TC Document

I. Basic Information for TC

Country/Region:	Suriname/CCB
■ TC Name:	Support for the preparation and starting stage of the Sustainable Agricultural Productivity Program
■ TC Number:	SU-T1101
■ Team Leader/Members:	Co-Team Leaders: Luis Hernando Hintze (RND/CUR) and Michael Collins (CSD/RND); Members: Hector Valdes Conroy, Ana Ríos and Lisa Restrepo (CSD/RND); Steven Hofwijks (CCB/CSU); Rinia Terborg-Tel and Mariska Tjon A Loi (VPC/FMP); Natasha Kate Ward (VPS/ESG); Pilar Jimenez de Arechaga (LEG/SGO)
 Indicate if: Operational Support, Client Support, or Research & Dissemination 	Operational Support
• If Operational Support TC, give number and name of Operation Supported by the TC:	Sustainable Agricultural Productivity Program (SU-L1052)
Date of TC Abstract authorization:	October 10, 2017
Beneficiary (countries or entities which are the recipient of the technical assistance):	Ministry of Agriculture, Animal Husbandry and Fisheries of Suriname (LVV)
 Executing Agency and contact name (Organization or entity responsible for executing the TC Program) {If Bank: Contracting entity} {If the same as Beneficiary, please indicate} 	IDB through CSD/RND
Donors providing funding (amount and Fund's name):	Multi-donor AgroLAC 2025 Fund (MAG)
■ IDB Funding Requested:	US\$400,000
Local counterpart funding, if any:	-
Disbursement period (which includes Execution period):	18 months
Required start date:	December 2017
Types of consultants (firm or individual consultants):	Individual and firm
Prepared by Unit:	CSD/RND
Unit of Disbursement Responsibility:	CSD/RND
TC Included in Country Strategy (y/n):	No
TC included in CPD (y/n):	No
Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation; Climate change and Environmental sustainability; and Institutional capacity and rule of law

II. Description of the Associated Loan

2.1 The objective of the Sustainable Agricultural Program (SU-L1052) is to increase agricultural productivity in Suriname through investments in infrastructure and management of irrigation and drainage (I&D) systems and by improving the quality of available agriculture statistics. The expected results are: (i) increased agricultural productivity in I&D areas; (ii) operating water boards (WB) contributing to operation and maintenance of I&D systems; and (iii) improved statistics and information systems available. The Program will have two components:

- 2.2 Irrigation and Drainage (I&D) component. The objective of this component is to improve the functioning and management of I&D systems in Suriname, particularly in Nickerie District, by addressing current failings in infrastructure and transferring key management and maintenance responsibilities. The program will include financing for: (i) rehabilitation/modernization of primary and secondary I&D infrastructure selected to benefit small- and medium-size farmers; (ii) support for developing and strengthening WB capacity to take over the operation and maintenance (O&M) of I&D systems; (iii) capacity building of government bodies in charge of water resource administration for irrigation; (iv) design and implementation of incentives mechanisms aimed at improving efficiency in farmers' water use and increasing their willingness to cover O&M costs. This component will include measures to improve water resource management in areas under irrigation, considering its different uses (agricultural, environmental and human consumption), particularly by taking into account climate change impacts (i.e. regarding water supply and demand) and identifying adaptation measures.
- 2.3 Agricultural statistics and information component. The objective of this component is to strengthen the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) Department of Agricultural Statistic (DAS) by supporting its efforts to improve its information systems and analytical capabilities. The component will include financing for the: (i) design of the Agricultural Information System; (ii) design and implementation of the agricultural census; (iii) design and collection of one or two years of agricultural surveys with probabilistic sampling; (iv) institutional strengthening for DAS; (v) providing key external market information for Suriname exports; and (vi) annual update of the estimates of the public support to the agriculture sector.

III. Objectives and Justification of the TC

- 3.1 Suriname entered an economic recession as result of the fall in international prices of its main commodity exports (gold, oil, and alumina) and the closure of the alumina company in 2015. Consequently, the government launched an economic adjustment plan and a series of structural reforms to improve business confidence and promote economic diversification. One of the priorities to attain sustained growth is to increase agricultural sector competitiveness and to promote local production to decrease the country's dependence on imports¹.
- 3.2 The agricultural sector accounts for 7% of total export earnings (second to mining), 16% of the labor force and 9% of total GDP in 2014 (Suriname Central Bank, 2015). Between 1991 and 2002 agricultural GDP declined by 37% and some agricultural lands were abandoned. Growth resumed from 2003 to 2014, although lagging behind overall GDP growth (Suriname Central Bank, 2014). Suriname's main crops are rice, banana, oranges, plantains and fresh vegetables. Suriname has an important food trade deficit. In 2015, its food exports were US\$97 million (of which rice accounted for 40.9%, bananas 22.8% and fish products 34.5%), while imports were US\$193 million.
- 3.3 Around 85% of the land deemed suitable for agricultural production is in the coastal plains, mainly in the Districts of Nickerie, Coronie, Saramacca, and Commewijne. These areas face two challenges: a dry season with water shortages and a rainy season causing excess water on agricultural land. These challenges have been mitigated by a network of canals for irrigation and drainage, primarily located in the Nickerie District. Adding to these challenges are the potential effects of climate

E.g. Suriname Policy Development Plan 2017-2021; IMF. Suriname: Concluding Statement of the 2016 Article IV Mission. November 16, 2016.

- change, particularly rising sea levels causing seawater intrusion in agricultural irrigation systems.²
- 3.4 The Policy Development Plan (PDP) 2017-2021, acknowledges that agriculture in Suriname has unused capacity, particularly land, that could be put back into production. For example, rice planted area in 1996 was 61,800 ha vs 51,000 ha in 2015. The PDP also states that in the agriculture sector, policy will be aimed at transferring responsibility in the production cycle to the stakeholders. It also highlights proper I&D and investment measures for information in the agrarian sector and agro-industry as priorities, as well as the need to adequately control the impacts of climate change. A major challenge for the sector to fulfil its potential is overcoming its low productivity, as measured for instance by the total factor productivity (TFP) annual growth rate, which was almost zero between 1980-2012. This rate is one of the lowest in the region (Nin-Pratt et al., 2015).
- 3.5 While increasing agricultural production and productivity is a priority for the government, a key component for improved policy making and decisions on government expenditures is detailed knowledge of the sector. The last agricultural census was conducted in 2009 and there is little field level information collected using adequate statistical methods. The PDP reflects on the need to upgrade agricultural information systems for improved decision making.
- 3.6 The Government of Suriname (GoS) requested IDB support for the preparation and financing of a Sustainable Agricultural Productivity Program (SU-L1052). The government recognizes that the country has the potential to significantly increase agricultural output, become a provider of food to the Caribbean region, and reduce food imports.
- 3.7 The goal of this TC is to support the GoS and the LVV in the preparation of technical, economical, institutional and environmental studies required the feasibility analysis of the proposed operation and for the loan processing and approval; as well as for contributing in the development of the LVV Agricultural Strategic Plan 2017-2020.
- 3.8 Bank's strategy and alignment. The TC is consistent with the Update to the Institutional Strategy (UIS) 2010-2020 (AB-3008) and strategically aligned with the development challenge) of productivity and innovation, increasing agricultural productivity of farmers. The operation is aligned with the Corporate Results Framework indicator "number of beneficiaries of improved management and sustainable use of natural capital". The program is also aligned with the cross-cutting issue of climate change and environmental sustainability, considering that the improvements in irrigation infrastructure and management are a way to facilitate climate change resilience. This TC is aligned with the IDB Country Strategy with Suriname 2016-2020 (GN-2873), contributing to the strategic objective "Increase Agricultural Productivity" by improving conditions for irrigated agriculture; as well as to its cross-cutting themes of: (i) institutional capacity, by improving the GoS ability to better manage I&D systems; (ii) resilience to CC, by improving the efficiency in the use of water for agriculture; and (iii) governance, by promoting evidence-based policymaking through improved agricultural statistics. The operation is consistent with the Climate Change Sector Framework Document (GN-2835-3).

Climate change impacts that significantly threaten agricultural production in Suriname include, for example, seawater intrusion, variability of rainfall patterns, occurrence of pest and diseases, and extreme weather patterns (Office of the President of the Republic of Suriname 2016. Second National Communication).

3.9 The TC is aligned with AGROLAC ultimate outcome of achieving enhanced sustainable regional global supply of food from LAC and its intermediate outcome of Increased sustainable and climate resilient productivity of targeted farmers in LAC, by strengthening the capacity of the GoS to provide agricultural services in the management of I&D systems. To contribute to this outcome, the TC will support the GoS efforts to conduct feasibility studies for productive investment in I&D, and to provide improved agricultural information services. The TC is also aligned with the intermediate outcome of increased sustainable natural resource management and the immediate outcome of improved capacity of local and national governments to develop sustainable agricultural plans and policies, by enhancing the GoS capacities to generate investment plans for irrigated areas, improving their capacity to sustainably manage water resources for irrigation and by supporting its efforts to develop a new country Agricultural Strategic Plan.

IV. Description of Activities/Components and Budget

- 4.1 The technical cooperation will implement the following components:
- 4.2 Component I: Prioritization and analysis of investments proposed for loan operation (US\$220,000). Review the current situation of Irrigation and Drainage (I&D) systems and water user organizations (water boards); define the criteria to be used for the selection of suitable districts and water boards to be included in the Program, identify and prioritize rehabilitation plans and required investments; prepare technical analyses required to guarantee investment readiness; prepare a capacity building and training plan to strengthen water boards and allow them to take control of O&M responsibilities; study farmers' capacity and willingness to pay for the operation and maintenance costs of I&D systems; prepare technical studies for improving water management in irrigated areas, considering potential effects of climate change and including proposals for data collection about the resource and for improving water efficiency in the I&D system of Nickerie; prepare Suriname's Agricultural Information System, including an update data collection plan and identify activities and cost required for its implementation; propose an institutional strengthening plan for the Department of Agricultural Statistics of the LVV. The TC will also contribute to the LVV by providing support in fulfilling the necessary condition prior to the execution of the Program and to have the technical capacities in starting the execution of SU-L1052. The activities included in this component will allow the GoS to efficiently target the use of loan resources towards the most adequate ways to address the main challenges faced by irrigated agriculture in the country.
- 4.3 Component II: Environmental, Institutional and Socio-economic analysis (US\$80,000). This component will finance the environmental, institutional and socio-economic feasibility analysis of proposed program SU-L1052. These analyses should comply with IDB standards and should also help the GoS to manage I&D systems in a sustainable way. It will include: (i) Environmental and Social Impact Analysis, which will identify impacts and mitigation measures (e.g. potential impacts on the Nani Swamp, impacts related to water quality; the exacerbation of potential impacts as a result of climate change) and prepare the Environmental and Social Analysis of the Program; (ii) economic analysis to determine the economic viability of the proposed program and to contribute to the prioritization of the investments to be made by the Program; (iii) Assessment of the capacity of LVV to execute the Program.

- 4.4 Component III: Baseline Survey for impact evaluation (US\$50,000). This component will finance the design of the impact evaluation strategy for SU-L1052 and the collection of farm-level surveys for the impact evaluation baseline.
- 4.5 Component IV: Agricultural Strategic Plan (US\$50,000). This component will provide support to the LVV to prepare the Agricultural Strategic Plan 2017-2021 (ASP), which will help the GoS to implement the strategic sector objectives identified in Suriname's Policy Development Plan 2017-2021; and to provide services and infrastructure in a coordinated and efficient manner. The ASP inputs provided by this TC will consider climate change effects and will be consistent with the National Climate Change Policy Strategy and Action Plan for Suriname 2014-2021, as well as the Government's National Determined Contribution.
- 4.6 The total cost of this TC will be US\$400,000 to be financed through the Multi-donor AgroLAC 2025 Fund (MAG).

malcative Budget (054)											
Activity/Component	Description	IDB/Fund Funding	Counterpart Funding	Total Funding							
Component 1	Prioritization and analysis of investments proposed for loan operation	220,000.00	0.00	220,000.00							
Component 2	Environmental, Institutional and Socio- economic analysis	80,000.00	0.00	80,000.00							
Component 3	Baseline Survey for impact evaluation	50,000.00	0.00	50,000.00							
Component 4	Agricultural Strategic Plan 2017-2021	50,000.00	0.00	50,000.00							

Indicative Budget (US\$)

V. Executing Agency and Execution Structure

5.1 In order to support the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) in the process of designing the proposed operation, the Bank, through the Environment and Rural Development Division (RND) will be the executing agency of the OS-TC, as requested by the GoS in the Aide Memoire of the Identification Mission, considering the Bank's experience in hiring international experts in the issues required by this TC; and the limited experience of the LVV in performing those specific activities. Additionally, the LVV's staffing constraints vis a vis the administrative tasks required for the TC execution might imply a risk, considering the limited timetable for project preparation. The Bank, as executing agency, will carry out the procurement in accordance with the Policies for the Procurement of Works and Goods financed by the IDB (GN-2349-9), guidelines set out in AM-650 and the Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work (GN-2765-1) and related Operational Guidelines (OP-1155-4) which went into effect on January 1, 2017.

VI. Major issues

6.1 No major risks are expected during project execution. To avoid risks associated with potential lack of capacity to attract high-quality national and international experts to provide the required services, adequate budgeting for each consultancy will be established.

VII. Exceptions to Bank policy

7.1 There is no exception to Bank policy.

VIII. Environmental and Social Strategy

8.1 According to the Bank's Safeguards Screening Toolkit, this operation was classified as category "B" for its environmental and social impacts and risks, given that operations that are related to an investment loan (operational support to SU-L1052) carry the same impact categorization as the loan operation. Notwithstanding this, the direct impacts and risks associated with the activities under this TC are minimal. The Environmental and Social Analysis to be prepared using these TC resources, will ensure that the investment loan SU-L1052 will comply with the Bank's safeguard requirements.

Required Annexes:

- Request from the client
- Results Matrix
- Terms of Reference
- Procurement Plan

Support for the preparation and starting stage of the Sustainable Agricultural Productivity Program

SU-T1101

CERTIFICATION

I hereby certify that this operation was approved for financing under the AgroLAC 2025 Multidonor Trust Fund (MAG) through a communication dated October 10, 2017 and signed by Kai Hertz (ORP/GCM). Also, I certify that resources from said fund are available for up to **US\$400,000** in order to finance the activities described and budgeted in this document. This certification reserves resource for the referenced project for a period of six (6) calendar months counted from the date of eligibility from the funding source. If the project is not approved by the IDB within that period, the reserve of resources will be cancelled, except in the case a new certification is granted. The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this operation. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, represent a risk that will not be absorbed by the Fund.

ENVIRONMENT, RURAL DEVELOPMENT AND DISASTER RISK MANAGEMENT CSD/RND

SURINAME

Sustainable Agricultural Productivity Program (SU-L1052)

Identification Mission

Aide memoire (July 24th – August 1st, 2017)

1. BACKGROUND

- A mission took place July 24th to August 1st, 2017 with the objectives of: (a) reviewing with the Ministry of Agriculture. Animal Husbandry and Fisheries (LVV) and with the Ministry of Finance (MF) a request to the IDB to prepare a loan to enhance the productivity of the agricultural sector through improvements to the drainage and irrigation systems and to agricultural information and statistics; (b) review the agricultural sector current situation and challenges; (c) collect the information necessary to complete the Project Profile and its annexes; (d) reaching an agreement on the loan operation objectives, components, main execution arrangements, and timeline for IDB Board approval; (e) reviewing economic, environmental and social aspects and risks. Participating in the mission on behalf of the IDB were Natasha Ward (VPS/ESG), Hector Valdes Conroy and Ana Ríos (CSD/RND), Steven Hofwijks (CCB/CSU), and L. Hernando Hintze (RND/CUR), who led the mission.
- To achieve its objectives, the mission team met with representatives from the LVV: Mr. A. R. Ramdien. Acting Permanent Secretary and Director Department of Agriculture; Mr. R. Nojodimedjo. Director Department of Planning and Development; Mrs. Sheila Aldjah. Division of Statistics: Mr. G. Van der Kooye, Coordinator of Region West: from the Ministry of Regional Development, Mr. Andre Pinas; Ministry of Public Works, Mr. Mohango: SNRI/ADRON, Mr. Nareen Gajadin, Director; Overliggend Waterschapp MCP- OWMCP. Mr. A.W. Lilla, Director. The mission visited the Districts of Nickerie and Coronie, the two agricultural areas of the country with potentials and where the investments are expected to be focused.
- 1.3 The mission team gratefully acknowledges national authorities and other representatives that met with the mission team for their contribution and support during the visit.

II. ACTIVITIES AND RESULTS.

A. The Program

2.1 The Government of Suriname (GoS) requested the IDB support for the preparation and financing of a Sustainable Agricultural Productivity Program. The Government recognizes that the country has the potential to significantly increase agricultural output, become a provider of food to the Caribbean region and reduce food imports. The recent economic and financial crisis, caused by the decline in export revenues from mineral commodities, has led the GoS to

- prioritize the diversification of the economy as a medium-term goal, including the strengthening and diversification of the agricultural sector.
- 2.2 The goal of the proposed Program is to increase agricultural productivity in the country through investments in infrastructure and management of irrigation and drainage (I&D) systems in the main production areas of the country; and to improve the information available to decision and policy making in agriculture. The proposed Program builds upon the institutional and policy reforms promoted by the first two operations of the Programmatic Policy Based Loan (PBP) for the Modernization of Agricultural Public Services (SU-L1033 and SU-L1032), and complements the Agricultural Competitiveness Program (SU-L1020) in providing investments in key sectors supported by the PBP.
- 2.3 Cost and execution period. According to the request of the GoS, the Bank will prepare a loan operation considering an estimated budget of US\$20 million to be financed by IDB funds. The period is expected to be five years.

Areas for Program intervention:

- a. Irrigation and Drainage (I&D). The main agricultural areas of Suriname are in the coastal lowland region, and they require the management of irrigation and drainage canals and other related infrastructure. The costs of operating and maintaining (O&M) primary and secondary I&D infrastructure (outside farmers' plots) have been traditionally covered by the GoS, causing a significant and unsustainable financial burden. Following international best practices, and considering budgetary restrictions, the GoS aims to transfer the operation and maintenance of the secondary infrastructure to farmers, which will be organized in water boards (WB). During the last years, the GoS has been promoting the creation of WBs in irrigation areas. Currently, there are 14 WB at various stages of development (all but one in the Nickerie District). Also, a proposal and plan for the creation of four additional WB in Coronie, Saramacca, and Commewijne districts was developed under the operation SU-L1032.
- The program is expected to finance: (a) rehabilitation/modernization of irrigation and drainage infrastructure selected to benefit a large number of small and medium farmers through improvements in productivity and/or reduction in the risks of flood or saltwater intrusion: (b) support for developing and strengthening water boards' capacity to take over the O&M of I&D systems: (c) capacity building of government bodies in charge of water resource administration for irrigation: (d) design and implementation of incentives mechanisms and training to farmers. aimed at improving efficiency in farmers' water use and increasing their willingness to cover O&M costs.
- b. Agricultural Statistics and Information. The program will also include a component to improve Suriname's agricultural information system (AIS). Following up on the Bank's and Suriname's previous work on this issue (see below), the program will finance the activities that are determined to be of top priority in the AIS action plan, which will be analyzed and updated as part of the preparation for this program. Some of the activities that could be financed are: (i) design of the AIS, (ii) design and collection of the agricultural census, (iii) design and collection of one or two years of agricultural surveys with probabilistic sampling. (iv) institutional strengthening, and (v) annual update of the estimates of the public support to the agriculture sector.
- As part of the preparation of component 2, Development of the agricultural information system, a consultancy will be hired to design Suriname's AIS, which will include (i) an update of the data collection plan established in the context of operation SU-L1032 (including methodology, contents, and periodicity of each item), (ii) an outline of the material, human, and financial (budget) resources necessary for each item in the data collection plan, (iii) an institutional strengthening plan that includes capacity building activities for the entities involved in the AIS as well as a suggested institutional framework (the tasks and responsibilities that each of those entities should carry out), and (iv) a prioritization of the activities necessary to develop the AIS.

- For this purpose, the Bank will seek the collaboration of the FAO, which is the technical authority in agricultural information systems.
- 2.8 Executing agency. The executing agency of the Program will be the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV).
- 2.9 Institutional capacity analysis. An institutional capacity analysis for the Program will be carried out using the Bank's methodology. This analysis will consider the results of a similar analysis recently performed for LVV during the preparation of SU-L1020 and adapt them considering the characteristics of the present operation. During the design phase, possibilities for exploiting synergies with the executing unit established for the recently approved SU-L1020 will be explored.
- 2.10 Technical Cooperation Request. In order to prepare key technical analysis for program design, to provide support for the early stages of the implementation, and to help in identifying strategic agricultural priorities for the LVV, the GoS requested the Bank non-refundable resources of around US\$400.000 through a technical cooperation. It was agreed that this technical cooperation will be executed by the Bank and that it will cover consultancies including technical analysis, operational and implementation issues and feasibility studies for SU-L1052 (See 3.1).
- 2.11 Local Focal Points, LVV informed the Bank that its focal points for program preparation will be:
 - Mr. A.R. Ramdien. Director of Agriculture. For all matters related to the program preparation.
 - ii. Mr. R. Nojodimedjo. Director of Planning. For all matters related to program preparation.
 - Ms Sheila Aldjah, Division of Statistics. For technical matters regarding the component of information and statistics.
 - Guido van der Kooye. Coordinator of Region West. For technical matters regarding I&D and water boards in the districts of Nickerie and Coronie.
- 2.12 Coordination with other projects in I&D. The GoS informed the Bank of two projects in areas related to I&D, one financed by the Islamic Development Bank (IsDB) to improve rice production and increase exports of high quality rice, currently in execution; and another financed by the Exim Bank of India, to revamp one of the water pumping stations in Nickerie. The GoS and the IDB Project Team agreed to maintain coordination to avoid duplication of activities and to look for synergies between these and any other project in I&D. The GoS will share with the Bank relevant information about those projects.
- 2.13 Water resource management and climate change scenarios. Seasonal shortages of water have been reported for the coastal areas, generating challenges to irrigated agriculture. For an adequate management of the I&D systems and the water sources used by those systems, an assessment of the water balances will be important. During program design, the feasibility of estimating water balances will be explored, considering current efforts by the GoS to estimate I&D capacity in Nickerie¹. The assessment will incorporate possible effects of climate change in the coastal areas of Suriname. This information would be useful in identifying adequate adaptation measures for the sustainability of agricultural production and of the region's ecosystemic services.
- 2.14 Environmental and Social Safeguards. Based on initial information available and discussions about the potential components of the Loan, this operation is categorized B according to the IDB Environment and Safeguards Compliance Policy. The main potential environmental and social impacts and risks to be further assessed during preparation include at the program level:

The GoS is working with IsDB financing in Nickerie to analyze the capacity of the local I&D system.

- (i) impacts of ongoing or increased water extraction from the Nanni Swamp (one of four major fresh-water wetlands in Suriname and an Important Bird Area) on biodiversity; (ii) impacts related to water quality (on receiving environment) and to human health of workers and local residents, as a result of pesticide use; (iii) the exacerbation of these and other impacts as a result of climate change; (iv) institutional deficiencies in environmental and social management, and (v) social implications that could arise from the establishment of cost-sharing of I&D maintenance and operation. Given that the operation intends to support the rehabilitation/modernization of I&D infrastructure which will enable a more effective redistribution of available water resources, it is anticipated that the operation has the potential to create a positive impact on challenges related to water availability, including relieving pressure on source bodies of water such as the Nanni Swamp. Additionally, the Bank will assess current pesticide use and impacts and explore opportunities to continue recent GoS efforts to reduce the intensity of its use by promoting Integrated Pest Management in areas covered by the Program. At the individual I&D project level typical construction environmental, social, health and safety impacts and risks are anticipated, for which mitigation and management measures are readily available.
- As part of the preparation of the Loan, the Bank, on behalf of the Borrower, will hire a consultant to develop an Environmental and Social Analysis (ESA) to better understand the program impacts and risks. The Bank has proposed engaging the services of a consultant who prepared the ESA for SU-L1020 in 2016, for maximum efficiency. The focus will be on analyzing program level impacts and risks and determining management measures to mitigate these as part of the operation. Additionally, the Bank will incorporate the determination of the specific environmental and social mitigation and management plans for construction for the proposed infrastructure works into the contract of the engineering designs. During program preparation, the ESA and resulting environmental and social management plans will undergo public consultation, in accordance with IDB requirements.
- Monitoring and Evaluation. In compliance with IDB policies, the program will dedicate resources to the monitoring and evaluation (M&E) of the financed activities. For project monitoring, the Bank will use the Project Management Report System (PMR) based on the Results Matrix that will be prepared as part of the Loan Proposal. The IDB Project team highlighted the importance of adequately evaluating the impacts of IDB-financed operations, and to consider the requirements of data collection in the program preparation and execution plan. The specifics of the M&E plan will be determined once the activities to be financed under each component are defined, however it is anticipated that several data collection efforts will be required, including survey data among beneficiaries and non-beneficiaries of the program, before and after the program. In addition, the program will finance an external medium-term evaluation as well as an external evaluation at the end of the execution period.
- 2.17 A preliminary list of studies and consultancies that will be required for analyzing the issues and justifying the loan proposal was identified during the mission:
 - I&D technical analysis. Includes a review of existing plans, analysis of specific investments, proposal for prioritization and technical studies.
 - Water boards: analysis of current situation, institutional arrangements and proposal for strengthening their capacity to take over O&M responsibilities.
 - iii. Consultancy to design Agricultural Information System.
 - iv. Economic feasibility analysis, including proposal for water charges to users.
 - v. Monitoring and evaluation plan
 - vi. Environmental and Social Analysis
 - vii. Institutional capacity analysis and Operations Manual

- viii. Project management tools (Program execution plan, procurement plan, risk analysis)
- ix. Baseline survey

III. Program Preparation.

- 3.1 The Bank expects to approve the Program in June 2018. For that goal to be achieved, the preparation plan includes the following milestones:
 - i. Project Profile preparation and distribution: September 2017
 - Technical Cooperation approved: October 2017
 - iii. Orientation mission: November 2017 (tentatively during November 6-10)
 - iv. Analysis mission: January 29th February 2nd, 2018.
 - v. Draft Loan Proposal: February 2018.
- 3.2 Information to be provided by LVV. In order to continue with the program's preparation, it was agreed that the LVV will provide the Bank the following information:
 - Brief assessment of the situation of the existing infrastructure in each of the water boards of Nickerie and Coronie by August 30th
 - Results of the EU-funded project Capacity Building for Integrated Water Management in Nickerie. West Suriname 2012-2016 by August 15th.
 - iii. Relevant information regarding the IsDB and Exim Bank India projects, and contact information for both programs by August 15th.

The fulfillment of the milestones mentioned in 3.1 will depend on the approval of TC and implementation progress of the different consultancies.

H.E. Minister Gillmore

Hoefdraad

Ministry of Finance

L. Hernando Hintze

Team Leader, IDB

H.E. Minister Soeresh

Algoe

Ministry of Agriculture

Cesar Falconi

Representative, IDB



	Indicators	Rags*	Unit of Measure	Baseline	Baseline	Means of verification		EOP
	cultural Strategic Plan for						P	1.00
2018-2021 presented and discussed within			Document	0.00	2017	Draft Plan	P(a)	0.00
Ministry of Ag	riculture						Α.	
Outcome:	2 Developing has	deferment on	to allow for the Program	- Income Con	ltien		•	
Outcome.					Paseline			FOP
	Indicators	Flags*	Unit of Measure	Baseline	Year	Means of verification		
	nformation about beneficiaries						P	1.00
	U-L1052, collected, analyzed for impact evaluation		Document	0.00	2017	Survey report and database	P(a)	
							A	
Outcome:	3 Program's envi	ronmental, s	ocial and economic fe	as ibility quar	anteed			
	Indicators	Flags*	Unit of Measure	Baseline	Baseline	Means of verification		EOP
3.1 Proposal f	or Operation Development				Year		Р	1.00
(POD) of loan SU-L1052 approved in QRR			Document	0.00	2017		-	1.00
	aspects ready for		Document	0.00	2017	POD approved	P(a)	
implementation	1						A	
Outcome:	4 Identifying and	prioritizing im	provements in irrigation	on and drains		and in the Agricultural Infor	mation S	ystem
	Indicators	Flags*	Unit of Measure	Baseline	Baseline Voor	Means of verification		EOP
	ation and drainage works						P	1.00
agreed by the	Government of Suriname		Document	0.00	2017	Technical Document	P(a)	
							A	
	4.2 Plan for Agricultural Information System						Р	1.00
4.2 Plan for A				0.00	2047	December to the stee		
			Decrees					
4.2 Plan for Ap available for in			Document	0.00	2017	Document with plan	P(a)	

Prioritization and analysis of investme	ents proposed for loan	operation						Physical Pro	gress					Financial Prog	ress					
Outputs	Output Description	Unit of Measure	Baseline	Raseline Year	Means of verification		2017	2018	2019	EOP		2	2017	2018	2019	FOP	Theme	Fund	Flags	
	List of rehabilitation	Studies (#)	- Luavino		Document containing the	Р	2017				1 F		.017	70000	7000		Agricultural	TBD		
	w orks identified, including technical analysis				study	P(a)	0				0 P(70000	7000	77000	Food Security	ind		
						Α.														
Project proposal developed	A proposal containing	Proposals (#)		0 2017	Document containing the	P	0	1						20000		20000	Agricultural	TBD		
	the Agricultural Information System and its implementation plan;	(,)			proposal for the Agricultural Information System and the capacity	P(a)	0	,	C		1 F			20000			Productivity and Food Security	IBD		
	and the capacity strengthening plan for water boards				strengthening plan	A						A								
Affordability assessment completed	Willingness to pay for	Assessments (#)		0 2017	Document with farmers'	Р	0	1			1 F	Р		28000		28000	Agricultural	TBD		
	operation and maintenance of irrigation and drainage systems	h			capacity to pay analysis	P(a)					0 P((a)				0	Food Security			
						Δ.						Δ.								
	Paticipatory	Participatory		0 2017	Report from Water Boards	P	0		- 1		1 F			35000	15000	50000	Agricultural	TBD		
	mechanisms to manage and maintain Irrigation and Drainage systems	Mechanisms (#)				P(a)					0 P(0	Productivity and Food Security			
						A						A								
Diagnostics and assessments completed	Diagnostic and	Diagnostics (#)		0 2017	Informe de consultoria	P	0	1			1 F		0	35000	10000	45000	Agricultural	MAG		
	assessment of the situation of water management for irrigation and drainage in					P(a)					0 P(Productivity and Food Security	ictivity and		
	the district of Nickerie,					A														
nvironmental, Institutional and Socio	Suriname -e conomic analysis							Physical Pro	oress		1			Financial Progr	ross					
Outputs	Output Description	Unit of Measure	Baseline	Baseline Year	Means of verification		2017	2018	2019	EOP		2	017	2018	2019	EOP	Theme	Fund	Flags	
Environmental impact assessment	Environmental and	Assessments (#)			Document with	Р	0				1 F		.017	11000		11000	Agricultural	TBD		
mpleted	Social Impact Analysis				environmental and social study	P(a)	0				0 P(11000			Productivity and Food Security			
						A														
2 Social impact assessment completed	Social impact	Assessments (#)		0 2017	Environmental and Social	P	0	1			1 F		0	10000	0	40000	Agricultural	MAG		
	assessment of the investments in irrigation and drainage financed				analysis document	P(a)	0				0 P(10000	0	0	Productivity and Food Security			
	proposed for SU-L1052					A						A								
Feasibility study completed	Ex-ante economic	Studies (#)		0 2017	document with ex-ante	Р	0	1			1 F	Р		20000	14000	34000	Agricultural	TBD		
	analysis and Mnistry of Agriculture, Husbandry and Fisheries Institutional capacity				economic analysis for the Program	P(a)					0 P((a)				0	Food Security			
	analysis performed					A						A								
Institutional capacity analysis conducted		Assessments (#)		0 2017	Document with institutional	Р	0	1			1 F	Р	0	20000	0	20000	Agricultural	MAG		
	Institutional capacity of LVV to executed the proposed operation				capacity analysis for operation SU-L1052	P(a)					0 P(Productivity and Food Security			
Baseline Survey for impact evaluation						A		Physical Pro			-	А		Financial Progr						
Outputs	Output Description	Unit of Mass	Baseline	Pareline Y	Means of verification		2017	2018	gress 2019	EOP		-	2017	2018	2019	EOP	Theme	Fund	Flags	
		Evaluations (#)			Baseline survey report	Р	2017				1 F			40000	15000		Agricultural	TBD	,-	
,	collected					P(a)	0				0 P(40000	15000	0	Food Security			
						A						A								
Agricultural Strategic Plan								Physical Pro	gress					Financial Progr	ress					
Outputs	Output Description	Unit of Measure	Baseline	Baseline Year	Means of verification		2017	2018	2019	EOP		2	2017	2018	2019	EOP	Theme	Fund	Flags	
Action plans designed	Agricultural Strategic	Action Plans (#)		0 2017	Document with draft plan	Р	0	- 1			1 F			50000		50000	Agricultural	TBD		
	Plan for Suriname 2017- 2021					P(a)					0 P(0	Food Security			
						A					,	A								

Total Cost		
Commission	Standard Output Indicator	

ANNEX A

Suriname

(CSD/RND)

Support for the preparation and starting stage of the Sustainable Agricultural Productivity Program – SU-T1101

Consultancy for the preparation of a capacity strengthening plan for the Water Boards

TERMS OF REFERENCE

Background

Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

Agriculture plays an important socio-economic role in Suriname. It generates 11-12% of national employment, 6-7% of the GDP, and more than 4.7% of total export earnings. In the past thirty years the performance of the sector has been erratic, showing a slowdown pattern in agricultural growth during the 90s and slow recovery at the beginning of the past decade. As a result, in 2010 the national agricultural output was still below the level reached in 1991. During this period, cultivated area shrank by 33%, physical yields of traditional agricultural sub-sectors stagnated, and as a whole the sector showed a low rate of growth in total factor productivity (TFP of 1% during the period 2001-2007, which is half the average LAC rate during this period [over 2% per year]). In this setting, the Government of Suriname (GoS) acknowledges that a revitalized, more productive, and diversified agricultural sector will contribute to reducing macroeconomic uncertainty by insuring against downside risks and external shocks, improve food security, and provide opportunities for employment and income generation that will help to alleviate poverty in rural areas where about 50% of Surinamese live.

With support of the IADB, the Government of Suriname embarked in a process of agricultural sector reforms to modernize its agricultural public services through a Programmatic Policy Based Loan (PBP). The first of a total of three operations, SU-L1033, was approved in 2014, and the second, SU-L1032, is yet to be approved. One of the component of these loans supported the modernization of agricultural I&D, and included actions to improve governance of I&D systems; coordination among Government agencies with I&D responsibilities; and prepare rehabilitation as well as operation and maintenance plans for secondary I&D infrastructure. Under this component, the GOS has complied with the following conditions: (i) an Inter-Ministerial Irrigation and Drainage Coordination Working Group (IMIDCWG) established; (ii) nine existing Water Boards (WBs) Executive Committees elected; and (iii) three existing WBs Executive Committees appointed. Another component supported the modernization of agricultural statistics.

Regarding the institutional aspects in the management of irrigation and drainage systems three Ministries are involved. The Ministry of Public Works is responsible for

¹ The proportion of households below income poverty line is about 61 % in rural areas.

the management of primary canals. The Ministry of Agriculture is also involved in the maintenance of primary canals and the supply of water for irrigation. In addition, the Ministry of Regional Development is in charge of the construction and maintenance of the canals that are not under the responsibility of either the Ministry of Public Works or the Ministry of Agriculture. However, in practical terms, the boundaries among the three ministries are not in all cases well-defined and they invest and work simultaneously, depending on the budgetary capacity of each of those institutions and the agreements of the Inter-Ministerial Irrigation and Drainage Coordination Working Group, that is formed by representatives of these three Ministries.

The Government of Suriname has requested the Bank's technical support to in the preparation of an investment loan (SU-L1052). The goal of SU-L1052 is two-fold: increase agricultural productivity in Surinam through investments in infrastructure and management of irrigation and drainage (I&D) systems, and to improve the conditions for information-based policy-making by increasing information available on agriculture. The specific objectives are: (i) increased agricultural productivity in I&D areas; (ii) operating WB contributing to O&M; and (iii) improved statistics and information systems available. To achieve this, the program will be organized in two components The operation will have two components.

Component I: Irrigation and Drainage (I&D). This component seeks to improve the use and management of the I&D systems in Suriname, especially in Nickerie District, by addressing current failings in infrastructure, and deficient user participation in the management and maintenance of the system. The program will include financing for: (a) rehabilitation/modernization of I&D infrastructure selected to benefit a large number of small and medium farmers through improvements in productivity and/or reduction in the risks of flood or saltwater intrusion; (b) support for developing and strengthening WB capacity to take over the O&M of I&D systems; (c) capacity building of government bodies in charge of water resource administration for irrigation; (d) design and implementation of incentives mechanisms aimed at improving efficiency in farmers' water use and increasing their willingness to cover O&M costs. Activities and investments under this component will include measures to guarantee the sustainability of the water resource for its different uses (agricultural, environmental and human consumption), particularly by taking into account climate change impacts (i.e. in regard to water supply and demand) and considering adaptation measures.

Component II: Agricultural Statistics and Information. The objective of this component is to strengthen the LVV Department of Agricultural Statistics by improving its information systems and analytical capabilities. The component will finance (i) design of the Agricultural Information System, (ii) design and implementation of the agricultural census, (iii) design and collection of one or two years of agricultural surveys with probabilistic sampling, (iv) institutional strengthening, and (v) annual update of the estimates of the public support to the agriculture sector.

Since the loan operation will finance improvements in the I&D infrastructure in the water boards, the sustainability of those improvements and the transfer of O&M responsibilities to water boards organization require a continuous work of enhancing the capacity.

Consultancy objective(s)

The objective of the consultancy is to assist Bank Project Team in preparing a detailed capacity strengthening plan for the Water Boards (WB)to be implemented during the

execution of the Program SU-L1052 and to advice WB to enhance the likelihood of a successful transfer of responsibilities in managing I&D infrastructure.

Main activities

The selected candidate will:

- Characterize and assess the situation of each of the water boards eligible for Program financing. Focus will be on the organizational aspects of the WBs and in their members knowledge and capacity for operating and maintaining the infrastructure.
- 2. Identify practical knowledge requirements to take over each of the responsibilities and tasks to be transferred to WB.
- 3. Consult with water boards members to identify their training and capacity strengthening requirements.
- 4. Prepare training modules for water board members.
- 5. Prepare detailed training plan for each of the water boards.
- 6. Validate training proposal with LVV and Ministry of Regional Development
- 7. Support WB in establishing their internal operational regulations and water management plans.

Reports / Deliverables

Based on the work described above, the contractual will prepare and submit:

- 1. A work plan for the consultancy, no later than 15 days after signing the contract.
- 2. A detailed capacity strengthening plan for the water boards participating in the program no later than 90 days after signing the contract.
- 3. A report with the advice and training activities delivered to WB during months 4-6
- 4. A report with the advice and training activities delivered to WB during months 7-9.
- A final report, including an assessment of the readiness of each water board to start its participation in the Program and a summary of all activities performed during the consultancy

Payment Schedule

- Approval of work plan for consultancy: 15%
- Submission and approval of detailes capacity strhengthening plan: 30%
- Report months 4-6: 15%
- Report months 7-9: 15%
- Approval Final Report: 25%

Qualifications

 Academic Degree / Level and Years of Professional Work Experience: The contractual should have a degree in engineering with at least 5 years of

- experience working on irrigation and drainage issues. Experience working with farmers organizational aspects will be desirable.
- Languages: Fluency in oral and written Dutch. English is recommended.
- Areas of Expertise: Water user organizations.
- Skills: Knowledge of the agriculture sector in Latin America and previous experience in Suriname. Experience with international organizations are recommended.

Characteristics of the Consultancy

- Consultancy category and modality: Products and External Services Contractual (PEC), Lump Sum
- Contract duration: Twelve months of discontinuous work.
- Place(s) of work: External consultancy with at least 5 visits (total stay of 25 days) to the Nickerie District in Suriname
- Division Leader or Coordinator: L. Hernando Hintze (RND/CUR), email luishh@iadb.org; Michael Collins (CSD/RND), email MICHAELC@iadb.org; and Steven Hofwijks (CCB/CSU), email SHOFWIJKS@iadb.org.

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDB member country.

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

ANNEX A

Suriname

(CSD/RND)

Support for the preparation and starting stage of the Sustainable Agricultural Productivity Program

Consultancy to assist in the identification of improvements in Water Board irrigation and drainage works

TERMS OF REFERENCE

Background

Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

The Government of Suriname has requested the Bank's technical support to in the preparation of an investment loan (SU-L1052). The goal of SU-L1052 is two-fold: increase agricultural productivity in Surinam through investments in infrastructure and management of irrigation and drainage (I&D) systems, and to improve the conditions for information-based policy-making by increasing information available on agriculture. This consultancy refers to the first goal of SU-L1052.

With support of the IADB, the Government of Suriname embarked in a process of agricultural sector reforms to modernize its agricultural public services through a Programmatic Policy Based Loan (PBP). The first of a total of three operations, SU-L1033, was approved in 2014, and the second, SU-L1032, is yet to be approved. One of the component of these loans supported the modernization of agricultural I&D, and included actions to improve governance of I&D systems; coordination among Government agencies with I&D responsibilities; and prepare rehabilitation as well as operation and maintenance plans for secondary I&D infrastructure. Under the Component of the Drainage and Irrigation of SU-L1033, the GOS has complied with the following conditions: (i) an Inter-Ministerial Irrigation and Drainage Coordination Working Group (IMIDCWG) established; (ii) nine existing Water Boards (WBs) Executive Committees elected; and (iii) three existing WBs Executive Committees appointed.

The conditions established for the second PBL (SU-L1032) have been met:

- A Suriname Irrigation & Drainage (I&D) Vision formulated by IMIDCWG, including principles of sustainability, operation and maintenance;
- Plan to execute, monitor and evaluate maintenance and investments activities developed by Ministry of Agriculture Animal Husbandry and Fisheries (LVV), together with RO, OW, and MOF and endorsed by IDCWG.
- A Suriname Irrigation & Drainage (I&D) Vision formulated by IMIDCWG, including principles of sustainability, operation and maintenance;
- Manual of Operation for Interdepartmental Commissions at a district level endorsed by IDCWG
- Establishment of an Additional Inter-departmental Commissions at a district level:
- Manual of operations to establish Water Boards in Suriname developed by LVV and RO and endorsed by IDCWG;
- Proposal to establish four new WBs formulated by LVV in coordination with RO, following the manual of operations;
- Six by-laws of WBs approved;
- Operation and maintenance work-plans of six WB endorsed by RO and LVV;
- For at least six Water Boards, rehabilitation plans prepared by LVV in coordination with WBs, RO and OW, endorsed by IDCWG, and approved by Council of Ministers; and
- LVV submits, in coordination with RO and OW, a preliminary proposal to provide public services to compensate WBs' for increasing their operating and maintenance costs, reviewed by IDCWG.

This consultancy will provide support to the expert consultant in irrigation and drainage in charge of identify and prioritize investments as part of the preparation of SU-L1052 and to the Project Team.

Consultancy objective(s)

The objective of the consultancy is to assist Bank Project Team and the expert in Irrigation and Drainage hired by the Bank for the preparation of an investment proposal to Support the Irrigation and Drainage sector in the analysis of documentation, in the preparation of studies and in organizing the work with stakeholders in the proposed areas of project intervention.

Main activities

The selected candidate will perform the following activities:

- To carry out an inventory and/or study on the conditions of the Irrigation and Drainage System of 12 Water Boards as specified below (this will be done in close cooperation with the Regional Coordinator of LVV and other members of the District Irrigation and Drainage Coordination Working group -RO, OW, OWMCP- and the concerned Water Board Committees):
 - a. To prepare a rehabilitation plan of the I&D system of 2 Water Boards for which presently no rehabilitation studies have been made, namely:
 - i. Europolder-Zuid
 - ii. Uitbreiding Groot Henar polder
 - b. To update (as far as required) the rehabilitation plans prepared in

October 2016 of 4 polders, namely:

- i. Longmay-Paradise polder
- ii. Wasima polder
- iii. Clara polder
- iv. Nanni-Bruto polder
- c. To assess present conditions in the 6 polders for which rehabilitation works have been implemented by LVV in the past years, namely:
 - i. Sawmillkreek polder
 - ii. Hamptoncourt polder
 - iii. Van Drimmelen polder
 - iv. Europolder-Noord
 - v. Corantijn polder
 - vi. Henar polder (in execution)
- d. The rehabilitation studies will include a detailed description and costing and be carried out in line with requirements defined by the international consultant in I&D and subject to approval by the Water board committee;
- 2. To carry out a review of the deficiencies in the primary and secondary canal system that effect the appropriate supply of irrigation water and evacuation of excess water of the Water Board systems.
 - a. The works will include the sluices, spillways, gates and inlets as reviewed with the international expert during his mission in October
 - b. The review will be done in close consultation with the responsible officials of OW, LVV and OWNCP and the WB committee members
 - c. The review will include a priority and urgency classification and an estimate of costs for rehabilitation and repair works;
- 3. To carry out a first inventory of conditions in the I&D systems not covered presently by Water boards on the left and right side of the Nickery river
 - a. The inventory will include irrigation and drainage conditions of the "Autonoom" polders and large commercial farmers on the left bank, as well as the Wageningen polder on the right side of the river
 - b. The inventory will indicate the number of farmers and farming conditions as well as their interest and motivation to form Water boards:
- 4. Assist in the implementation of supervisory missions carried out by the lead consultant and Project Team.
- 5. Assist and provide technical advice in relevant WB member meetings and with local authorities and DIDCWG;

- 6. Prepare relevant documentation and report in line with agreed format;
- 7. Liaise with the International Expert in Irrigation and Drainage and assist in the preparatory and organizational work for his missions and accompany the expert on his missions to the concerned districts;
- 8. Assist in maintaining the necessary contacts and liaison with the concerned Government departments and organize meetings and appointments as required;
- 9. Monitor and assist the national and international staff assigned in the implementation of the studies, as relevant;
- 10. Maintain close liaison with the International Expert in the implementation of the various studies over the full period;
- 11. Prepare relevant reports on his activities

Reports / Deliverables

- 1. An Inception report 1 week after the signing of the consultancy contract with details of program of work;
- 2. **A intermediate Report**, 5 days after the completion of the IDB orientation mission with the advances on the activities performed.
- 3. **A Final Report** that contains all the results of all activities mentioned above, including detailed information for rehabilitation works proposed.

Payment Schedule

In line with details provided in the specification of expenditures for the Consultancy

- Submission inception report: 30%
- Submission and approval of Intermediate Report: 30%
- Submission and approval Final Report: 40%

Qualifications

- Academic Degree/Level & Years of Professional Work Experience: Technical/vocational education in areas related to economics, public administration, agriculture or any other subject relevant to the consultancy. At least 15 years of experience.
- Languages: Fluency in oral and written English and Dutch, knowledge of hindi will be a plus.
- Areas of Expertise: Specific knowledge and experiences in:
 - Farming conditions in the Nickerie district
 - o I&D systems in Suriname and in the Nickerie District,
 - o Preparation of detailed Rehabilitation plans for WB systems
 - o Field work with farmers in Nickerie.
 - Irrigation and drainage conditions of both primary, secondary and tertiary systems of the polders in the Nickerie system
 - o Procedures in the functioning of Water boards
- Skills
 - Ability to establish relations and work with farmers and government officials.

Characteristics of the Consultancy

- Consultancy category and modality: Products and External Services Contractual, Lump Sum
- Contract duration: 6 months of discontinuous work.
- Place(s) of work: External consultancy with at least 15 days in the Nickerie District and other irrigated areas of Suriname.
- Division Leader or Coordinator: L. Hernando Hintze, Rural Development Specialist (RND/CUR); and Michale Collins, Lead Natural Resource Specialist (CSD/RND).

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDB member country.

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ANNEX A

Suriname

(CSD/RND)

Support for the preparation and starting stage of the Sustainable Agricultural Productivity Program – SU-L1052

Institutional Analysis

TERMS OF REFERENCE

Background

Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

Agriculture plays an important socio-economic role in Suriname. It generates 11-12% of national employment, 6-7% of the GDP, and more than 4.7% of total export earnings. In the past thirty years the performance of the sector has been erratic, showing a slowdown pattern in agricultural growth during the 90s and slow recovery at the beginning of the past decade. As a result, in 2010 the national agricultural output was still below the level reached in 1991. During this period, cultivated area shrank by 33%, physical yields of traditional agricultural sub-sectors stagnated, and as a whole the sector showed a low rate of growth in total factor productivity (TFP of 1% during the period 2001-2007, which is half the average LAC rate during this period [over 2% per year]). In this setting, the Government of Suriname (GoS) acknowledges that a revitalized, more productive, and diversified agricultural sector will contribute to reducing macroeconomic uncertainty by insuring against downside risks and external shocks, improve food security, and provide opportunities for employment and income generation that will help to alleviate poverty in rural areas where about 50% of Surinamese live.

With support of the IADB, the Government of Suriname embarked in a process of agricultural sector reforms to modernize its agricultural public services through a Programmatic Policy Based Loan (PBP). The first of a total of three operations, SU-L1033, was approved in 2014, and the second, SU-L1032, is yet to be approved. One of the component of these loans supported the modernization of agricultural I&D, and included actions to improve governance of I&D systems; coordination among Government agencies with I&D responsibilities; and prepare rehabilitation as well as operation and maintenance plans for secondary I&D infrastructure. Under this component, the GOS has complied with the following conditions: (i) an Inter-Ministerial Irrigation and Drainage Coordination Working Group (IMIDCWG) established; (ii) nine existing Water Boards (WBs) Executive Committees elected; and (iii) three existing WBs Executive Committees appointed. Another component supported the modernization of agricultural statistics.

Regarding the institutional aspects in the management of irrigation and drainage systems three Ministries are involved. The Ministry of Public Works is responsible for

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the management of primary canals. The Ministry of Agriculture is also involved in the maintenance of primary canals and the supply of water for irrigation. In addition, the Ministry of Regional Development is in charge of the construction and maintenance of the canals that are not under the responsibility of either the Ministry of Public Works or the Ministry of Agriculture. However, in practical terms, the boundaries among the three ministries are not in all cases well-defined and they invest and work simultaneously, depending on the budgetary capacity of each of those institutions and the agreements of the Inter-Ministerial Irrigation and Drainage Coordination Working Group, that is formed by representatives of these three Ministries.

The Government of Suriname has requested the Bank's technical support to in the preparation of an investment loan (SU-L1052). The goal of SU-L1052 is two-fold: increase agricultural productivity in Surinam through investments in infrastructure and management of irrigation and drainage (I&D) systems, and to improve the conditions for information-based policy-making by increasing information available on agriculture.

For the preparation of the operations, it is critical to perform an analysis of the institutional capacity of the Ministry of Agriculture (LVV) and to execute the above-mentioned Program, and propose an execution scheme for the investment loan (SU-L1052).

Consultancy objective(s)

The objectives of the consultancy are to perform an analysis of the institutional capacity of the Ministry of Agriculture (LVV) to execute the above-mentioned Program by using the Bank's methodology and of the Ministry of Public Works to participate in the execution of specific irrigation and drainage works to be financed by the Program; and propose an adequate execution scheme for the investment loan (SU-L1052) that considers the roles of other stakeholders like the Ministry of Public Works and the Ministry of Regional Development in the improvements of irrigation and drainage infrastructure.

Main activities

The selected candidate will at perform at least the following activities:

- 1. Perform an assessment of the LVV's accounting, financial, procurement, information and other administrative systems to determine their adequacy for Bank loan management.
- 2. Apply the Bank's SECI methodology or any other established by the IDB for the institutional capacity analysis to the LVV and the Ministry of Public Works.
- 3. Characterize the roles of the LVV and other institutions involved in I&D, as well as in in the collecting and processing agricultural statistics.
- 4. Assist the LVV to devise the Project Execution Mechanisms and to develop an Action Plan for the Project Executing Unit. The Action Plan should consider the execution arrangements in place for the execution of Suriname's Agricultural Competitiveness Program (SU-L1020), and identify the human, technological

- and other financial resources necessary to ensure the adequate physical and financial management of the Program.
- 5. Draft terms of reference for any personnel that will be required for adequate project execution according to the Action Plan.
- 6. Work with LVV counterparts and the other consultants to validate the proposed design. This includes interaction with the IDB project team, leading up to including the project appraisal.
- 7. Prepare the Operations Manual for the Program.
- 8. Advice the project team in the risk assessment analysis to be led by the IDB Project Team, in accordance with the Bank's guidelines and in light of the results of the SECI analysis.
- 9. Identify any inter-institutional agreements that will be required for the execution of the project and prepare drafts for those agreements.
- 10. During the consultancy, maintain a close dialogue with the Government officials appointed as counterparts for this project, and with the Bank project team.

Reports / Deliverables

Based on the work described above, the contractual shall prepare and submit three reports: (i) a work plan, detailing the activities, strategy and information requirements for each stage of the consultancy; (ii) an intermediate report, with a preliminary characterization of institutions involved (Activity 2) and of the assessment of the institutional capacity; and (iii) Final report presenting the results of the "Institutional Analysis for project implementation", including the SECI analysis or any other IDB methodology in place at the time of the consultancy; risk assessment; proposed execution arrangements for the project, and an Action Plan with recommendations for improvement in project execution, as wells as the results from any other activities performed under this consultancy.

Payment Schedule

- Approval of report (i): work plan for consultancy: 30%
- Submission and approval of Intermediate Report (ii): 40%
- Approval Final Report: 30%

Qualifications

 Academic Degree / Level and Years of Professional Work Experience: The contractual should have a degree in public administration and/or economics with at least 15 years of experience working on international development

- projects and financial analysis, monitoring and evaluation, management information systems, and operating regulations.
- Languages: Fluency in oral and written English. Dutch is recommended.
- Areas of Expertise: Institutional analysis.
- Skills: Knowledge of the agriculture sector in Latin America and previous experience in Suriname. Experience with IDB the project preparation requirements and SECI methodologies are recommended.
- Any other activity not previsuly specified that the Bank team reasonably requests in order to accomplish the objectives of this consultancy.

Characteristics of the Consultancy

- Consultancy category and modality: Products and External Services Contractual (PEC), Lump Sum
- Contract duration: Five months of discontinuous work.
- Place(s) of work: External consultancy with 2 round trips (total stay of 12 days in Suriname) to Paramaribo. The consultant will visit the Nickerie District in Suriname
- Division Leader or Coordinator: L. Hernando Hintze (RND/CUR), email luishh@iadb.org; Michael Collins (CSD/RND), email MICHAELC@iadb.org; and Steven Hofwijks (CCB/CSU), email SHOFWIJKS@iadb.org.

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDB member country.

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ANNEX A

Suriname

(CSD/RND)

Support for the preparation and starting stage of the Sustainable Agricultural Productivity Program – SU-T1101

Consultancy to identify improvements in irrigation and drainage systems in Suriname to increase agricultural productivity and sustainability

TERMS OF REFERENCE

Background

Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

Agriculture plays an important socio-economic role in Suriname. It generates 11-12% of national employment, 6-7% of the GDP, and more than 4.7% of total export earnings. In the past thirty years the performance of the sector has been erratic, showing a slowdown pattern in agricultural growth during the 90s and slow recovery at the beginning of the past decade. As a result, in 2010 the national agricultural output was still below the level reached in 1991. During this period, cultivated area shrank by 33%, physical yields of traditional agricultural sub-sectors stagnated, and as a whole the sector showed a low rate of growth in total factor productivity (TFP of 1% during the period 2001-2007, which is half the average LAC rate during this period [over 2% per year]). In this setting, the Government of Suriname (GoS) acknowledges that a revitalized, more productive, and diversified agricultural sector will contribute to reducing macroeconomic uncertainty by insuring against downside risks and external shocks, improve food security, and provide opportunities for employment and income generation that will help to alleviate poverty in rural areas where about 50% of Surinamese live.

With support of the IADB, the Government of Suriname embarked in a process of agricultural sector reforms to modernize its agricultural public services through a Programmatic Policy Based Loan (PBP). The first of a total of three operations, SU-L1033, was approved in 2014, and the second, SU-L1032, is yet to be approved. One of the component of these loans supported the modernization of agricultural I&D, and included actions to improve governance of I&D systems; coordination among Government agencies with I&D responsibilities; and prepare rehabilitation as well as operation and maintenance plans for secondary I&D infrastructure. Under this component, the GOS has complied with the following conditions: (i) an Inter-Ministerial Irrigation and Drainage Coordination Working Group (IMIDCWG) established; (ii) nine existing Water Boards (WBs) Executive Committees elected; and (iii) three existing WBs Executive Committees appointed.

The conditions established for the second PBL (SU-L1032) have been met:

 A Suriname Irrigation & Drainage (I&D) Vision formulated by IMIDCWG, including principles of sustainability, operation and maintenance;

¹ The proportion of households below income poverty line is about 61 % in rural areas.

- Plan to execute, monitor and evaluate maintenance and investments activities developed by Ministry of Agriculture Animal Husbandry and Fisheries (LVV), together with RO, OW, and MOF and endorsed by IDCWG.
- A Suriname Irrigation & Drainage (I&D) Vision formulated by IMIDCWG, including principles of sustainability, operation and maintenance;
- Manual of Operation for Interdepartmental Commissions at a district level endorsed by IDCWG
- Establishment of an Additional Inter-departmental Commissions at a district level:
- Manual of operations to establish Water Boards in Suriname developed by LVV and RO and endorsed by IDCWG;
- Proposal to establish four new WBs formulated by LVV in coordination with RO, following the manual of operations;
- Six by-laws of WBs approved;
- Operation and maintenance work-plans of six WB endorsed by RO and LVV;
- For at least six Water Boards, rehabilitation plans prepared by LVV in coordination with WBs, RO and OW, endorsed by IDCWG, and approved by Council of Ministers; and
- LVV submits, in coordination with RO and OW, a preliminary proposal to provide public services to compensate WBs' for increasing their operating and maintenance costs, reviewed by IDCWG.

The Government of Suriname has requested the Bank's technical support to in the preparation of the investment loan **Sustainable Agricultural Productivity Program** (SU-L1052). The goal of SU-L1052 is two-fold: increase agricultural productivity in Surinam through investments in infrastructure and management of irrigation and drainage (I&D) systems, and to improve the conditions for information-based policy-making by increasing information available on agriculture. The operation will have two components.

Component I: Irrigation and Drainage (I&D). This component seeks to improve the use and management of the I&D systems in Suriname, especially in Nickerie District, by addressing current failings in infrastructure, and deficient user participation in the management and maintenance of the system. The program will include financing for: (a) rehabilitation/modernization of I&D infrastructure selected to benefit a large number of small and medium farmers through improvements in productivity and/or reduction in the risks of flood or saltwater intrusion; (b) support for developing and strengthening WB capacity to take over the O&M of I&D systems; (c) capacity building of government bodies in charge of water resource administration for irrigation; (d) design and implementation of incentives mechanisms aimed at improving efficiency in farmers' water use and increasing their willingness to cover O&M costs. Activities and investments under this component will include measures to guarantee the sustainability of the water resource for its different uses (agricultural, environmental and human consumption), particularly by taking into account climate change impacts (i.e. in regard to water supply and demand) and considering adaptation measures.

Component II: Agricultural Statistics and Information. The objective of this component is to strengthen the LVV Department of Agricultural Statistics by improving its information systems and analytical capabilities. The component will finance (i) design of the Agricultural Information System, (ii) design and implementation of the agricultural census, (iii) design and collection of one or two years of agricultural surveys with probabilistic sampling, (iv) institutional strengthening, and (v) annual update of the estimates of the public support to the agriculture sector.

In order to assist the Government of Suriname and the project team in the preparation of the investment plan in I&D, to be financed with resources of the first component, the services of an expert consultants in Irrigation and Drainage is required as described in the following chapters.

The consultancy will act under the guidelines established in the Action Plan and principles and conditions set in the Suriname Irrigation and Drainage Vision including principles of sustainability, operation and maintenance, prepared by the IMIDCWG under the second policy loan (SU-L1033).

This consultancy is the second consecutive of two expert consultancies in I&D to be hired consecutively for the preparation of SU-L1052. This first consultancy focused on the analysis of the current situation of I&D systems, and in preparing an initial proposal identifying investment gaps and the specific I&D subsystems and WB that can be eligible for receiving financing from SU-L1052. This second consultancy will continue the work initiated with the first consultancy and will prepare a detailed I&D investment proposal for SU-L1052, and provide advice in the supervision of the technical aspects related to I&D of the other consultancies that will be hired for project preparation (consultant to prepare specific water boards rehabilitation plans, economic feasibility, institutional analysis, etc.).

Consultancy objective(s)

The objective of the consultancy is to assist Ministry of Agriculture Animal Husbandry and Fisheries (LVV), the Inter-Ministerial Irrigation and Drainage Coordination Working Group (IMIDCWG) and the Bank's Project Team preparing a detailed I&D investment plan to be financed with the first component of SU-L1052.

Main activities

The selected candidate will:

- 1. Review through documents, field visits and discussions with staff in the concerned government services, present conditions, responsibilities, services and financing of the rehabilitation works in the I&D schemes of Suriname.
- 2. Field visits to the Nickerie district and other districts where Water Boards will be supported with the Program.
- Consult with members of the DIDCWG on the definitive criteria and selection of suitable Water Boards for rehabilitation works in the Nickerie and other districts agreed by the GoS and the Bank.
- 4. Discussions with OWMCP and OW District staff about the status of the Nickerie I&D main system and to plan and lead the technical studies and emergency

- repair works needed to improve productivity among small and medium-sized farmers.
- 5. Review the updated rehabilitation plans for four water boards originally prepared in 2016.
- 6. Prepare terms of reference for consultant for the preparation of rehabilitation plans for 6 additional WB's;
- 7. Support in the supervision of the technical aspects of the consultant (Civil Engineer) for the preparation of priority and urgent repair works in the main system;
- 8. Prepare proposals to introduce crop irrigation calendar and water rotational system for the main systems in order to improve irrigation efficiency and save on pumping costs;
- 9. Propose to the IDB team any study or analysis that is considered necessary in order to perform an adquate feasibilty analysis of the investment operation.
- Analyze current management and operational procedures of the main system in order to identify areas for improvement in water supply and water use efficiency.
- 11. Advise the consultan in charge of the preparation of the capacity strengthening plan for the water boards.
- 12. Advise on the formulation of an Integrated Water Resources Management Plan that will inventory available water resources and assess water rights security of all users, water quality and the environment.
- 13. Advice on ways to strengthening the framework of coordination and consultation of the inter-ministerial coordination working groups in irrigation and drainage at national and district level as established.
- 14. Participate in two IDB Missions expected to take place in November 2017 and January/February 2018.
- 15. Prepare mission reports and relevant technical reports as defined in the section on reports and deliverables, in line with the activities defined in this ToR.

16.

Reports / Deliverables

Based on the work described above, the contractual will prepare and submit:

- **1. Work plan:** 1 week after the signing of the consultancy contract with details of program of work;
- 2. **An intermediate Report**, 5 days after the completion of the first mission. This report shall include:
 - Strategy and plan for each of the existing WB selected for the Program
 - Strategy and plan for each of the proposed WBs.
 - Comments and suggestion on the progress of consultancies on: water boards rehabilitation plans; rehabilitation and urgent repairs in the main system; capacity strengthening plan; local I&D consultant and other

consultancies related to the I&D systems technical and operational issues, identified as necessary for project preparation.

- 3. **A Final Report** that contains a final detailed I&D investment proposal, incorporating the different technical inputs developed during the preparation of SU-L1052, including:
 - Selected Water Board systems with description of the WB and detailed proposed rehabilitation works to be carried out in the secondary WB systems;
 - Justification and specification of priority works and urgent repair works to be carried out in the main system to ensure adequate water supply and drainage for optimal crop production.
 - Proposed budget for rehabilitation works as worked out in the studies carried out by local consultants
 - Procedures for empowerment of the Water Boards and support services required;
 - Proposed training program to ensure the full participation of the Water Boards in the planning and implementation of the rehabilitation works and the preparation of the annual O&M plans and water pricing;
 - Report on the institutional strengthening of the DIDCAWG in the implementation and coordination of the rehabilitation works and the preparation of an Integrated Water Resources Development Plan.

Payment Schedule

- Approval of work plan for consultancy: 25%
- Submission and Bank's approval of Intermediate Report: 35%
- Approval Final Report: 40%

Qualifications

- Academic Degree / Level & Years of Professional Work Experience: Master's
 degree or equivalent and a minimum of 15 years of relevant professional
 experience, including several years at a senior advisory or managerial level,
 or the equivalent combination of education and experience
- Advanced degree in Irrigation and Drainage, agricultural development or any other related subject;
- Languages: Fluency in oral and written English and Dutch
- Areas of Expertise: Expertise in the field of specific experiences in the institutional reforms in Operation and Maintenance
- Skills: Good knowledge of the irrigation and drainage sector.

Characteristics of the Consultancy

- Consultancy category and modality: Products and External Services Contractual (PEC), Lump Sum
- Contract duration: Five months of discontinuous work.
- Place(s) of work: External consultancy with 2 round trips (total stay of 10 days in Suriname) to Paramaribo. The consultant will visit the Nickerie District in Suriname
- Division Leader or Coordinator: L. Hernando Hintze (RND/CUR), email luishh@iadb.org; Michael Collins (CSD/RND), email MICHAELC@iadb.org; and Steven Hofwijks (CCB/CSU), email SHOFWIJKS@iadb.org.

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDB member country.

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

CSD/RND

SURINAME SUSTAINABLE AGRICULTURAL PRODUCTIVITY PROGRAM (SU-L1052)

BASELINE COLLECTION TERMS OF REFERENCE

I. BACKGROUND AND JUSTIFICATION

- 1.1 One of Suriname's priorities to attain sustained growth is to increase the competitiveness of the agricultural sector. In 2014, agriculture accounted for 16% of the labor force, 9% of total GDP, and 7% of total export earnings (second to mining) (Suriname Central Bank, 2015). Nevertheless, Suriname has an important food trade deficit. In 2015, its food exports were US\$97 million (of which rice accounted for 40,9%, bananas 22,8% and fish products 34,5%), while imports were US\$193 million. The main challenge for the sector is overcoming its low productivity, as measured for instance by the total factor productivity (TFP) annual growth rate, which was almost zero between 1980-2012. This rate is one of the lowest in the region (Nin-Pratt et al., 2015).
- 1.2 Agriculture in Suriname has unused capacity, particularly land, that should be put back into production. For example, rice planted area in 1996 was 61.800 ha vs 51.000 ha in 2015. Only 0.4% of the country's land area is dedicated to agriculture. Around 85% of the land deemed suitable for agricultural production is in the coastal plains, mainly in the Districts of Nickerie, Coronie, Saramacca, and Commewijne. These areas face two challenges: a dry season with water shortages and a rainy season causing excess water on agricultural land. Adding to these challenges are the potential effects of climate change, particularly rising sea levels causing seawater intrusion in agricultural irrigation systems.¹
- 1.3 Rice is Suriname's most important agricultural crop, with the highest share in total value of agricultural production and it is the population's main staple food. Average rice yields in Suriname are 4,8 t/ha. According to the research center in Nickerie, SNRI/ADRON, current potential is 6 t/ha. Moreover, the low productivity challenge is being magnified by climate change impacts. In fact, the decrease in agricultural productivity over the last decades has been linked -in part- to climatic events including changes in precipitation patterns and high winds.²
- 1.4 While increasing productivity is a priority for the government, a key component for improved policy making and decisions on government expenditures is detailed knowledge of the sector. With the last agricultural census being taken in 2009, there is currently little field-level information collected considering adequate statistical methods that can be used

Climate change impacts that significantly threaten agricultural production in Suriname include –for example—seawater intrusion, variability of rainfall patterns, occurrence of pest and diseases, and extreme weather patterns (Second National Communication -Office of the President of the Republic of Suriname, 2016).

² Idem.

for this purpose. The PDP reflects on the need to upgrade agricultural information systems for improved decision making.

- 1.5 Irrigation and Drainage in Suriname (I&D). The main problems observed in I&D are the lack of adequate system's maintenance; and the fact that users do not participate in managing the systems and covering O&M costs.3 Water management systems were initially built in colonial times to drain marshy soils and thus allow for production. Since the 1980s, funds for maintaining I&D systems have not been enough to cover adequate operation and maintenance (O&M) costs and now have reduced capacity due to deterioration of infrastructure and sedimentation in the canals, which affects productivity and the area that can be irrigated. O&M costs of primary and secondary I&D infrastructure (outside farmers' plots) have been traditionally covered by the Government of Suriname (GoS), causing a significant and unsustainable financial burden. Following international best practices⁴, and considering budgetary restrictions, the GoS aims to transfer the operation and maintenance of the secondary infrastructure to farmers, organized in water boards (WB). Currently, there are 14 WB at various stages of development (all but one in the Nickerie District). However, these WB are still weak and lack adequate capacity to take over the O&M responsibilities.
- 1.6 Agricultural Statistics and information. Availability of relevant agriculture statistics and information for policy-making and investment promotion is limited. The PBP identified policy areas of improvement and progress has been achieved in identifying the data to be collected and methods to be applied. Successfully facing the sector challenges ahead, framed under the Agricultural Strategy 2016-20, requires a better understanding of the evolving situation in the sector, and thus, better and more detailed agricultural information.
- 1.7 With the support of the IADB, the GoS embarked on a process of agricultural sector reforms to modernize its agricultural public services through a Programmatic Policy Based Loan (PBP). This program is supporting the modernization of agricultural I&D and of Agricultural Statistics, among other topic areas in agriculture. The policy loans set up the foundation for a first investment operation in agricultural health and food safety, agricultural innovation (SU-L1020, approved in 2017), that will be complemented with the proposed operation.
- 1.8 The goal of SU-L1052 is to increase agricultural productivity in Suriname through investments in infrastructure and management of irrigation and drainage (I&D) systems; and to improve the conditions for information-based policy-making by increasing information available on agriculture. The operation will have two components.
- 1.9 Component I: Irrigation and Drainage (I&D). This component seeks to improve the use and management of the I&D systems in Suriname, especially in Nickerie District, by addressing current failings in infrastructure, and deficient user participation in the management and maintenance of the system. The program will include financing for: (a) rehabilitation/modernization of I&D infrastructure selected to benefit a large number of small and medium farmers through improvements in productivity and/or reduction in the risks of flood or saltwater intrusion; (b) support for developing and strengthening WB

Alberto Garrido, Paula Novo and Jose M. Sumpsi. 2013. Suriname - Irrigation and Drainage. Report prepared for the IDB

One of the pillars of good water governance is the principle of subsidiarity, or that decisions are made at the lowest level possible. Following this principle, and in response to concerns about natural resource management and budgetary restrictions, Irrigation Management Transfers have been among the most important reforms in I&D management during the last decades. Restrepo, et al. 2007. Irrigation Management Transfer. FAO Water Reports 32.

capacity to take over the O&M of I&D systems; (c) capacity building of government bodies in charge of water resource administration for irrigation; (d) design and implementation of incentives mechanisms aimed at improving efficiency in farmers' water use and increasing their willingness to cover O&M costs. Activities and investments under this component will include measures to guarantee the sustainability of the water resource for its different uses (agricultural, environmental and human consumption), particularly by taking into account climate change impacts (i.e. in regard to water supply and demand) and considering adaptation measures.

- 1.10 **Component II: Agricultural Statistics and Information**. The objective of this component is to strengthen the LVV Department of Agricultural Statistics by improving its information systems and analytical capabilities. The component will finance (i) design of the Agricultural Information System, (ii) design and implementation of the agricultural census, (iii) design and collection of one or two years of agricultural surveys with probabilistic sampling, (iv) institutional strengthening, and (v) annual update of the estimates of the public support to the agriculture sector.
- 1.11 Component I is expected to have positive short and long-term effects on the production and productivity of small and medium farmers, on the efficiency of water use, as well as on the capacity of WBs to cover O&M costs. To evaluate the impacts of the program, the IDB will hire a consulting firm to collect baseline information on producers' production levels, productivity, water use and other characteristics as well as on the functioning of WBs.

II. CONSULTANCY OBJECTIVES

- 2.1 The general objective of this consultancy is to obtain a microeconomic dataset suitable for statistical and econometric analyses necessary for an impact evaluation and ex-ante economic analysis of the Sustainable Agricultural Productivity Program. The dataset will be obtained through the collection of field surveys to be applied to a representative sample of beneficiaries and non-beneficiaries of the program.
- 2.2 This consultancy is related to the data collection activities and has the following specific objectives:
 - 1. To collaborate with the technical staff from the IDB and the Executing Unit in the production of questionnaires that capture all the necessary information to analyze the program's outcome and impact indicators;
 - 2. To conduct pilot tests of the questionnaires on groups of respondents as similar as possible to the program beneficiaries to obtain a reliable survey instrument;
 - 3. To adjust, in collaboration with the technical staff from the IDB and the Executing Unit, the survey questionnaires as necessary and as determined by the pilot tests;
 - 4. To train interviewers, observers, and supervisors for the collection of the baseline;
 - 5. To perform power calculations to determine the sampling sizes required to statistically detect the effects of the program on beneficiaries (relative to non-beneficiaries);
 - 6. To produce a work plan describing all data collection procedures, protocols for quality control of the information, and the necessary budget to collect the surveys;
 - 7. To collect the baseline surveys on representative samples of beneficiaries and non-beneficiaries of the program.

III. MAIN ACTIVITIES

- 3.1 To achieve the objectives of the consultancy, the consulting firm will carry out at least the following activities:
 - Develop a detailed survey implementation protocol;
 - Work closely with staff from the IDB and the Executing Unit throughout the length of the consultancy, agreeing with both entities on a detailed work program. The Bank and the Executing Unit will oversee the survey implementation process;
 - For the implementation of the pilot tests and baseline surveys, the consulting firm will (i) hire all necessary interviewers, (ii) train them appropriately to ensure high quality data collection, and (iii) provide all the equipment and materials necessary during the process. Interviewers shall have prior survey data collection experience and shall be the same interviewers hired to conduct the pilot tests on the field. Technical staff from the Bank and the Executing Unit will be allowed to be present during the interviewers' training and during the implementation of the pilot tests.
 - Pilot tests will assess the validity of the initial questionnaires applied at the beginning of the pilot, placing special attention on whether the questionnaires are being understood by respondents. To this end, the consulting firm will apply the pilot tests to groups of 70 – 100 respondents.
 - At the end of the first pilot tests, the consulting firm will deliver a first report describing the development of the pilot and indicating all suggested changes to the questionnaires.
 - The consulting firm shall use, during the implementation of the surveys in the field, all the equipment and systems necessary to obtain high-quality information that have previously been agreed upon with the technical staff from the IDB and the Executing Unit.
 - During the data collection process, the consulting firm shall apply the survey questionnaires that are previously agreed upon with the technical staff from the Bank and the Executing Unit to all respondents selected during the sampling phase of the work. A number of XXXX to XXXX respondents is currently estimated; however, that sample size will have to be confirmed by the consulting firm.

IV. REPORTS / DELIVERABLES

- 4.1 The consulting firm will be responsible for submitting the following deliverables:
 - Deliverable 1. A draft questionnaire for each type of survey to be implemented in the field;
 - Deliverable 2. A report on the pilot test and its associated datasets;
 - Deliverable 3. A questionnaire incorporating the changes agreed upon after the pilot test;
 - Deliverable 4. A technical note and interviewer's manual for each of the surveys implemented;
 - Deliverable 5. For each implemented survey, a dataset containing all the micro-data collected through the questionnaires (the dataset shall be in csv, SPSS or STATA format);

- Deliverable 6. A final report on the fieldwork, including a description of the methodology used in the pilot test and in the collection of the baseline;
- 4.2 The consulting firm will deliver to the technical staff of the Bank and the Executing Unit all completed paper questionnaires for purposes of validating the captured data and information safeguarding,
- 4.3 All deliverables shall be written in English, when applicable.

V. PAYMENT SCHEDULE

- 5.1 Payment will be made for approved deliverables according to the following schedule:
 - Fifteen percent (15%) upon signature of the contract;
 - Twenty five percent (25%) upon receipt and approval of Deliverables 1 and 2;
 - Twenty percent (20%) upon delivery and approval of Deliverables 3 and 4;
 - Forty percent (40%) upon delivery and approval of Deliverables 5 and 6.
- 5.2 Bank approvals necessary for the execution of payments shall be granted in relation to the accomplishment of the technical specifications of the goods and services provided as well as to the fulfillment of formal and administrative aspects linked to the use of resources.

VI. COORDINATION

6.1 The consulting firm will work in coordination with Hector Valdes Conroy, Environment, Rural Development and Disaster Risk Management (CSD/RND); and Hernando Hintze, team leader (CSD/RND).

VII. QUALIFICATIONS OF THE CONSULTANT

- 7.1 Specific expertise of the firm: The consulting firm shall demonstrate prior experience with similar projects, both local and international, in which it participated directly or as a subcontractor. For every instance of prior experience, the consulting firm shall indicate duration and amount of the contract, size of the assigned team, extension of the questionnaire, and any other background information that may be helpful to assess the consulting firm's prior experience. A project is considered similar if it involved collecting rural household and agricultural producer surveys in rural areas, involving questionnaires with more than 100 questions, sample sizes of at least 500 respondents, and if the information was processed to produce datasets in SPSS, STATA, Excel or other similar software. The consulting firm shall present documents to demonstrate its experience collecting rural surveys in Suriname or other Latin American and Caribbean countries. Experience implementing long questionnaires at the national level will be considered an asset.
- 7.2 **Critical professional team:** The consulting firm shall include in its proposal the list of team members that are critical for the adequate execution of the requested activities. The firm shall specify the structure of the team, the responsibilities of each member in the project, and the time dedicated to it.

- 7.3 The professional team shall have demonstrable experience and full command of English and Dutch languages, as specified below.
 - a. Team leader: A professional in the fields of economics, statistics or similar fields, with a minimum of 10 years of field work experience conducting face-to-face household surveys; at least 5 years of experience coordinating field work duties for rural, face-to-face surveys; and at least three instances of field survey coordination involving household questionnaires with more than 100 questions, teams of at least 20 members, and data processing. The team leader should have full command of English and Dutch languages.
 - b. Field coordinator: A professional in the fields of economics, statistics or similar fields, with a minimum of 5 years of field work experience conducting face-to-face household and business surveys; at least 5 years of experience coordinating field work duties for rural, face-to-face surveys in Suriname or other Latin American and Caribbean countries; and at least three instances of field survey coordination in Suriname involving household questionnaires with more than 100 questions and teams of at least 20 members. The field coordinator should have full command of English and Dutch languages.
 - c. Field supervisor: A professional in the fields of economics, statistics or similar fields, with a minimum of 5 years of field work experience conducting face-to-face household surveys, including at least 3 instances acting as on-the-field quality control supervisor in face-to-face household surveys in Suriname or other Latin American and Caribbean countries with questionnaires of more than 100 questions. The field supervisor should have full command of Dutch language; full command of English language will be considered an asset.
 - d. Data entry supervisor: A professional in the field of systems engineering, with a minimum of 5 years of experience in data capturing of face-to-face surveys, including a minimum of 3 instances acting as the person in charge of the computing systems for the capture of data from questionnaires with at least 100 questions. The data entry supervisor should have full command of Dutch language; full command of English language will be considered an asset.
- 7.4 The consulting firm shall present a technical team including a minimum of 10 interviewers and 2 field supervisors. Each of these professionals shall have a minimum of 1 year of field work experience including face-to-face surveys and shall have full command of Dutch language. The consulting firm may include more personnel in their proposals, depending on the field logistics and the proposed work plan. The team described in this paragraph is not considered critical for the purposes of the evaluation.
- 7.5 Description of methodology and work plan: In addition to the provisions described above, the technical proposal shall explain in detail the technical approach, methodology, work plan, schedule, and logistics for the realization of the field work, including the number of interviewers and field supervisors and the training plan. Capacity to carry out the work in a short time will be considered an asset.

VIII. CHARACTERISTICS OF THE CONSULTANCY

- Category and modality: Lump sum.
- Contract duration: Approximately 6 (non-continuous) months of work.

- Coordinator: The program's team leader—Hernando Hintze (CSD/RND)—and economist
 —Héctor Valdés Conroy (CSD/RND)—shall be in charge of supervision. Nevertheless,
 the consultant shall coordinate with the technical consultants of each component as well
 as with the executing unit of the program.
- Department/Division: Environment, Rural Development, and Disaster Risk Management Division (CSD/RND).

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDB member country.

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

CSD/RND

SURINAME SUSTAINABLE AGRICULTURAL PRODUCTIVITY PROGRAM (SU-L1052)

PREPARATION OF AN EX-ANTE SOCIO-ECONOMIC EVALUATION TERMS OF REFERENCE

I. BACKGROUND AND JUSTIFICATION

- 1.1 One of Suriname's priorities to attain sustained growth is to increase the competitiveness of the agricultural sector. In 2014, agriculture accounted for 16% of the labor force, 9% of total GDP, and 7% of total export earnings (second to mining) (Suriname Central Bank, 2015). Nevertheless, Suriname has an important food trade deficit. In 2015, its food exports were US\$97 million (of which rice accounted for 40,9%, bananas 22,8% and fish products 34,5%), while imports were US\$193 million. The main challenge for the sector is overcoming its low productivity, as measured for instance by the total factor productivity (TFP) annual growth rate, which was almost zero between 1980-2012. This rate is one of the lowest in the region (Nin-Pratt et al., 2015).
- 1.2 Agriculture in Suriname has unused capacity, particularly land, that should be put back into production. For example, rice planted area in 1996 was 61.800 ha vs 51.000 ha in 2015. Only 0.4% of the country's land area is dedicated to agriculture. Around 85% of the land deemed suitable for agricultural production is in the coastal plains, mainly in the Districts of Nickerie, Coronie, Saramacca, and Commewijne. These areas face two challenges: a dry season with water shortages and a rainy season causing excess water on agricultural land. Adding to these challenges are the potential effects of climate change, particularly rising sea levels causing seawater intrusion in agricultural irrigation systems.¹
- 1.3 Rice is Suriname's most important agricultural crop, with the highest share in total value of agricultural production and it is the population's main staple food. Average rice yields in Suriname are 4,8 t/ha. According to the research center in Nickerie, SNRI/ADRON, current potential is 6 t/ha. Moreover, the low productivity challenge is being magnified by climate change impacts. In fact, the decrease in agricultural productivity over the last decades has been linked -in part- to climatic events including changes in precipitation patterns and high winds.²
- 1.4 While increasing productivity is a priority for the government, a key component for improved policy making and decisions on government expenditures is detailed knowledge of the sector. With the last agricultural census being taken in 2009, there is currently little field-level information collected considering adequate statistical methods that can be used

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Climate change impacts that significantly threaten agricultural production in Suriname include –for example—seawater intrusion, variability of rainfall patterns, occurrence of pest and diseases, and extreme weather patterns (Second National Communication -Office of the President of the Republic of Suriname, 2016).

² Idem.

for this purpose. The PDP reflects on the need to upgrade agricultural information systems for improved decision making.

- 1.5 Irrigation and Drainage in Suriname (I&D). The main problems observed in I&D are the lack of adequate system's maintenance; and the fact that users do not participate in managing the systems and covering O&M costs.3 Water management systems were initially built in colonial times to drain marshy soils and thus allow for production. Since the 1980s, funds for maintaining I&D systems have not been enough to cover adequate operation and maintenance (O&M) costs and now have reduced capacity due to deterioration of infrastructure and sedimentation in the canals, which affects productivity and the area that can be irrigated. O&M costs of primary and secondary I&D infrastructure (outside farmers' plots) have been traditionally covered by the Government of Suriname (GoS), causing a significant and unsustainable financial burden. Following international best practices⁴, and considering budgetary restrictions, the GoS aims to transfer the operation and maintenance of the secondary infrastructure to farmers, organized in water boards (WB). Currently, there are 14 WB at various stages of development (all but one in the Nickerie District). However, these WB are still weak and lack adequate capacity to take over the O&M responsibilities.
- 1.6 Agricultural Statistics and information. Availability of relevant agriculture statistics and information for policy-making and investment promotion is limited. The PBP identified policy areas of improvement and progress has been achieved in identifying the data to be collected and methods to be applied. Successfully facing the sector challenges ahead, framed under the Agricultural Strategy 2016-20, requires a better understanding of the evolving situation in the sector, and thus, better and more detailed agricultural information.
- 1.7 With the support of the IADB, the GoS embarked on a process of agricultural sector reforms to modernize its agricultural public services through a Programmatic Policy Based Loan (PBP). This program is supporting the modernization of agricultural I&D and of Agricultural Statistics, among other topic areas in agriculture. The policy loans set up the foundation for a first investment operation in agricultural health and food safety, agricultural innovation (SU-L1020, approved in 2017), that will be complemented with the proposed operation.
- 1.8 The goal of SU-L1052 is to increase agricultural productivity in Suriname through investments in infrastructure and management of irrigation and drainage (I&D) systems; and to improve the conditions for information-based policy-making by increasing information available on agriculture. The operation will have two components.
- 1.9 Component I: Irrigation and Drainage (I&D). This component seeks to improve the use and management of the I&D systems in Suriname, especially in Nickerie District, by addressing current failings in infrastructure, and deficient user participation in the management and maintenance of the system. The program will include financing for: (a) rehabilitation/modernization of I&D infrastructure selected to benefit a large number of small and medium farmers through improvements in productivity and/or reduction in the risks of flood or saltwater intrusion; (b) support for developing and strengthening WB

Alberto Garrido, Paula Novo and Jose M. Sumpsi. 2013. Suriname - Irrigation and Drainage. Report prepared for the IDB

One of the pillars of good water governance is the principle of subsidiarity, or that decisions are made at the lowest level possible. Following this principle, and in response to concerns about natural resource management and budgetary restrictions, Irrigation Management Transfers have been among the most important reforms in I&D management during the last decades. Restrepo, et al. 2007. Irrigation Management Transfer. FAO Water Reports 32.

capacity to take over the O&M of I&D systems; (c) capacity building of government bodies in charge of water resource administration for irrigation; (d) design and implementation of incentives mechanisms aimed at improving efficiency in farmers' water use and increasing their willingness to cover O&M costs. Activities and investments under this component will include measures to guarantee the sustainability of the water resource for its different uses (agricultural, environmental and human consumption), particularly by taking into account climate change impacts (i.e. in regard to water supply and demand) and considering adaptation measures.

- 1.10 Component II: Agricultural Statistics and Information. The objective of this component is to strengthen the LVV Department of Agricultural Statistics by improving its information systems and analytical capabilities. The component will finance (i) design of the Agricultural Information System, (ii) design and implementation of the agricultural census, (iii) design and collection of one or two years of agricultural surveys with probabilistic sampling, (iv) institutional strengthening, and (v) annual update of the estimates of the public support to the agriculture sector.
- 1.11 As part of the preparation of the program, the IDB will hire a consultant to conduct a socioeconomic cost-benefit analysis of the program and verify its viability.

II. CONSULTANCY OBJECTIVES

- 2.1 The consultancy has two general objectives:
 - To analyze the economic viability of the Sustainable Agricultural Productivity Program (SU-L1052). The specific objectives related to this general objective are: (i) to provide an economic justification of the program; (ii) to contribute to the prioritization of the investments made by the program; (iii) to help in the definition of result and impact indicators for the program; (iv) to prepare the ex-ante economic and financial evaluation of the program; and (v) to carry out a sustainability analysis of the investments to be financed by the program.
 - To develop an impact evaluation plan of the Sustainable Agricultural Productivity Program (SU-L1052). The specific objectives related to this general objective are: (i) to describe the logic of the intervention; (ii) to present the result and impact indicators that will be used to measure the effects of the program; (iii) to propose an experimental or quasi-experimental methodology for the program's impact evaluation; (iv) to design an instrument(s) to obtain the necessary information for the impact evaluation of the program; and (v) to produce a budget and a schedule of activities for the impact evaluation of the program.

III. MAIN ACTIVITIES

3.1 To analyze the economic viability of the program, the consultant shall conduct an ex-ante economic analysis employing, whenever feasible, a cost-benefit methodology that includes the following aspects: (i) calculating the internal rate of return (IRR) of the entire program and the associated net present value (NPV); (ii) the economic benefits must be adequately identified and quantified; (iii) all costs generated by the program must be included in the calculations; (iv) all assumptions used in the analysis must be reasonable and clearly specified; and (v) a sensitivity analysis must be included, incorporating all the key variables affecting the program's costs, benefits, and assumptions in the short and in

the long run. If in consultation with the team of the program it is determined that a costbenefit analysis is not feasible for some part of the program, a cost-effectiveness analysis will be performed instead.

- 3.2 To that end, the consultant shall carry out at least the following activities:
 - Work in close collaboration with the team of the program and other consultants hired for the design of the program;
 - Obtain and review all the relevant economic analysis literature in the context of the program;
 - Review the existing background documentation on the program;
 - Obtain all the primary and secondary information necessary to carry out the economic analysis;
 - Review the relevant documentation on the type of interventions in which the program will focus;
 - Define and justify the methodology to be used in the ex-ante economic analysis of the program and its components;
 - Conduct the ex-ante economic analysis of the program, including the sensitivity analysis;
 - Contribute to the final definition of result and impact indicators to be included in the Results Matrix, in consultation with the team of the program;
 - Participate in the analysis mission of the program;
 - Make the final adjustments to the economic analysis that result from the agreements reached during the analysis mission.
- 3.3 To develop an impact evaluation plan of the program, the consultant shall propose and agree with the team of the program a rigorous evaluation methodology—giving preference to experimental or quasi-experimental methods—and taking into account the following aspects: (i) logic of the intervention; (ii) result and impact indicators to be measured; (iii) data collection needs for base line and follow-up; (iv) instrument(s) necessary for data collection, including sampling requirements; (v) budget and schedule of activities related to impact evaluation of the program. Annex A, attached to these Terms of Reference, provides a guide for the production of the Impact Evaluation Plan that should be followed to meet the minimum requirements established by the Bank.
- 3.4 To that end, the consultant shall carry out at least the following activities:
 - Work in close collaboration with the team of the program and other consultants hired for the design of the program;
 - Carry out a literature review presenting relevant empirical evidence of impact evaluations conducted in similar programs in the region;
 - Propose an adequate methodology to conduct an impact evaluation of the program, giving preference to experimental or quasi-experimental methods;
 - Specify any data collection needs, including sampling specifications;

- Develop, in collaboration with the program team members, all survey questionnaires and other instruments to collect baseline information for the impact evaluation of the program;
- Develop a schedule of all the main activities of the impact evaluation of the program;
- Present a budget indicating the costs involved in each of the activities of the impact evaluation of the program;
- Participate in the orientation and analysis missions of the program.

IV. REPORTS / DELIVERABLES

- 4.1 Deliverable 1. An initial report including a work plan and the methodologies for conducting the ex-ante economic analysis as well as for the impact evaluation. The methodologies shall be agreed with the team of the program after the orientation mission.
- 4.2 Deliverable 2. A preliminary report of the ex-ante economic analysis of the program, including a preliminary sustainability analysis of the investments;
- 4.3 Deliverable 3. A final report including the ex-ante economic analysis and the impact evaluation plan, incorporating the comments from the team of the program. This report shall include, among other things:
 - Methodology;
 - Economic analysis of the program and its components;
 - Sustainability analysis of the investments and, on that basis, a methodological proposal to define the tariffs that contribute to cover the operational costs of the investments;
 - Recommendations for the results matrix of the program;
 - Impact evaluation plan of the program, including all the characteristics mentioned above and following the structure included as Annex A to these Terms of Reference.
- 4.4 All deliverables shall be written in English.

V. PAYMENT SCHEDULE

- 5.1 Payment will be made for approved deliverables according to the following schedule:
 - Ten percent (10%) no later than 15 calendar days after signing of the contract;
 - Twenty percent (20%) no later than 15 calendar days after receipt and approval of Deliverable 1;
 - Forty percent (40%) no later than 15 calendar days after delivery and approval of Deliverable 2;
 - Thirty percent (30%) no later than 15 calendar days after delivery and approval of Deliverable 3.

5.2 Bank approvals necessary for the execution of payments shall be granted in relation to the accomplishment of the technical specifications of the goods and services provided as well as to the fulfillment of formal and administrative aspects linked to the use of resources.

VI. QUALIFICATIONS OF THE CONSULTANT

- 6.1 The consultant shall hold a Master or PhD in Economics or Business Administration and have ten years of experience conducting similar studies, or an equivalent combination of education and experience.
- 6.2 Languages: The consultant should be fluent in English; knowledge of Dutch will be considered an important asset.

VII. CHARACTERISTICS OF THE CONSULTANCY

- Category and modality: Lump sum.
- Contract duration: Approximately 5 (non-continuous) months of work.
- Place of work: The consultant shall provide his/her services from his/her place of residency and shall make two 7-days trips to Suriname, the expenses of which shall be covered by this contract.
- The consultant shall be available to work with the Bank's team during the orientation and analysis missions.
- Coordinator: The program's team leader—Hernando Hintze (CSD/RND)—and economist
 —Héctor Valdés Conroy (CSD/RND)—shall be in charge of supervision. Nevertheless,
 the consultant shall coordinate with the technical consultants of each component as well
 as with the executing unit of the program.
- Department/Division: Environment, Rural Development, and Disaster Risk Management Division (CSD/RND).

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDB member country.

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

Suriname CSD/RND

Consultancy: SOCIO-ENVIRONMENTAL ANALYSIS (SU-L1052) TERMS OF REFERENCE

I. Background

- 1.1 With the support of the IADB, the Government of Suriname embarked on a process of agricultural sector reforms to modernize its agricultural public services through a Programmatic Policy Based Loan (PBP). The first of a total of three operations, SU-L1033 was approved in 2014, and the second, SU-L1032, is yet to be approved. One of the components of these loans supported the modernization of agricultural I&D, and included actions to improve governance of I&D systems; coordination among Government agencies with I&D responsibilities; and prepare rehabilitation as well as operation and maintenance plans for secondary I&D infrastructure. The policy loans set up the foundation for a first investment operation in agricultural health and food safety, agricultural innovation (SU-L1020, approved in 2017), that will be complemented with the proposed operation
- 1.2 The goal of SU-L1052 is to increase agricultural productivity in Suriname through investments in infrastructure and management of irrigation and drainage (I&D) systems; the transfer of these system's operation and maintenance (O&M) responsibilities to farmers organized in WBs; and to improve the conditions for information-based policy-making by increasing information available on agriculture. Main results expected are: (i) increase in rice productivity in I&D areas, (ii) WBs operating and contributing to O&M; and (iii) improved statistics and information systems available.
- 1.3 Irrigation and Drainage (I&D) Component. The program is expected to finance: (a) rehabilitation/modernization of irrigation and drainage infrastructure selected to benefit a large number of small and medium farmers through improvements in productivity and/or reduction in the risks of flood or saltwater intrusion; (b) support for developing and strengthening water boards' capacity to take over the O&M of I&D systems; (c) capacity building of government bodies in charge of water resource administration for irrigation; (d) design and implementation of incentives mechanisms aimed at improving efficiency in farmers' water use and increasing their willingness to cover O&M costs. The component will take into consideration the expected impacts of climate change to ensure that the Program contributes to climate resilience in the agricultural sector. Additionally, activities and investments under this component will include measures to guarantee the sustainability of the water resource for its different uses.
- 1.4 Agricultural Statistics and Information Component. Some of the activities that could be financed are: (i) design of the Agricultural Information System, (ii) design and implementation of the agricultural census, (iii) design and collection of one or two years

of agricultural surveys with probabilistic sampling, (iv) institutional strengthening, and (v) annual update of the estimates of the public support to the agriculture sector.

II. CONSULANCY OBJECTIVE

2.1 The consultancy objective is to conduct the Environmental and Social Impact Analysis of the Sustainable Agricultural Productivity Program (SU-L1052).

III. Main activities

- 3.1 Review relevant background documents and existing data on the topic.
- 3.2 Support IDB Mission (tentatively November 2016 and/or January 2017) in the dialogue with the Government in relation to the environmental and social impacts of the program.
- 3.3 Interview key official authorities of the Ministry of Agriculture, including Agricultural Health and Food Safety services and farmers to discuss the environmental and social aspects related to the Program.
- 3.4 Review national legislation and departmental procedures applicable to environmental assessment and the subject of the operation. Analyze sustainability standards and/or best practices applicable to rice production (particularly related to water quality and quantity).
- 3.5 Identify the environmental and social direct, indirect, and cumulative impacts and risks of impacts, and identify mitigation measures. Specific areas of analysis should include, but not be limited to:
 - impacts of ongoing or increased water extraction from the Nani Swamp (and other water bodies) on biodiversity, and other potential impacts on natural and critical natural habitats, based on existing data;
 - impacts related to water quality (on receiving environment) and to human health of workers and residents, as a result of pesticide use
 - the exacerbation of these and other impacts as a result of climate change;
 - institutional deficiencies in environmental and social management
 - social discontent among local farmers due to new tariffs for water usage
- 3.6 Prepare the Environmental and Social Analysis report including Environment and Social Management Plan (ESMP). The ESA and ESMP should be prepared following to the Bank's safeguard policies and in compliance with national legislation. The ESA and ESMP should include at a minimum:
 - An outline of the program's objectives and major components, detailing the infrastructure investments (including location maps);
 - A summary of relevant environmental, social, and occupational health requirements (local and national requirements, and international requirements, such as those of the IDB and/or other international best practice);

- An environmental and social baseline for the direct and indirect area of influence of the program;
- A stakeholder mapping and consultation plan, including the identification of indigenous groups in the direct and indirect area of influence of the program;
- A description and analysis of the direct, indirect, and cumulative (positive and negative) environmental, socio-cultural (including if applicable gender issues, impacts on indigenous communities, afro-descendants, vulnerable groups), health and safety impacts and risks associated with the program;
- An analysis of the risks posed by natural disasters and climate change on the program;
- An analysis of the environmental and social capacity to manage these impacts;
- A description of environmental and socio-cultural mitigation and management measures to address identified impacts and risks, and the activities to implement the mitigation and management measures;
- Proactive measures to improve the environmental management of the Ministry of Agriculture related to the Program;
- Institutional responsibilities for to implement measures;
- A detailed schedule and budget for activities.
- 3.7 Include as an annex, an environmental and social monitoring system and plan, establishing a baseline, defining indicators, frequency and methods of measurement, liabilities, responsibilities, and costs.
- 3.8 If more detailed studies or assessments are required based on the analysis conducted, to determine the extent of the impacts and risks of the project, which do not fit into the scope of this consultancy (such as a more detailed biodiversity assessment, which would require data collection), these should be clearly identified, and an approximate indication of the timing and resources indicated.
- 3.9 Provide support to conduct public consultations required as part of the process of social and environmental analysis (at least one instance based on an advanced draft of the ESA and ESMP), and summarize this process, key outcomes and decisions taken as a result (a consultation summary to be annexed to the final ESA).
- 3.10 Any assumptions should be clearly stated.

IV. Reports / Outputs

- 4.1 The consultant shall produce the following reports:
- 4.2 A work plan, establishing a schedule, indicating any main information needs, an intiial indication of potential stakeholders expected to be interviewed during the process, and any major assumptions.
- 4.3 A preliminary report, which will contain the key elements of: (i) the environmental and social impact assessment (ESA), (ii) the Environmental and Social Management Plan

- (ESMP); and (iii) the Consultation Plan. This draft should be advanced, and fit for disclosure publicly. (31 January 2017)
- 4.4 A final report, which will contain: the final ESA and ESMP, which will incorporate the results of the public consultation, comments from the Bank and the Ministry of Agriculture. (30 March 2018)

V. Schedule of payment

- Work plan (within two weeks of contract signature): 30% (October/November 2017)
- Intermediate report: 40% (January 2018)
- Final Report: 30% (March 2018)

VI. Qualifications:

- Academic Degree / Level & Years of Professional Work Experience: Advanced degree in a relevant field such as environmental science, biology, rural sociology, or project planning and preparation; at least 10 years of experience;
- Languages: Fluency in oral and written English;
- Areas of Expertise: Expertise in the field of environmental and social impact assessments of 10 years, preferably including projects in the agricultural sector;
- Skills: Good knowledge of Environmental and social impact assessments.

VII. Characteristics of the Consultancy

- Consultancy category and modality: Products and External Services Contractual, Lump Sum:
- Contract duration: October 2017 March 2018 (Estimated 30 days);
- Place of work: Paramaribo and Nickerie, Suriname, and consultant's residence (two trips to Suriname, each trip 5 days + travel);
- Coordinator: Natasha Kate Ward, Senior Environmental Specialist (VPS/ESG) and Hernando Hintze, Rural Development Specialist (CSD/RND).

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

INE/RND

SURINAME SUSTAINABLE AGRICULTURAL PRODUCTIVITY PROGRAM (SU-L1052)

DESIGN OF AN AGRICULTURAL INFORMATION SYSTEM TERMS OF REFERENCE

I. BACKGROUND AND JUSTIFICATION

- 1.1 One of Suriname's priorities to attain sustained growth is to increase the competitiveness of the agricultural sector. In 2014, agriculture accounted for 16% of the labor force, 9% of total GDP, and 7% of total export earnings (second to mining) (Suriname Central Bank, 2015). Nevertheless, Suriname has an important food trade deficit. In 2015, its food exports were US\$97 million (of which rice accounted for 40,9%, bananas 22,8% and fish products 34,5%), while imports were US\$193 million. The main challenge for the sector is overcoming its low productivity, as measured for instance by the total factor productivity (TFP) annual growth rate, which was almost zero between 1980-2012. This rate is one of the lowest in the region (Nin-Pratt et al., 2015).
- 1.2 Agriculture in Suriname has unused capacity, particularly land, that should be put back into production. For example, rice planted area in 1996 was 61.800 ha vs 51.000 ha in 2015. Only 0.4% of the country's land area is dedicated to agriculture. Around 85% of the land deemed suitable for agricultural production is in the coastal plains, mainly in the Districts of Nickerie, Coronie, Saramacca, and Commewijne. These areas face two challenges: a dry season with water shortages and a rainy season causing excess water on agricultural land. Adding to these challenges are the potential effects of climate change, particularly rising sea levels causing seawater intrusion in agricultural irrigation systems.¹
- 1.3 Rice is Suriname's most important agricultural crop, with the highest share in total value of agricultural production and it is the population's main staple food. Average rice yields in Suriname are 4,8 t/ha. According to the research center in Nickerie, SNRI/ADRON, current potential is 6 t/ha. Moreover, the low productivity challenge is being magnified by climate change impacts. In fact, the decrease in agricultural productivity over the last decades has been linked -in part- to climatic events including changes in precipitation patterns and high winds.²
- 1.4 While increasing productivity is a priority for the government, a key component for improved policy making and decisions on government expenditures is detailed knowledge of the sector. With the last agricultural census being taken in 2009, there is currently little field-level information collected considering adequate statistical methods that can be used for this purpose. The PDP reflects on the need to upgrade agricultural information systems for improved decision making.

Climate change impacts that significantly threaten agricultural production in Suriname include –for example—seawater intrusion, variability of rainfall patterns, occurrence of pest and diseases, and extreme weather patterns (Second National Communication -Office of the President of the Republic of Suriname, 2016).

² Idem.

- 1.5 Irrigation and Drainage in Suriname (I&D). The main problems observed in I&D are the lack of adequate system's maintenance; and the fact that users do not participate in managing the systems and covering O&M costs.3 Water management systems were initially built in colonial times to drain marshy soils and thus allow for production. Since the 1980s, funds for maintaining I&D systems have not been enough to cover adequate operation and maintenance (O&M) costs and now have reduced capacity due to deterioration of infrastructure and sedimentation in the canals, which affects productivity and the area that can be irrigated. O&M costs of primary and secondary I&D infrastructure (outside farmers' plots) have been traditionally covered by the Government of Suriname (GoS), causing a significant and unsustainable financial burden. Following international best practices4, and considering budgetary restrictions, the GoS aims to transfer the operation and maintenance of the secondary infrastructure to farmers, organized in water boards (WB). Currently, there are 14 WB at various stages of development (all but one in the Nickerie District). However, these WB are still weak and lack adequate capacity to take over the O&M responsibilities.
- 1.6 Agricultural Statistics and information. Availability of relevant agriculture statistics and information for policy-making and investment promotion is limited. The PBP identified policy areas of improvement and progress has been achieved in identifying the data to be collected and methods to be applied. Successfully facing the sector challenges ahead, framed under the Agricultural Strategy 2016-20, requires a better understanding of the evolving situation in the sector, and thus, better and more detailed agricultural information.
- 1.7 With the support of the IADB, the GoS embarked on a process of agricultural sector reforms to modernize its agricultural public services through a Programmatic Policy Based Loan (PBP). This program is supporting the modernization of agricultural I&D and of Agricultural Statistics, among other topic areas in agriculture. The policy loans set up the foundation for a first investment operation in agricultural health and food safety, agricultural innovation (SU-L1020, approved in 2017), that will be complemented with the proposed operation.
- 1.8 The goal of SU-L1052 is to increase agricultural productivity in Suriname through investments in infrastructure and management of irrigation and drainage (I&D) systems; and to improve the conditions for information-based policy-making by increasing information available on agriculture. The operation will have two components.
- 1.9 Component I: Irrigation and Drainage (I&D). This component seeks to improve the use and management of the I&D systems in Suriname, especially in Nickerie District, by addressing current failings in infrastructure, and deficient user participation in the management and maintenance of the system. The program will include financing for: (a) rehabilitation/modernization of I&D infrastructure selected to benefit a large number of small and medium farmers through improvements in productivity and/or reduction in the risks of flood or saltwater intrusion; (b) support for developing and strengthening WB capacity to take over the O&M of I&D systems; (c) capacity building of government bodies in charge of water resource administration for irrigation; (d) design and implementation of

Alberto Garrido, Paula Novo and Jose M. Sumpsi. 2013. Suriname - Irrigation and Drainage. Report prepared for the IDB

One of the pillars of good water governance is the principle of subsidiarity, or that decisions are made at the lowest level possible. Following this principle, and in response to concerns about natural resource management and budgetary restrictions, Irrigation Management Transfers have been among the most important reforms in I&D management during the last decades. Restrepo, et al. 2007. Irrigation Management Transfer. FAO Water Reports 32.

incentives mechanisms aimed at improving efficiency in farmers' water use and increasing their willingness to cover O&M costs. Activities and investments under this component will include measures to guarantee the sustainability of the water resource for its different uses (agricultural, environmental and human consumption), particularly by taking into account climate change impacts (i.e. in regard to water supply and demand) and considering adaptation measures.

- 1.10 **Component II: Agricultural Statistics and Information**. The objective of this component is to strengthen the LVV Department of Agricultural Statistics by improving its information systems and analytical capabilities. The component will finance (i) design of the Agricultural Information System, (ii) design and implementation of the agricultural census, (iii) design and collection of one or two years of agricultural surveys with probabilistic sampling, (iv) institutional strengthening, and (v) annual update of the estimates of the public support to the agriculture sector.
- 1.11 As part of the preparation of the program, the IDB will hire a consultant to design an Agricultural Information System (AIS) for Suriname.

II. CONSULTANCY OBJECTIVES

2.1 The general objective of this consultancy is to assist in the design of Component II of the Sustainable Agricultural Productivity Program (SU-L1052). The specific objective is to develop a Strengthening Plan of the AIS of Suriname.

III. MAIN ACTIVITIES

- 3.1 To achieve its specific objective, the consultant will (i) update the data collection plan established in the context of operation SU-L1032 (including methodology, contents, and periodicity of each item), (ii) outline the material, human, and financial (budget) resources necessary for each item in the data collection plan, (iii) develop an institutional strengthening plan that includes capacity building activities for the entities involved in the AIS as well as a suggested institutional framework (the tasks and responsibilities that each of those entities should carry out), and (iv) produce a prioritization of the activities necessary to develop the AIS.
- 3.2 To that end, the consultant shall carry out at least the following activities:
 - Work in close collaboration with the team of the program and other consultants hired for the design of the program;
 - Review the existing background documentation on the program, including all the Bank's previous work aimed at helping Suriname develop an agricultural information system (i.e., operation SU-L1032);
 - Obtain and review all the relevant literature in the context of the program, including FAO's and other development agencies' recommendations and best practices for agricultural information systems;
 - Review and incorporate, as applicable, the Bank's work on developing agricultural information systems in other countries (e.g., operation RG-T2526);
 - Contribute to the final definition of result and impact indicators to be included in the Results Matrix, in consultation with the team of the program;

Participate in the orientation and analysis missions of the program;

IV. REPORTS / DELIVERABLES

- 4.1 Deliverable 1. An initial report including a diagnosis of the current status of Suriname's agricultural information system, including (i) quality and availability of agricultural information, (ii) information needs—indicating priorities determined by the structure and trends of the agricultural sector— and (iii) the country's capacity to collect, process, analyze, and publish new agricultural information.
- 4.2 Deliverable 2. A preliminary report including (i) an update of the data collection plan established in the context of operation SU-L1032, (ii) an outline of the material, human, and financial resources necessary for the data collection plan, (iii) a draft institutional strengthening plan, and (iv) a preliminary prioritization of the activities necessary to develop the AIS.
- 4.3 Deliverable 3. A final report containing a finalized version of (i) an update of the data collection plan established in the context of operation SU-L1032 (including methodology, contents, and periodicity of each item), which should be aligned with the Global Strategy for Improving Agricultural and Rural Statistics as well as any national plans and strategies for the sector, (ii) a detailed outline of the material, human, and financial (budget) resources necessary for each item in the data collection plan, (iii) an institutional strengthening plan that includes capacity building activities for the entities involved in the AIS as well as a suggested institutional framework (the tasks and responsibilities that each of those entities should carry out), and (iv) a prioritization of the activities necessary to develop the AIS, which should also be aligned with the Global Strategy for Improving Agricultural and Rural Statistics as well as any national plans and strategies for the sector.
- 4.4 All deliverables shall be written in English.

V. PAYMENT SCHEDULE

- 5.1 Payment will be made for approved deliverables according to the following schedule:
 - Fifteen percent (15%) no later than 15 calendar days after signing of the contract;
 - Twenty five percent (25%) no later than 15 calendar days after delivery and approval of Deliverable 1;
 - Twenty five percent (25%) no later than 15 calendar days after delivery and approval of Deliverable 2:
 - Thirty five percent (35%) no later than 15 calendar days after delivery and approval of Deliverable 3.
- 5.2 Bank approvals necessary for the execution of payments shall be granted in relation to the accomplishment of the technical specifications of the goods and services provided as well as to the fulfillment of formal and administrative aspects linked to the use of resources.

VI. QUALIFICATIONS OF THE CONSULTANT

- 6.1 The consultant shall hold a Master or PhD in Agricultural Economics, Development Economics or Statistics, and have ten years of experience conducting similar studies, or an equivalent combination of education and experience.
- 6.2 Languages: The consultant should be fluent in English; knowledge of Dutch will be considered an important asset.

VII. CHARACTERISTICS OF THE CONSULTANCY

- Category and modality: Products and External Services Contractual (PEC), Lump Sum.
- Contract duration: Approximately 6 (non-continuous) months of work.
- Place of work: The consultant shall provide his/her services from his/her place of residency and shall make two 7-days trips to Suriname, the expenses of which shall be covered by this contract.
- The consultant shall be available to work with the Bank's team during the orientation and analysis missions.
- Coordinator: The program's team leader—Hernando Hintze (CSD/RND)—and economist
 —Héctor Valdés Conroy (CSD/RND)—shall be in charge of supervision. Nevertheless,
 the consultant shall coordinate with the technical consultants of each component as well
 as with the executing unit of the program.
- Department/Division: Environment, Rural Development, and Disaster Risk Management Division (CSD/RND).

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDB member country.

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

PROCUREMENT PLAN FOR BANK EXECUTED OPERATIONS

Country: Suriname

SU-T1101

Title of Project: Support for the

Period covered by the Plan: [XX months]

Total Project Amount: \$ 100

	Procurement Type (1) (2)	Service type (1) (2)	Description	Estimated contract cost (US\$)	Selection Method (2)	Type of Contract	Source of Financing and Percentage					Estimated date of the procurement	Estimated contract start date	Estimated contract length	Comments
Component							IDB/MIF			Other External Donor					
							4	mount	%	Amount	%	notice			
Component 1	A. Consulting services	(AM-650)	Expert engineer on Irrigation and drainage to lead analysis and prioritization of water boards and specific investments	\$ 30,00	o scs	Lump Sum	\$	30,000	100%	\$ -	0%			6 months	
Component 1	A. Consulting services	(AM-650)	Junior engineer on irrigation and drainage - rehabilitation plans for water boards	\$ 12,00	0 IICQ	Lump Sum	\$	12,000	100%		0%			6 months	
Component 1	A. Consulting services	Individual Consultant (AM-650)	Engineer on irrigation and drainage - final designs	\$ 35,00	0 IICQ	Lump Sum	\$	35,000	100%		0%			6 months	
Component 1			Farmers' capacity and willingness to pay for operation and maintenance of I&D systems	\$ 28,00	0 IICQ	Lump Sum	\$	28,000	100%		0%			6 months	
Component 1	A. Consulting services		Support to water boards and preparation of strenghtening capacity plan	\$ 45,00	0 IICQ	Lump Sum	\$	45,000	100%		0%			12 months	Two consultants
Component 1	C. Non consulting services	Corporate Procurement (GN-2303)	Workshops for capacity strenghtening for water boards	\$ 5,00	0	Lump Sum	\$	5,000	100%		0%				
Component 1	A. Consulting services	(AM-650)	areas	\$ 45,00	0 IICQ	Lump Sum	\$	45,000	100%		0%			8 months	Two consultants
Component 1	A. Consulting services	Individual Consultant (AM-650)	Design of Agricultural Information System and its execution plan	\$ 20,00	0 IICQ	Lump Sum	\$	20,000	100%		0%			6 months	
Component 2	A. Consulting services	Individual Consultant (AM-650)	Environmental and social impact analysis	\$ 21,00	0 IICQ	Lump Sum	\$	21,000	100%		0%			5 months	
Component 2	A. Consulting services	Individual Consultant (AM-650)	Institutional capacity analysis	\$ 19,00	0 IICQ	Lump Sum	\$	19,000	100%		0%			5 months	
Component 2	A. Consulting services	Individual Consultant (AM-650)	Design of project management tools	\$ 20,00	0 IICQ	Lump Sum	\$	20,000	100%		0%			4 months	
Component 2	A. Consulting services	(AM-650)	Ex ante economic analysis	\$ 20,00	0 IICQ	Lump Sum	\$	20,000	100%		0%			4 months	
Component 3	A. Consulting services	Consulting Firm (GN-2765)	Survey collecting for baseline	\$ 50,00	o scs	Lump Sum	\$	50,000	100%		0%			4 months	
Component 4	A. Consulting services		Support to Ministry of Agriculture in the preparation of the Agricultural Strategic Plan 2017-21	\$ 50,00	0 IICQ	Lump Sum	\$	50,000	100%		0%			10 months	Two expert consultants and a junior consultant
											0%				
											0%				
Prepared by:			TOTALS	\$ 400,00	0		\$	400,000	100%	\$ -	0%				

⁽¹⁾ Grouping together of similar procurement is recommended, such as publications, travel, etc. If there are a number of similar individual contracts to be executed at different times, they can be grouped together under a single heading with an explanation in the comments column indicating the average individual amount and the period during which the contract would be executed. For example: an export promotion project that includes travel to participate in fairs would have an item called "airfare for fairs", an estimated total value od US\$5,000, and an explanation in the Comments column: "This is for approximately four different airfares to participate in fairs in the region in years X and X1"

^{(2) (}i) Individual consultants: ICQ: Individual Consultant Selection Based on Qualifications; SSS: Single Source Selection. Selection process to be done in accordance with AM-650.

^{(2) (}ii) Consulting firms: Per GN-2765-1, Consulting Firm selection methods for Bank-executed Operations are: Single Source Selection (SSS); Simplified Competitive Selection (<=250K) (SCS); Fully Competitive (>250K) (FCS); and Framework Agreement Task Order (TO). All Consulting Firm selection processes under this policy must use the electronic module in Convergence.

^{(2) (}iii) Goods: Per GN-2765-1, par. A.2.2.c: "The procurement of goods and related services, except when such goods and related services are necessary to achieve the objectives of the Bank-executed Operational Work and are included in the consulting services contract and represent less than ten percent (10%) of the consulting services contract value."