to confirm that there is no introduction of Invasive Species
B.9 Cultural Sites	No	No damage to cultural sites	ESA to be completed for each project location in order to confirm that there are no impacts on Cultural Sites
B.10 Hazardous Materials	Yes	Limited hazardous materials will be used, and limited waste will be generated	A fuel storage and waste management plan will need to be developed as part of the ESA
B.11 Pollution Prevention and Abatement	Yes	Limited emissions/pollution will occur	The ESA will include specific measures to prevent, reduce or eliminate pollution
B.12 Projects Under Construction	No	The project is not currently under construction	N/A
B.13 Noninvestment Lending and Flexible Lending Instruments	No	This is a traditional loan	N/A
B.14 Multiple Phase and Repeat Loans	No	N/A	N/A
B.15 Co-financing Operations	No	Only IDB will be funding this work	N/A
B.16 In-Country Systems	No	Not using in-country systems	N/A
B.17 Procurement	Yes	Incorporate goods and services that are environmentally and socially responsible	Procurement provisions to be included in loan documents
OP-704 Natural Disaster Risk Management Policy			
A.2 Analysis and management of Type 2 risk scenario	Yes	Type 1 is moderate- exposure to inland and coastal flooding – Potential for exacerbation of risks with new infrastructure (i.e. erosion, landslides)	The ESA and ESMP for the project will include mitigation measures for those hazards and exacerbation of hazards.
A.2 Contingency planning (Emergency response plan, Community health and safety plan, Occupational health and safety plan)	Yes	An Emergency Response Plan is needed and will include risks related to flooding	The borrower must ensure that the Emergency Response Plan will be developed and implemented by the contractor and the operator.

OP-710 Operational Policy on Involuntary Resettlement			
Resettlement Minimization	TBD	No involuntary resettlement is expected – To be confirmed as part of ESA process.	N/A
Resettlement Plan Consultations	TBD	No involuntary resettlement is expected – To be confirmed as part of ESA process.	N/A
Impoverishment Risk Analysis	TBD	No involuntary resettlement is expected – To be confirmed as part of ESA process.	N/A
Resettlement Plan and/or Resettlement Framework Requirement	TBD	No involuntary resettlement is expected – To be confirmed as part of ESA process.	N/A
Livelihood Restoration Program Requirement	TBD	No involuntary resettlement is expected – To be confirmed as part of ESA process.	N/A
Consent (Indigenous Peoples and other Rural Ethnic Minorities)	No	No Indigenous Peoples to be affected by involuntary resettlement	N/A
OP-765 Operational Policy on Indigenous Peoples			
Sociocultural Analysis Requirement	Yes	Components 1 and 2 of the Operation will intervene in areas of the country in which there are indigenous populations, according to available data, but may or may not have any adverse impacts to indigenous communities as defined by Policy OP-765, to be verified by the ESA. Component 3 will finance a study of Suriname to propose solutions for providing indigenous communities with access to water services, but will not finance infrastructure or works that may have a negative impact on indigenous communities.	A limited baseline sociocultural analysis will be done about each of the regions of intervention of Components 1 and 2, primarily to verify whether there could be adverse impacts to any indigenous communities as defined by Policy OP-765, and about the indigenous communities in Suriname and their access to water services, that will be studied by Component 3. If any indigenous communities are identified in the direct or indirect areas of impact of Components 1 or 2, a full Sociocultural Analysis will be done.

Good-faith Negotiations and proper documentation	TBD	Unless sociocultural analysis identifies significant negative impacts to indigenous communities, this provision of OP-765 is not applicable.	However, any interventions in indigenous communities should carry out and document socio-culturally appropriate and meaningful consultations with those communities, using a Consultation Plan to be developed by the Sociocultural Analysis.
Agreement with Affected Indigenous Peoples	TBD	Unless Sociocultural Analysis identifies significant negative impacts to indigenous communities, this provision of OP-765 is not applicable.	However, any interventions in indigenous communities should carry out and document socio-culturally appropriate and meaningful consultations with those communities, using a Consultation Plan to be developed by the Sociocultural Analysis.
Indigenous Peoples Compensation, and Development Plan and/or Framework Requirement	TBD	Unless Sociocultural Analysis identifies significant negative impacts to indigenous communities, this provision of OP-765 is not applicable.	However, any interventions in indigenous communities should carry out and document socio-culturally appropriate and meaningful consultations with those communities, using a Consultation Plan to be developed by the Sociocultural Analysis.
Discrimination Issues	TBD	There is no evidence there are discriminatory or exclusion issues associated with this Operation.	Sociocultural Analysis will analyze whether there may be any discrimination issues against indigenous communities associated with the activities financed by the Operation.
Transborder Impacts	No	N/A	N/A
Impacts on Isolated Indigenous Peoples	No	N/A	N/A
OP-761 Operational Policy on Gender Equality in Development			
Consultation and effective participation of women and men	Yes	The consultations should be designed and carried out by SWM with measures to ensure women's views and perceptions are fully	Ensure meaningful participation of women and men during consultation through the preparation and implementation of the Consultation Plan

		integrated into the final project design	
Application of safeguard and risk ³ analysis	Yes	ESA should analyze relationship of gender to the project, including potential pre-existing gender gaps like exclusion of women from decision-making about water, and limited access of women to jobs	ESMP should include measures to ensure women's participation in decision-making spaces about water with proactive measures, and encourage access to jobs and training during construction and maintenance
OP-102 Access to Information Policy			
Disclosure of relevant Environmental and Social Assessments Prior to Analysis Mission, QRR, OPC and submission of the operation for Board consideration	Yes	Disclosure of ESA and ESMP	The ESA, ESMP, and Consultation Report will need to be disclosed before the Analysis Mission. Please refer to the section on Information Gaps and Strategy for Analysis and Management for more details on timing for the consultation.
Provisions for Disclosure of Environmental and Social Documents during Project Implementation	Yes	If ESAs are needed during project implementation they will be disclosed, as well as the Consultation Report documenting the corresponding public consultation.	N/A

³ Risks may include: (i) Unequal access to project benefits/ compensation measures, (ii) Men or women disproportionately affected due to gender factors, (iii) Non-compliance with applicable legislation related to equality between men and women, (iv) Increased risk of gender-based violence, including sexual exploitation, human trafficking and sexually transmitted diseases, and (v) Disregard of women's ownership rights.

Appendix 1: Maps

Figure 1: Map of NRW component. The area with the black border shows the overall area that will be considered for invention for Component 1, the different colored areas represent neighborhoods. As mentioned above the exact locations will be determined after the network analysis.

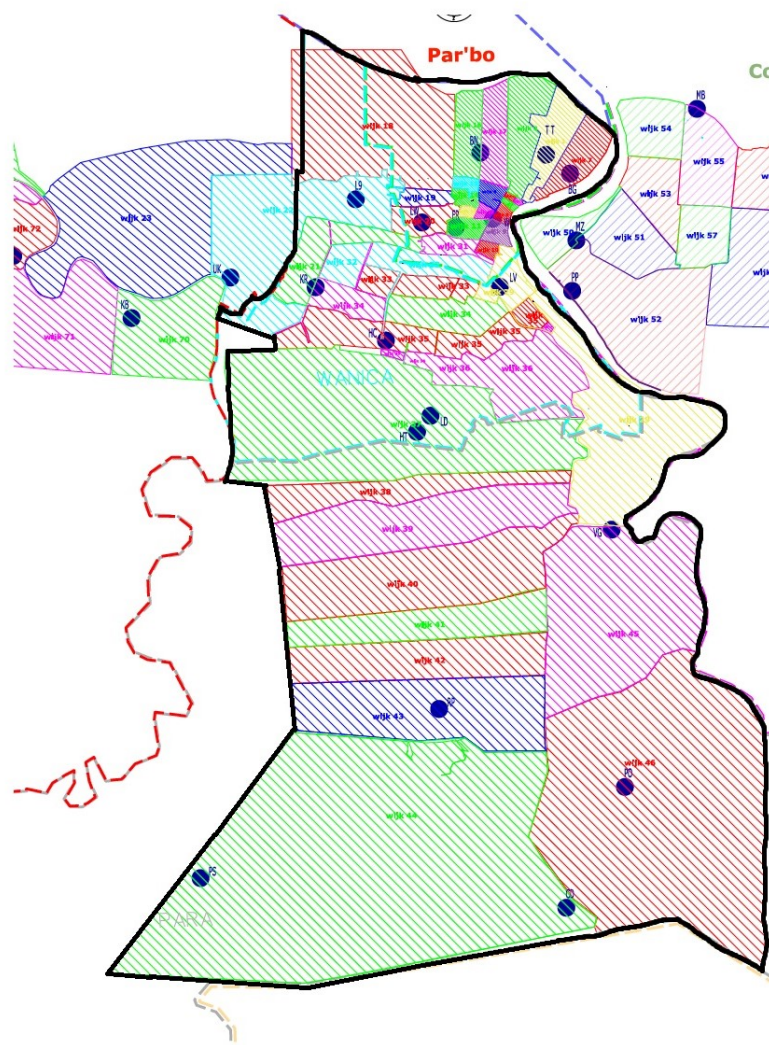
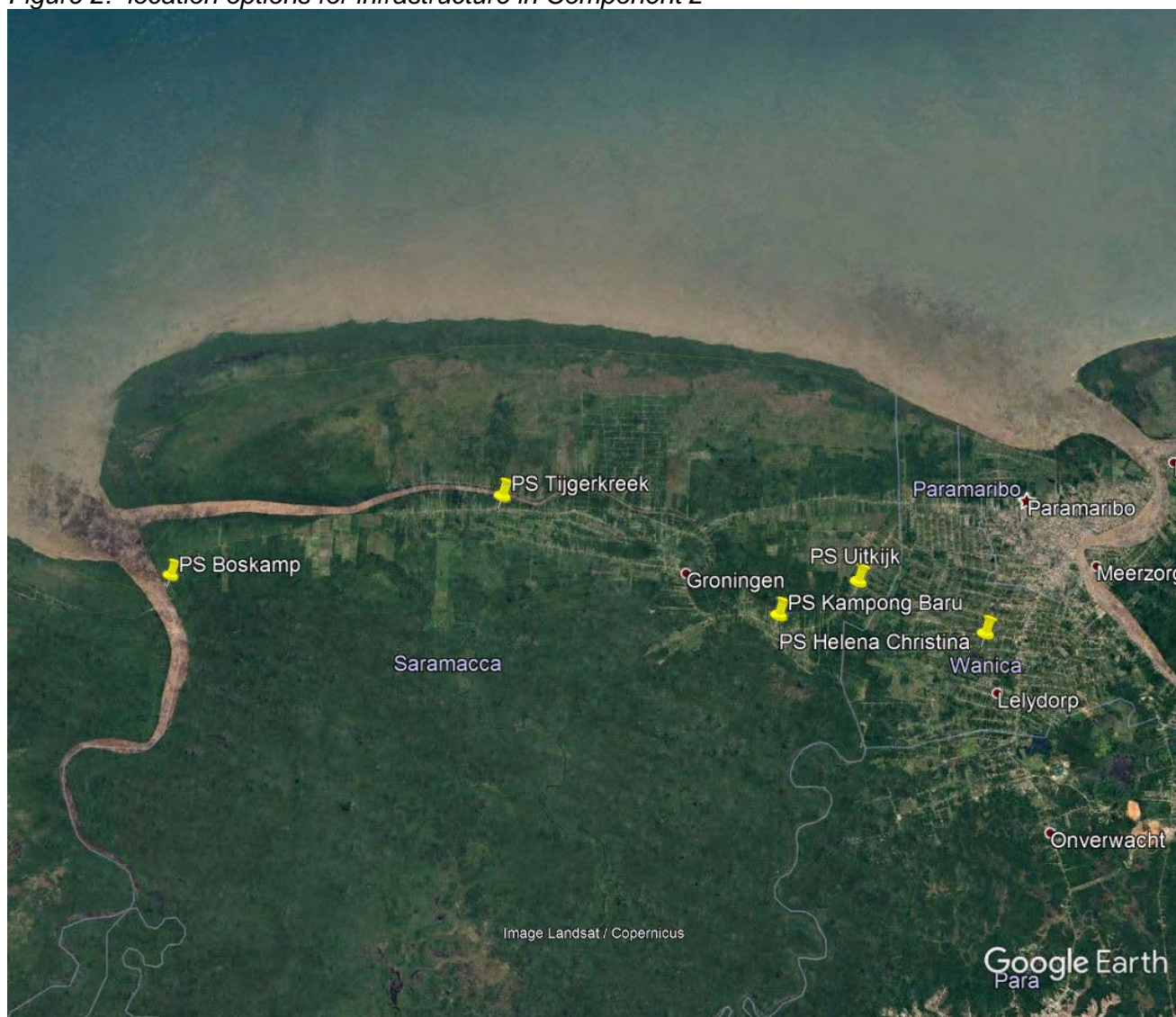


Figure 2: location options for infrastructure in Component 2



Option 1 Helena Christina Site 5°44'11.0"N 55°14'41.6"W

Option 2 Uitmijk Site 5°46'38.95"N 55°20'42.47"W

Option 3

Kompong Baroe 5°45'3.42"N 55°24'32.91"W

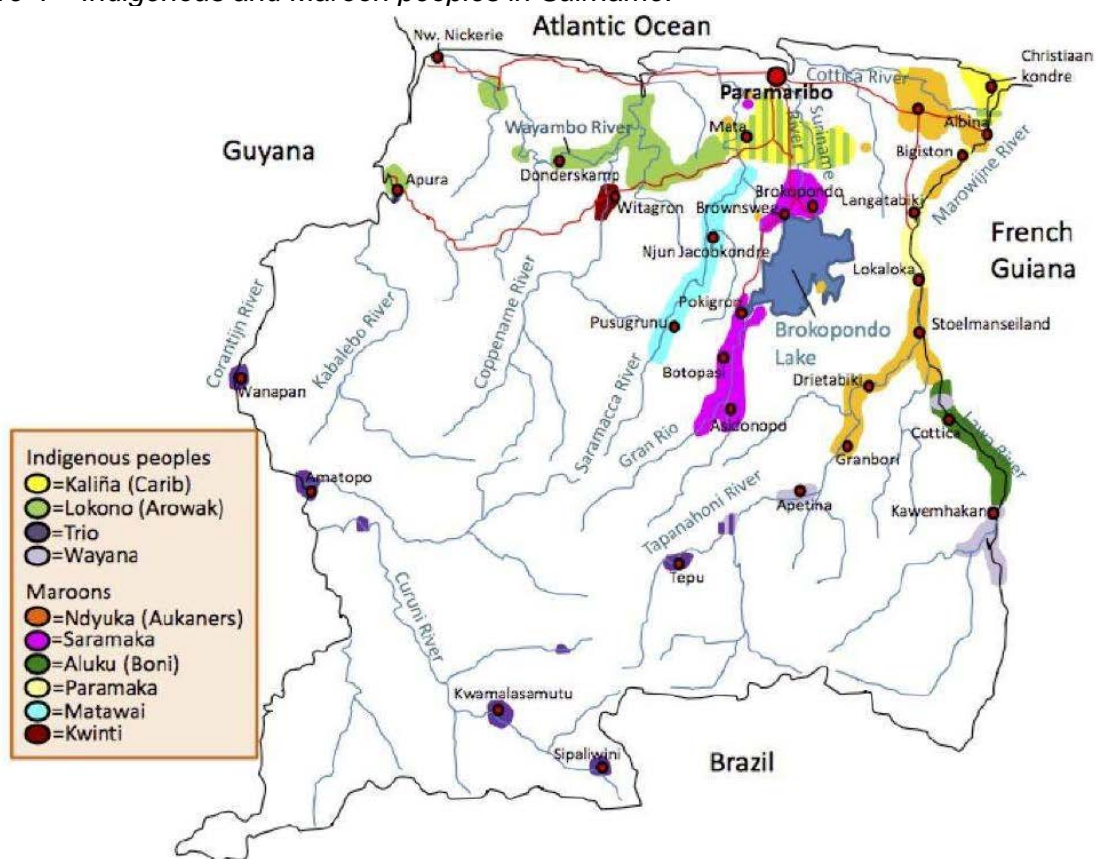
Tijgerkreek 5°50'45.66"N 55°37'47.59"W

Boskamp 5°47'1.66"N 55°53'40.25"W

Figure 3: District map of Suriname



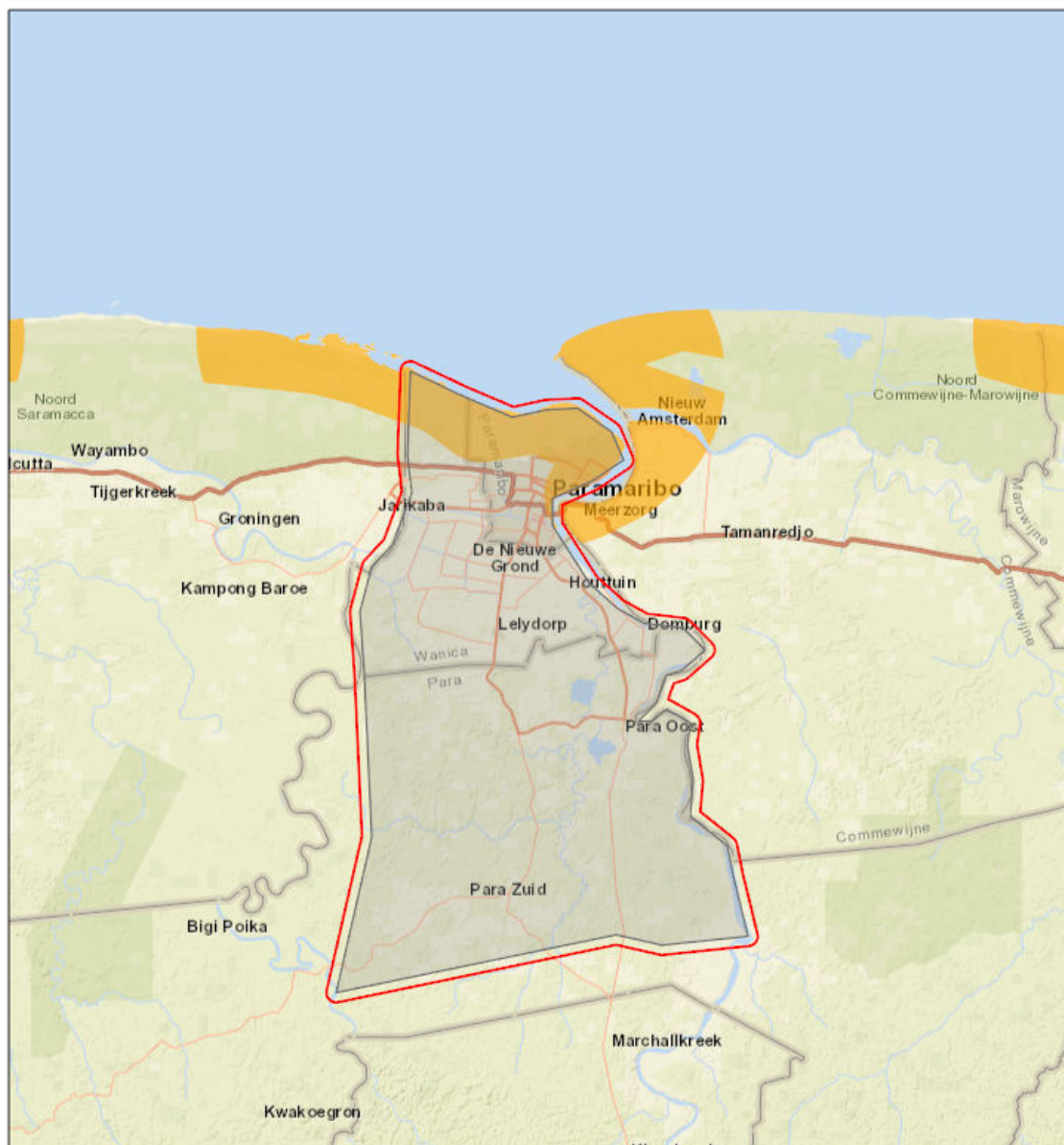
Figure 4 – Indigenous and Maroon peoples in Suriname.



Appendix 2: Disaster Risk Maps

For Component 1, the area has a moderate risk of Ravine Flooding and Tsunami as well as overlap with some Key Biodiversity areas and Protected Areas. There are also areas with a high drought hazard level.

Tsunami



5/30/2019, 10:10:33 AM

Tsunami hazard

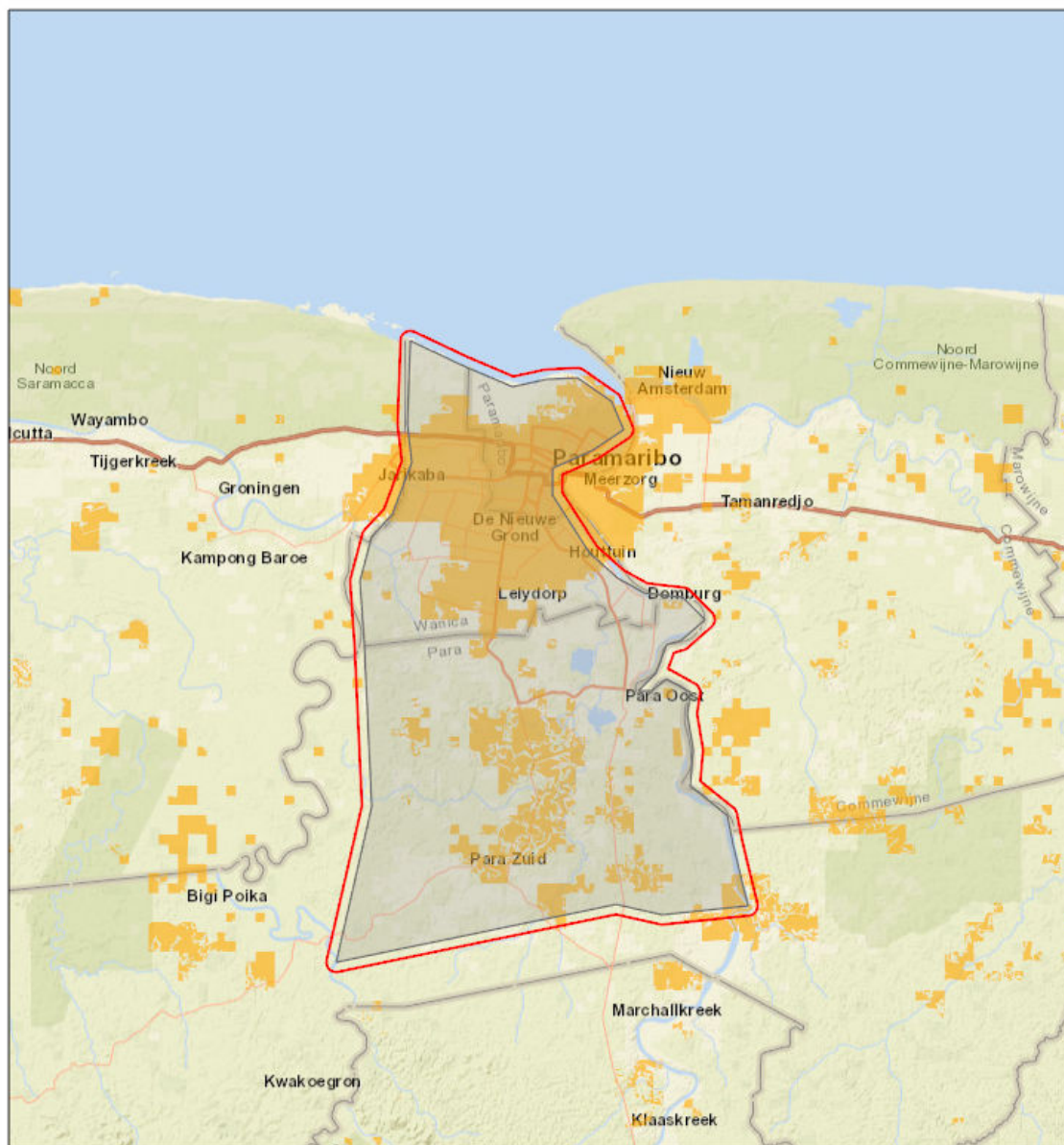
Moderate

1:677,791
 0 5 10 20 mi
 0 5 10 20 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ESG
 Esri, HERE, Garmin, NGA, USGS | UNEP (United Nations Environment Programme) & UNISDR (United Nations International Strategy for Disaster Reduction). (2014). Global Risk Data Platform. Fires

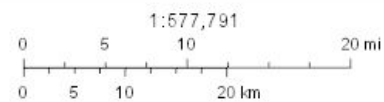
Ravine Flooding



5/30/2019, 10:09:08 AM

Riverine Flooding hazard

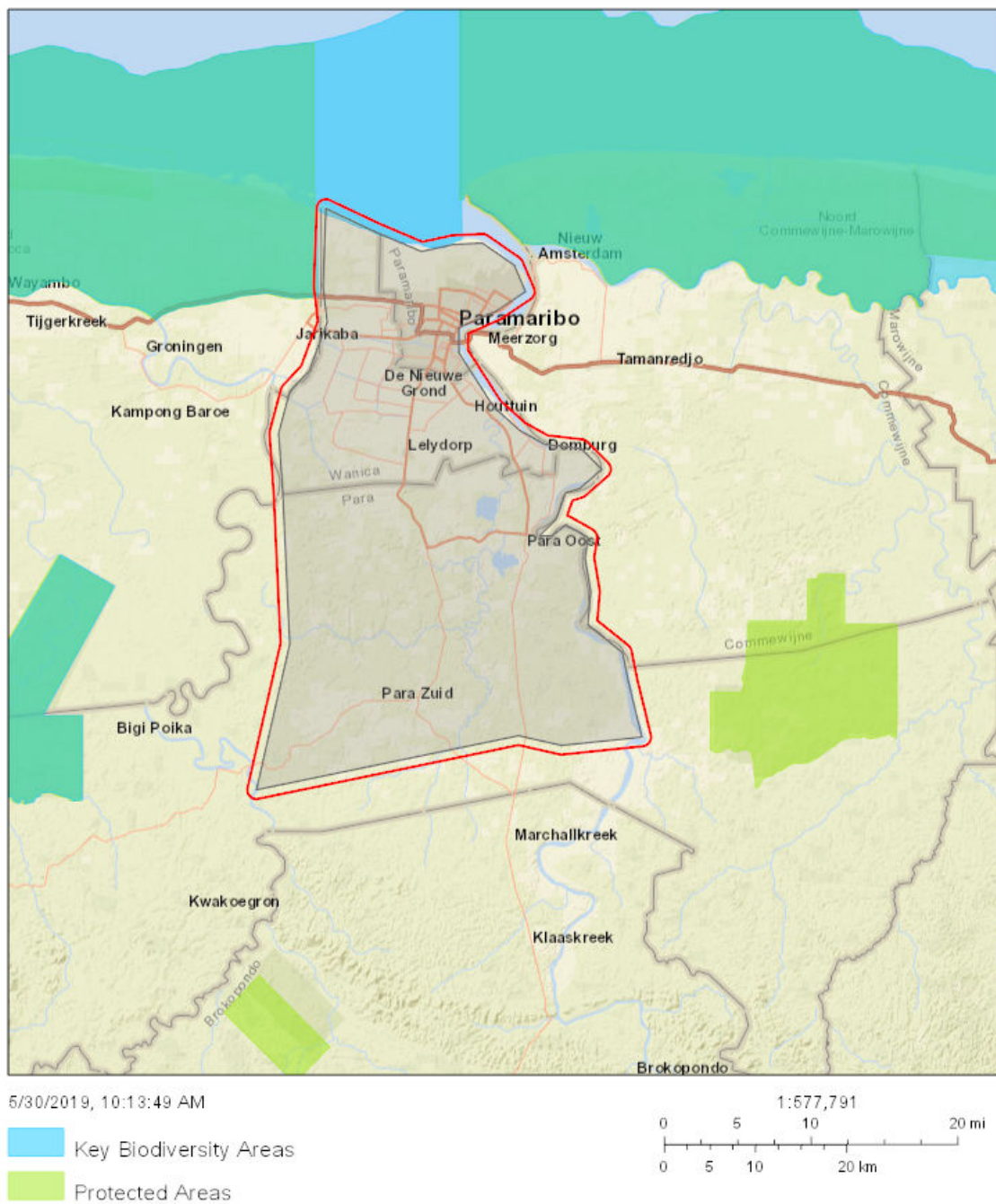
Moderate



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ESG
Esri, HERE, Garmin, NGA, USGS | UNEP (United Nations Environment Programme) & UNISDR (United Nations International Strategy for Disaster Reduction). (2014). Global Risk Data Platform: Fires

biodiversity and protected areas

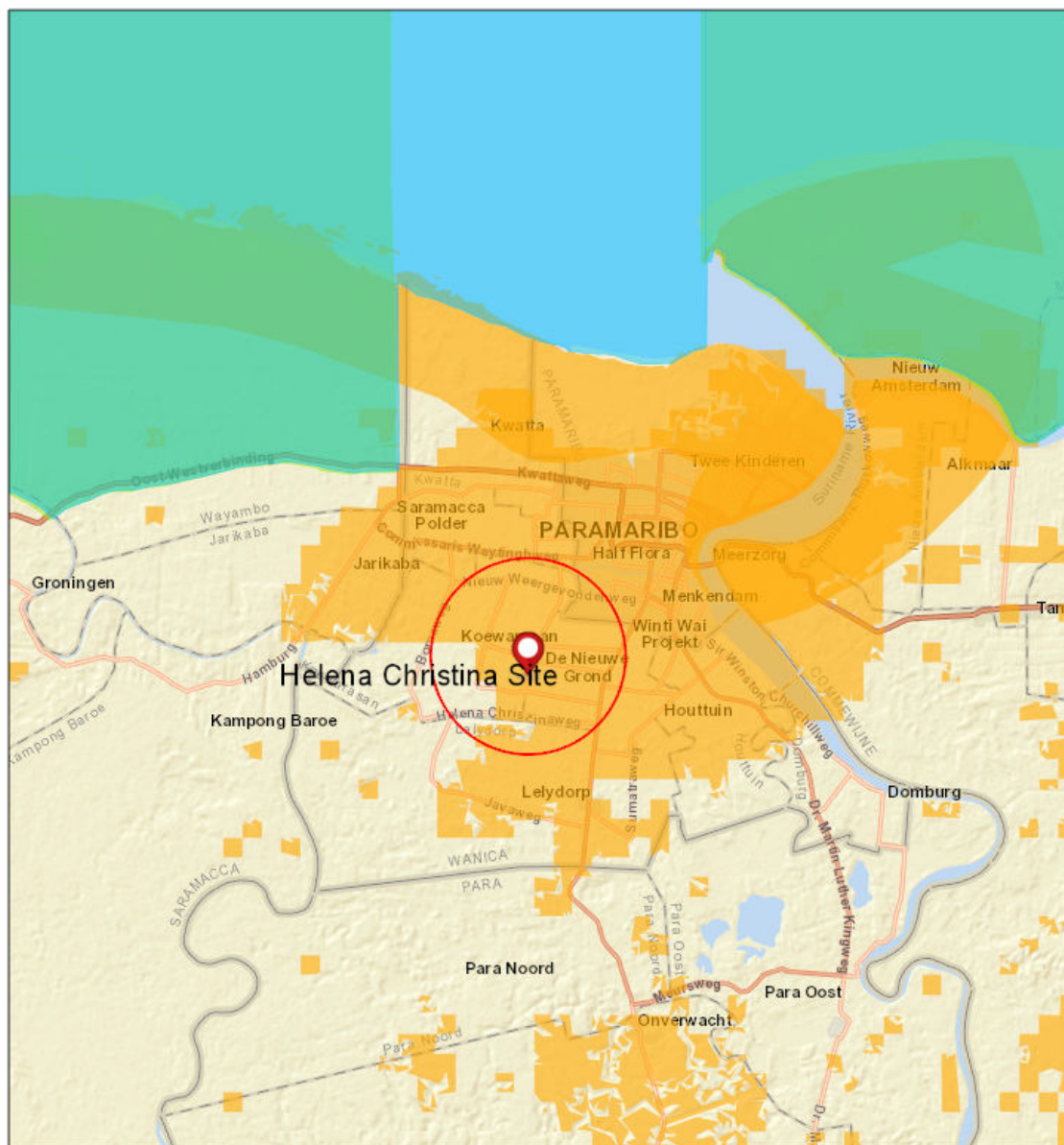


Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Esri, HERE, Garmin, NGA, USGS | UNEP (United Nations Environment Programme) & UNISDR (United Nations International Strategy for Disaster Reduction). (2014). Global Risk Data Platform. Fires

For Component 2, the locations Helea Christina and Uitkijk are located in moderate risk areas for Riverine Flooding and the site Boskamp is located in an area with moderate Tsunami risk and very close to a key biodiversity area.

Helena Christina Site



5/30/2019, 10:53:42 AM

Tsunami hazard

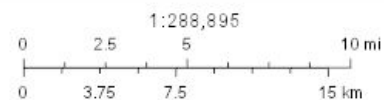
Moderate

Key Biodiversity Areas

Protected Areas

Riverine Flooding hazard

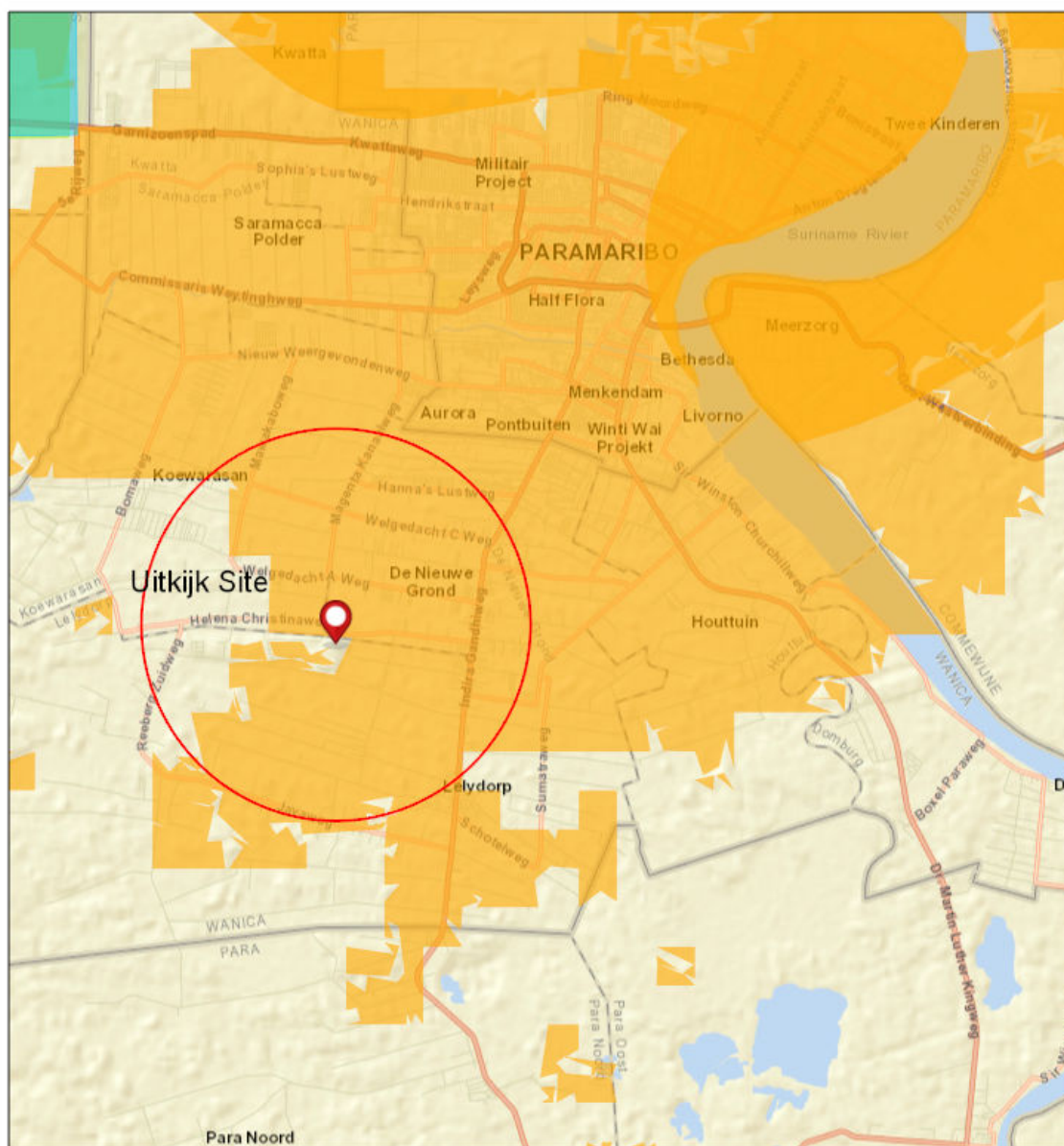
Moderate



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ESG
 NV GISat, Esri, HERE, Garmin, NGA, USGS | UNEP (United Nations Environment Programme) & UNISDR (United Nations International Strategy for Disaster Reduction). (2014). Global Risk Data

Uitkijk Site



5/30/2019, 10:48:39 AM

Tsunami hazard

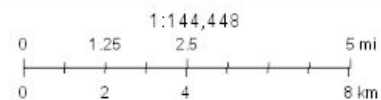
Moderate

Key Biodiversity Areas

Protected Areas

Riverine Flooding hazard

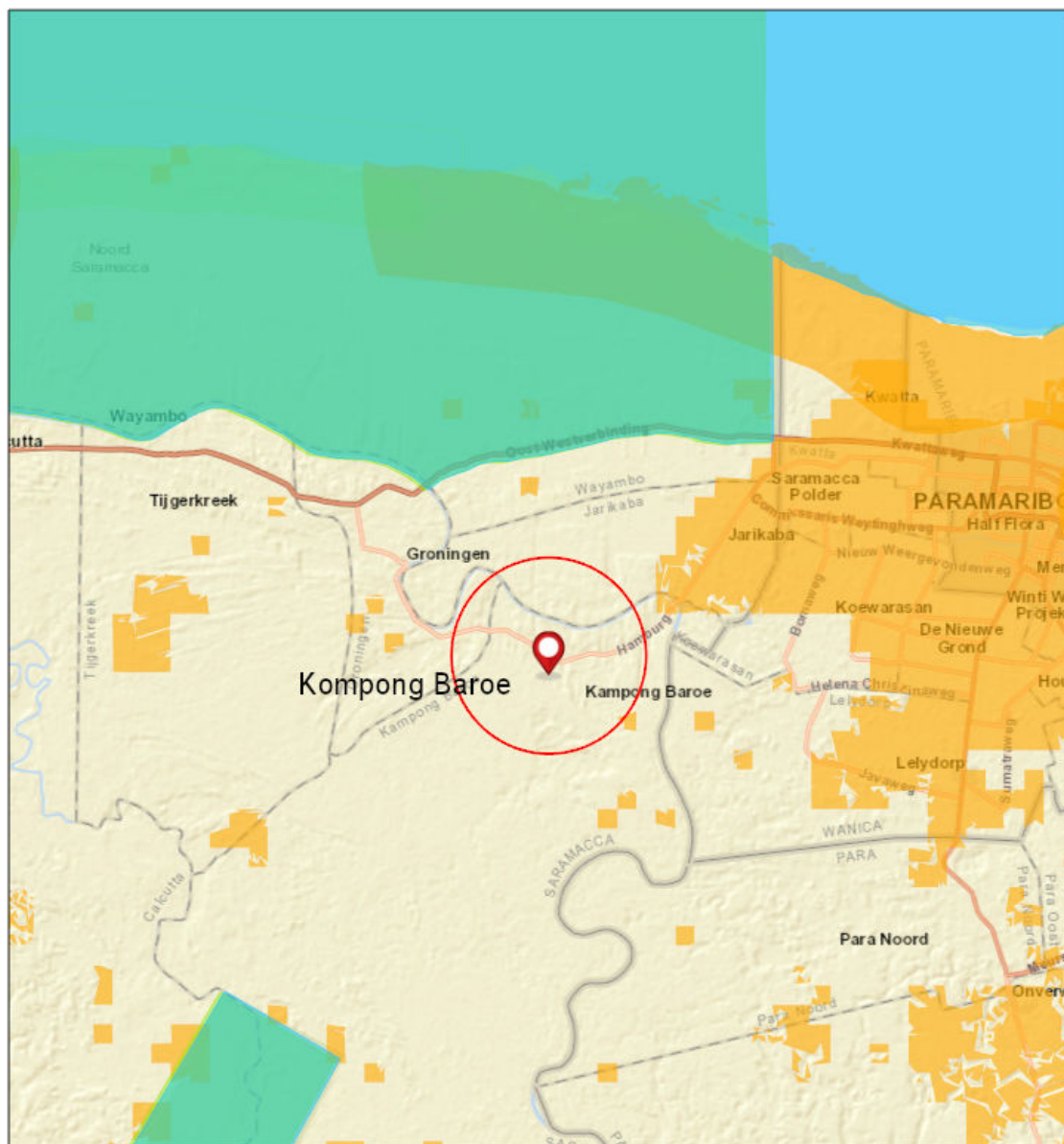
Moderate



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ESG
 NV GISat, Esri, HERE, Garmin, NGA, USGS | UNEP (United Nations Environment Programme) & UNISDR (United Nations International Strategy for Disaster Reduction). (2014). Global Risk Data

Kompong Baroe



5/30/2019, 11:50:11 AM

Tsunami hazard

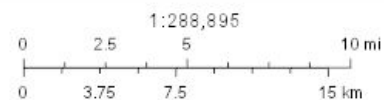
Moderate

Key Biodiversity Areas

Protected Areas

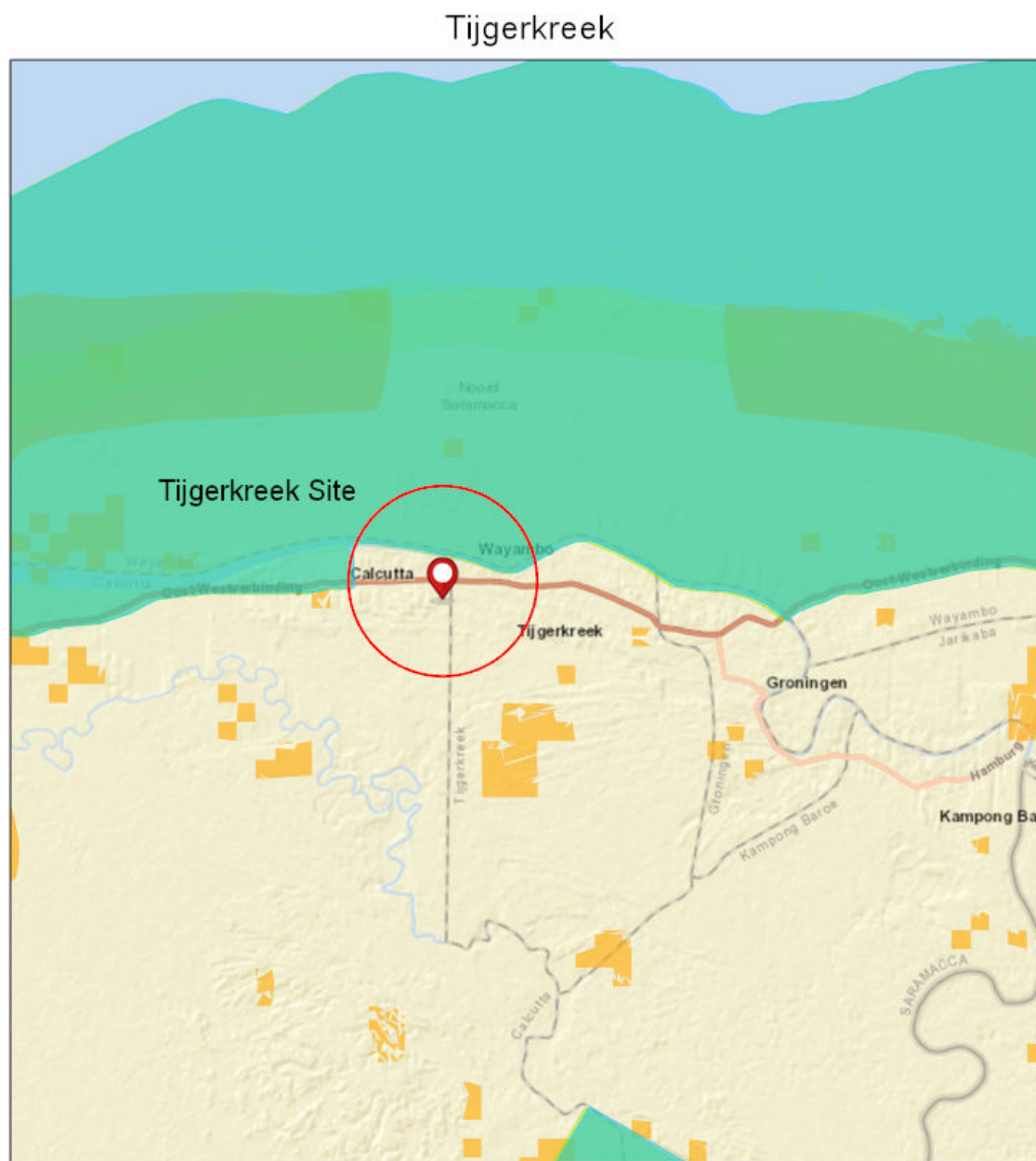
Riverine Flooding hazard

Moderate



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ESG
 NV GISat, Esri, HERE, Garmin, NGA, USGS | UNEP (United Nations Environment Programme) & UNISDR (United Nations International Strategy for Disaster Reduction). (2014). Global Risk Data



5/30/2019, 11:56:13 AM

Tsunami hazard

Moderate

Key Biodiversity Areas

Protected Areas

Riverine Flooding hazard

Moderate

1:288,895

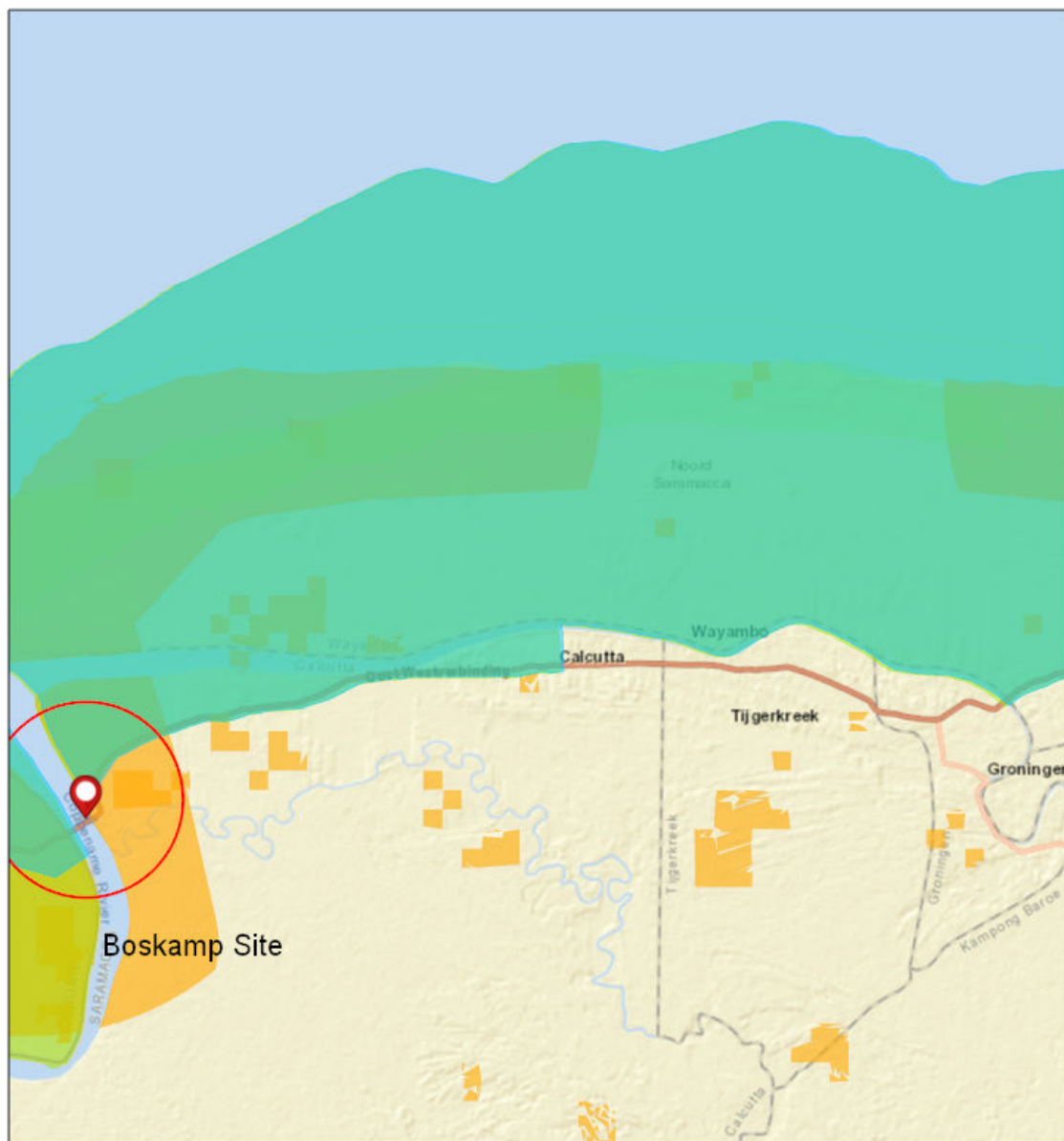
0 2.5 5 10 mi

0 3.75 7.5 15 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ESG
 NV GISat, Esri, HERE, Garmin, NGA, USGS | UNEP (United Nations Environment Programme) & UNISDR (United Nations International Strategy for Disaster Reduction). (2014). Global Risk Data

Boskamp Site



5/30/2019, 12:03:04 PM

Tsunami hazard

Moderate

Key Biodiversity Areas

Protected Areas

Riverine Flooding hazard

Moderate

1:288,895

0 2.5 5 10 mi

0 3.75 7.5 15 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ESG
 NV GISat, Esri, HERE, Garmin, NGA, USGS | UNEP (United Nations Environment Programme) & UNISDR (United Nations International Strategy for Disaster Reduction). (2014). Global Risk Data

INDEX for completed and proposed sector work			
Issues	Description	Expected Dates	References & hyperlinks to technical files
Definition of NRW Management for Component 1	Component 1 would be executed by a specialized NRW reduction company. In order to prepare for this activity and define the contract modality, an exchange between the SWM and the Jamaica National Water Commission (NWC) to learn from the Jamaican NRW experience will be facilitated through a TC.	November 2019	
Institutional Strengthening Plan	The ISP will be prepared under ATN/OC-16778-SU and will review all aspects of SWM's operations and provide a detailed roadmap to guide future interventions for SWM institutional modernization to improve the efficiency of its operations, including institutional aspects to support NRW management. The recommendations will inform activities under Component 3.	November 2019	
Technical options and design	An assessment of current status of the water supply system in the program areas to be carried out, along with an analysis of alternative solutions. Feasibility studies to be completed. Studies conducted under ATN/OC-16778-SU will provide valuable input for this analysis.	November 2019	
Analysis of project economic viability	Survey data required to analyze economic viability of the program Preliminary evaluation to be updated once the feasibility studies are completed.	November 2019	
Financial management/fiduciary issues and control environment	No special fiduciary issues are anticipated. Preparation/conclusion of financial analysis. Identification of Procurement Unit. Review of lessons learned will be included in the program	November 2019	
Institutional analysis/personnel, procedures other aspects of implementation capacity	Preparation/conclusion of institutional analysis. Review of lessons learned will be included in the program	November 2019	
Stakeholders and political environment	Maintain close communication with stakeholders in the SWM and the Government on the program. Consultation meetings will be held.	August- November 2019	
Social and environmental safeguards	Preparation/conclusion of Environmental and Social Assessment. Review of aspects specific to the operation, additional baseline evaluation, budget.	November 2019	
Data collection and analysis for reporting on results	Identification of proposed indicators to measure impact of program.	November 2019	
Preparation of Operating Regulations	Preparation of the Operating Regulation for the operation.	November 2019	
Other key issues, such as donors, gender, sustainability, country/sector issues	Regular coordination with other donors (i.e. AFD, CDB, EU).	August – November 2019	

CONFIDENTIAL¹

¹ The information contained in this Annex is deliberative, and therefore confidential, in accordance with the exception regarding “Deliberative Information” referred to in paragraph 4.1 (g) of the Bank’s “Access to Information Policy” (Document GN-1831-28).