

REQUEST FOR EXPRESSIONS OF INTEREST

CONSULTING SERVICES

Selection #: SU-T1102-P002

Selection Method: Full competitive Selection

Country:  *Suriname*

*Sector: Water and Sanitation*

*Funding – TC #:* ATN/OC-16778-SU

*Project #: SU-T1102*

*TC name:* ***Support to SWM Institutional and Operational Strengthening***

*Description of Services: The assignment will include supporting N.V. Surinaamsche Waterleiding Maatschappij (SWM) evaluating groundwater pollution and assessing the vulnerability, hazards, and risks of pollution on groundwater resources in the Zanderij aquifer at La Vigilantia. In addition, the consultant will build upon the model recently developed under the Hydrogeological Assessment of the Coastal Aquifers in Suriname (HACAS), to demonstrate pollutants migration scenarios in the Zanderij aquifer at La Vigilantia and identify management or mitigation procedures in a robust and quantifiable framework and thus inform decision-making for SWM. The activities will include water quality sampling/monitoring and analysis and hydrologic flows modelling. The proposed assessment will also improve SWM decision-making capabilities to manage water resources and to protect and guarantee a reliable and affordable provision of potable water in the area La Vigilantia.*

*Link to TC document:* [*https://www.iadb.org/Document.cfm?id=EZSHARE-1036177694-19*](https://www.iadb.org/Document.cfm?id=EZSHARE-1036177694-19)

The Inter-American Development Bank (IDB) is executing the above-mentioned operation. For this operation, the IDB intends to contract consulting services described in this Request for Expressions of Interest.

Expressions of interest must be delivered using the IDB Portal for Bank Executed Operations ( <http://beo-procurement.iadb.org/home>) by: *October 10, 2018*, 5:00 P.M. (Washington D.C. Time).

The consulting services (“the Services”) include *supporting N.V. Surinaamsche Waterleiding Maatschappij (SWM) evaluating groundwater pollution and assessing the vulnerability, hazards, and risks of pollution on groundwater resources in the Zanderij aquifer at La Vigilantia. In addition, the consultant will build upon the model recently developed under the Hydrogeological Assessment of the Coastal Aquifers in Suriname (HACAS), to demonstrate pollutants migration scenarios in the Zanderij aquifer at La Vigilantia and identify management or mitigation procedures in a robust and quantifiable framework and thus inform decision-making for SWM. The activities will include water quality sampling/monitoring and analysis and hydrologic flows modelling. The proposed assessment will also improve SWM decision-making capabilities to manage water resources and to protect and guarantee a reliable and affordable provision of potable water in the area La Vigilantia, the estimated timeframe to complete this assignment is eight months starting from January, 2019.*

Eligible consulting firms will be selected in accordance with the procedures set out in the Inter-American Development Bank: [*Policy for the Selection and Contracting of Consulting firms for Bank-executed Operational Work*](http://idbdocs.iadb.org/wsdocs/getdocument.aspx?DOCNUM=38988574) - GN-2765-1. All eligible consulting firms, as defined in the Policy may express an interest. If the Consulting Firm is presented in a Consortium, it will designate one of them as a representative, and the latter will be responsible for the communications, the registration in the portal and for submitting the corresponding documents.

The IDB now invites eligible consulting firms to indicate their interest in providing the services described below in the [draft summary](#_Summary_of_Terms)of the intended Terms of Reference for the assignment. Interested consulting firms must provide information establishing that they are qualified to perform the Services (brochures, description of similar assignments, experience in similar conditions, availability of appropriate skills among staff, etc.). Eligible consulting firms may associate in a form of a Joint Venture or a sub-consultancy agreement to enhance their qualifications. Such association or Joint Venture shall appoint one of the firms as the representative.

Interested eligible consulting firms may obtain further information during office hours, 09:00 AM to 05:00 PM, (Washington D.C. Time) by sending an email to: *Evan Cayetano (**evanc@iadb.org**) and Marle Reyes Pantoja (**marler@iadb.org**).*

Inter-American Development Bank

Division: Water And Sanitation

Attn: *Evan Cayetano, Program Team Leader*

E-mail: *evanc@iadb.org*

Web site: [www.iadb.org](http://www.iadb.org)

**Terms of Reference**

**Pollution Risk Assessment of La Vigilantia**

**Background**

The N.V. Surinaamsche Waterleiding Maatschappij (SWM, Suriname Water Company) is a state-owned utility that supplies water to approximately 91% of Suriname’s population. Other agencies with responsibilities in the water sector include: (i) the Ministry of Health, which oversees monitoring environmental health; (ii) the Ministry of Agriculture, which oversees irrigation; and (iii) the Ministry of Public Works (MPW) and the Ministry of Regional Development, which oversee drainage systems. The SWM has been working towards advancing the implementation of the US$250 million investment program established in the 2011 Water Master Plan through the ATN/SF-11374-SU. However, to manage increasing investment programs, as well as maintaining and operating the facilities to be constructed requires a strong and resilient institutional structure. Additionally, the responsibility for the supply of potable water to some coastal communities was recently transferred from the Ministry of Natural Resources (DWV/NH) to SWM. As SWM continues to take over these areas, there is an urgent need to increase its operations performance.

The water supply in Greater Paramaribo relies almost entirely on groundwater extraction and represents about 85% of all groundwater exploitation currently in Suriname, is operating under constant challenges. The main problems include: (i) old pipes, the majority of which were laid more than 40 years ago; (ii) insufficient maintenance of the infrastructure, limited rehabilitation activities and inefficient energy use; (iii) ever increasing demand for water; (iv) lack of an integrated management information system within SWM; (v) lack of financial resources and autonomy of the SWM; (vi) uncertainty with respect to safe yield of its aquifers; and (vii) lack of comprehensive water quality monitoring system. These problems have led to gradual deterioration of the network, with high NRW levels, electromechanical inefficiencies; and saltwater intrusion in some wells.

Some of the operational problems of SWM were addressed under LO 2451/OC-SU (SU-L1018) Water Supply Infrastructure Rehabilitation resulting in increased household connections, replacement of some aged pipes, reduction NRW to a limited extent, improvement in energy efficiency, and institutional strengthening. Under ATN/OC-14410-SU (Hydrogeological Assessment of the Coastal Aquifer in Suriname – HACAS) SWM successfully executed the assessment of the aquifer potential and groundwater level of the Coastal aquifer in Suriname, but there is need for a complementary pollution risk assessment and to consolidate SWM groundwater management capacities. Since mining activities have taken place in the Afobakka area, specifically the La Vigilantia area, there is a concern that the ground water aquifers have been contaminated, which can be further increased by future ground water extractions by the SWM in the area.

In its attempt to address this need, the Government of Suriname requested technical support from the IDB. Under the framework of the Technical Cooperation (SU-T1102) for Institutional and Operational Strengthening the Bank intends to address the need to continue strengthening SWM groundwater management capacities and risk pollution control. The accomplishment of terms of reference will contribute SWM attaining the TC objectives.

**Objective(s) of Consultancy**

The objective of this consultancy is to conduct a comprehensive dedicated groundwater pollution risk assessment analysis and to present modelling scenarios to evaluate vulnerability of the Zanderij aquifer[[1]](#footnote-1); and to conduct activities to strengthen the SWM’s capacity on groundwater management and pollution risks assessments.

**Scope of Services**

The assignment will include evaluating groundwater pollution and assessing the vulnerability, hazards, and risks of pollution on groundwater resources in the Zanderij aquifer at La Vigilantia. In addition, the consultant will build upon the model recently developed under the Hydrogeological Assessment of the Coastal Aquifers in Suriname (HACAS)[[2]](#footnote-2), to demonstrate pollutants migration scenarios in the Zanderij aquifer at La Vigilantia and identify management or mitigation procedures in a robust and quantifiable framework and thus inform decision-making for SWM.

The activities will include water quality sampling/monitoring and analysis (10 -15 wells during wet and dry season) and hydrologic flows modelling. The proposed assessment will also improve SWM decision-making capabilities to manage water resources and to protect and guarantee a reliable and affordable provision of potable water in the area La Vigilantia.

**Expected Deliverables**

* **Deliverable 1. Workplan**. The Consultant will prepare a detailed workplan for the assignment. The workplan will include a brief assessment of available information, data gaps, proposed methods, and the proposed short-course training for SWM staff.
* **Deliverable 2. First Progress Report.** This will consist of the Initial Pollution Assessment of Zanderij Aquifer and the groundwater model scenarios. The consultant will prepare an assessment report for the Zanderij aquifer based on the analysis of the information available and other information developed by the consultant. The assessment should include GIS-based maps of existing wells, pollution sources and other relevant information as well as the proposed model and evaluation of relevant scenarios defined in coordination with SWM. The report will be reviewed by SWM and IDB.
* **Deliverable 3. Second Progress Report**. This will include the revised First Progress Report and the proposed Zanderij Management Action Plan. The Action Plan will include a monitoring plan, identification of relevant monitoring wells, parameters of interest, frequency, and will recommend levels of emergency and response based on levels of pollution. The action plan should also include recommended measures for the reduction or remediation of pollution. The report will be reviewed by SWM and IDB.
* **Deliverable 4. Short-course training to SWM staff**. Course materials will be provided by the Consultant. Training certificates should be provided to staff successfully completing the course.
* **Deliverable 5. Final Report and findings presentation to SWM**. The final report will include the revised Zanderij Pollution Assessment and the revised Management Action Plan, as well as delivering the presentation to SWM.

**Characteristics of the Consultancy**

**Type of Consultancy:** Consulting firm

**Procurement Method:** Full-Selection Method

**Contract Type:** Lump-sum

**Start-up date, length and duration:** This will be an 8 months consultancy starting January 2019 and ending August 2019.

**Place of work:** Suriname and country of Consulting Firm.

**Qualifications and Experience:** International Consulting Firm with at least 15 years of experience in groundwater pollution risk assessment. Consultants should have a broad and specific knowledge of hydrogeological and geophysical surveys, ground water quality, groundwater modeling, and all relevant areas as required to undertake the key functions listed above. Previous experience in groundwater management in Suriname and proficiency in Dutch language will be an asset. The composition of the firm’s team should include the following experienced personnel as a minimum:

* Project Manager/ Hydrogeological Engineer
* Hydrogeological Modeling Specialist
* Groundwater Quality Specialist

**Payment Schedule:**

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| **Reports and Payment Schedule** | **Payment** |
| Upon acceptance of Deliverable 1 | 10%  |
| Upon acceptance of Deliverable 2  | 25%  |
| Upon acceptance of Deliverable 3 | 35%  |
| Upon acceptance of Deliverable 4 | 20%  |
| Upon acceptance of Deliverable 5 | 10% |

**Coordination**

Coordination of this consultancy will be conducted by the Water and Sanitation Specialist. The Consultant will work closely with the Board, management and staff of SWM during the execution of this consultancy.

1. Scenarios should be run in the ground water model (GMS v.10.1) developed under the HACAS study. [↑](#footnote-ref-1)
2. The project included the design and setup of a modern data management system (Excel and QGIS-based) and software for groundwater modelling (GMS). This provides SWM with ready access to groundwater resource information and the tools for operational management of existing wellfields and predicting and planning future use of groundwater. [↑](#footnote-ref-2)