**Institutional Strengthening of the National Quality Infrastructure in Guyana**

**(GY-T1129)**

**TERMS OF REFERENCE**

**Consultancy for the Organizational Structure for the Guyana National Bureau of Standards**

1. **Background**

Guyana experienced a 4.5% average economic growth during 2009-2014 period, mainly due to due to the expansion of mining and agricultural exports and the high prices of commodities, in particular gold.[[1]](#footnote-1) However, in 2015, as a response to the decline in international prices of commodities, economic growth declined to 1.6%, highlighting the vulnerability of the economy due to the high concentration of exports, mainly related to mineral and agricultural exports (45% correspond to gold, 18% to rice, raw sugar 6.6% and crustaceans 3.5%)[[2]](#footnote-2). Regarding Guyana’s economic structure is based on strong links between the main engines of growth (mining and agriculture) and other domestic sectors, as most goods (tradable and non-tradable) and services are bought on the domestic market.[[3]](#footnote-3) In this regard, there is consensus among public and private stakeholders on the need to diversify the economy and the export base, as well as to improve efficiencies and remove bottlenecks in the sectors that are currently the engine for growth, i.e. mining and agriculture.

The Ministry of Business is developing a strategy to support SMEs productivity, value added and export readiness, considering the modernization of traditional sectors: sugar, rice, forestry, and mining, and supporting new growth and diversification in new sectors: non-traditional agriculture, aquaculture, business process outsourcing/information technology, and tourism, under a social and environmentally sustainable framework.[[4]](#footnote-4) However, there is a need to modernize the current National Quality Infrastructure in order to facilitate the growth of businesses in the local and external markets, protect the people and the environment and provide recognition for the Guyanese brand in the international market.[[5]](#footnote-5) This modernization should be accompanied by a trade strategy to boost the participation of domestic firms in international markets.

Due to the need to implement best practices in the National Quality Infrastructure, the production and trading of goods and services in the principal sectors face a number of non-compliance risks in both the local and export markets with significant impact on competitiveness, product development, consumer protection and innovation such as: (i) rejection of products at border inspection point; (ii) increased costs due to delays while inspections/test are being done in overseas laboratories; (iii) disruptions in trade, loss or inability to expand into new market; (iv) loss of revenue where inaccurate measurements and test results are used; and (v) inability to command premium price where quality and safety products are not defined.[[6]](#footnote-6) In this regard to export markets in both traditional and non-traditional exports require compliance with technical requirements that are standards based.[[7]](#footnote-7)

The Guyana National Bureau of Standards holds primary responsibility for standardization, through a process of formulation and application of standards, technical regulations, conformity assessment procedures and metrology.[[8]](#footnote-8) However, all standardizing bodies need to modernize the legal and implementation framework of the National Quality Infrastructure,[[9]](#footnote-9) as Guyana has still has to implement national quality infrastructure practices.

The current laboratories infrastructure and equipment is not adequate for supporting exports, protect consumers and the environment**.** There are 20 existing main national laboratories offering services in metrology, chemical and microbiological and physical testing of products and materials used. These laboratories have limitations and gaps in terms of: (i) unsuitable laboratory facilities, lacking the proper physical conditions to assure reliability; (ii) absence of laboratory facility to perform tests for consumer protection and for dynamic sectors; (iii) limited calibration capacity in terms of capacity in temperature, moisture, pressure, force, volume, electricity;[[10]](#footnote-10) (iv) lack of adequate equipment and consumables; (v) outdated test methods that no longer meets the needs for the industry requirements; (vi) lack of accreditation and participation in proficiency testing programs; and (vii) insufficient trained staff for performing tests and calibrations as well as competence in use an maintenance of instrumentation.[[11]](#footnote-11) In this regard, the Government of Guyana carried out in 2014, with the support of the IDB a needs assessment of the NQI and related laboratories and is contemplating its implementation through and IDB loan.

The interventions of the GY-L1059 Program call for a shift in the practice of quality standards by supporting and promoting export activity under a modern framework, in which the technical and physical capacity of the GNBS will be brought to a level commensurate to best international practices and will allow the country to be able to respond in a more cost effective manner to the requirements of the new international markets. The approach proposed is integrative and flexible as well. In this regard, an analysis of the governace structure of the GNBS has to be modernized in order to tackle any possible conflict of interest and to adjust to best practices.

1. **Objective of Consultancy**

The objectives of the consultancy is the revision of the existing institutional, legal and regulatory framework for the National Quality Infrastructure and the proposal for improving laboratories and make recommendation of the following aspects (i) analysis of the current institutional, legal and regulatory framework and governance structure contrasting it with best practices, requisites of global markets, and lessons learned (ii) analysis and to ensure good governance and create institutions free from conflict of interest; (iii) Short term proposals for an efficient institutional, legal and regulatory framework, including mechanisms to assure sustainability and governance; and (iv) analysis on the sustainability of the proposal.

1. **Activities**

**Analysis of the current institutional, legal and regulatory framework**. The consultant shall review all available legal and regulatory documentation that currently govern the NQI, in particular the GNBS and its governance structure. The consultant shall also review the proposed new legislation and contrast it with best practices and lessons learned.

**Analysis and Recommendations for the Governance of the GNBS.**Based on the previous analysis, the consultant shall make recommendations regarding the implications, best practices and the particular needs of Guyana and the role of stakeholders.

**Short term proposals and mechanisms to assure sustainability and governance**. The consultant shall make proposals for assuring the most efficient performance of the NQI, in particular the GNBS that do not require substantial legal changes.

***Sustainability of the SAL***: The consultant, in the revision of the documentation, shall propose a series of key actions that will allow for the sustainability of the SAL, including, among others, a modern governance structure, management of conflicts of interest, the fee and financial structure, and the mechanisms go guarantee sustainable operation.

1. **Expected, results reports**

**Work plan:** Consultants will deliver a detailed work plan and a timetable of activities initiated 7 days consulting.

**Initial Analysis and Recommendation:** The consultant shall deliver an initial report with main findings and recommendations 15 days after starting the consultancy.

**Final Report:** The consultant shall submit a final report 30 days after the initiation of the consultancy.

1. **Payments**

30% to the signing of the contract

30% to the delivery and acceptance of the initial analysis.

40% to the delivery and acceptance of the Final Report.

1. **Characteristics of the Consultancy**

**Type of consulting:** International Individual Consultant.

**Date of onset and duration:** The start date is scheduled for xxx, with duration of 30 calendar days, including two one week visits to Guyana, the last visit to discuss proposals with stakeholders.

**Work:** The consultant will carry out activities in his/her place of work plus one visit to Guyana.

**Requirements of the consultant:** Consultant with international expertise in legal, institutional and regulatory frameworks related to private sector promotion, in particular standards and quality for private sector development. Experience in the region and knowledge of Guyana is preferable.

**Institutional Strengthening of the National Quality Infrastructure in Guyana**

**(GY-T1129)**

**TERMS OF REFERENCE**

**Consultancy for Road Map for Accreditation of Laboratories**

1. **Background**

Guyana experienced a 4.5% average economic growth during 2009-2014 period, mainly due to due to the expansion of mining and agricultural exports and the high prices of commodities, in particular gold.[[12]](#footnote-12) However, in 2015, as a response to the decline in international prices of commodities, economic growth declined to 1.6%, highlighting the vulnerability of the economy due to the high concentration of exports, mainly related to mineral and agricultural exports (45% correspond to gold, 18% to rice, raw sugar 6.6% and crustaceans 3.5%)[[13]](#footnote-13). Regarding Guyana’s economic structure is based on strong links between the main engines of growth (mining and agriculture) and other domestic sectors, as most goods (tradable and non-tradable) and services are bought on the domestic market.[[14]](#footnote-14) In this regard, there is consensus among public and private stakeholders on the need to diversify the economy and the export base, as well as to improve efficiencies and remove bottlenecks in the sectors that are currently the engine for growth, i.e. mining and agriculture.

The Ministry of Business is developing a strategy to support SMEs productivity, value added and export readiness, considering the modernization of traditional sectors: sugar, rice, forestry, and mining, and supporting new growth and diversification in new sectors: non-traditional agriculture, aquaculture, business process outsourcing/information technology, and tourism, under a social and environmentally sustainable framework.[[15]](#footnote-15) However, there is a need to modernize the current National Quality Infrastructure in order to facilitate the growth of businesses in the local and external markets, protect the people and the environment and provide recognition for the Guyanese brand in the international market.[[16]](#footnote-16) This modernization should be accompanied by a trade strategy to boost the participation of domestic firms in international markets.

Due to the need to implement best practices in the National Quality Infrastructure, the production and trading of goods and services in the principal sectors face a number of non-compliance risks in both the local and export markets with significant impact on competitiveness, product development, consumer protection and innovation such as: (i) rejection of products at border inspection point; (ii) increased costs due to delays while inspections/test are being done in overseas laboratories; (iii) disruptions in trade, loss or inability to expand into new market; (iv) loss of revenue where inaccurate measurements and test results are used; and (v) inability to command premium price where quality and safety products are not defined.[[17]](#footnote-17) In this regard to export markets in both traditional and non-traditional exports require compliance with technical requirements that are standards based.[[18]](#footnote-18)

The Guyana National Bureau of Standards holds primary responsibility for standardization, through a process of formulation and application of standards, technical regulations, conformity assessment procedures and metrology.[[19]](#footnote-19) However, all standardizing bodies need to modernize the legal and implementation framework of the National Quality Infrastructure,[[20]](#footnote-20) as Guyana has still has to implement national quality infrastructure practices.

The current laboratories infrastructure and equipment is not adequate for supporting exports, protect consumers and the environment**.** There are 20 existing main national laboratories offering services in metrology, chemical and microbiological and physical testing of products and materials used. These laboratories have limitations and gaps in terms of: (i) unsuitable laboratory facilities, lacking the proper physical conditions to assure reliability; (ii) absence of laboratory facility to perform tests for consumer protection and for dynamic sectors; (iii) limited calibration capacity in terms of capacity in temperature, moisture, pressure, force, volume, electricity;[[21]](#footnote-21) (iv) lack of adequate equipment and consumables; (v) outdated test methods that no longer meets the needs for the industry requirements; (vi) lack of accreditation and participation in proficiency testing programs; and (vii) insufficient trained staff for performing tests and calibrations as well as competence in use an maintenance of instrumentation.[[22]](#footnote-22) In this regard, the Government of Guyana carried out in 2014, with the support of the IDB a needs assessment of the NQI and related laboratories and is contemplating its implementation through and IDB loan.

As part of accreditation, a laboratory’s quality management system is thoroughly evaluated on a regular basis to ensure continued technical competence and compliance. Most of the accreditation bodies have now adopted ISO/IEC 17025 as the basis for accrediting their country’s testing and calibration laboratories, or ISO 15189 for medical laboratories. Accreditation encourages laboratories to adopt internationally accepted testing and measurement practices, where possible. With accreditation, international agreements, called mutual recognition arrangements (MRAs), enable test data to be accepted between countries. In effect, each partner in such an MRA recognizes the other partner’s accredited with ISO/IEC 17025.

The GNBS acts as a national Accreditation Focal point with the mandate to implement the activities supporting accreditation in Guyana. To date, only two laboratories have been accredited, the Guyana Rice Board and the Eureka Lab which is private. To maximize the resources that are available to support accreditation of other laboratories, an accreditation road map needs to be developed as many of the current laboratories in Guyana are seeking accreditation but not all of them are in the same stage

1. **Objective of Consultancy**

The objective of the consultancy is to support the GNBS with an accreditation map of **the** existing laboratories of the NQI in Guyana.

1. **Activities**

**Inventory of the Gaps and Needs of the Current labs**. The consultant shall the current accreditation programs available for Guyana within the region and the conformity assessment bodies that are accredited for each program and identify the Gaps and Needs for the laboratories, as well as for the GNBS to provide accreditation for the Laboratories. For this activity, the consultant shall analyze the status of each of the laboratories regarding their accreditation process with an assessment of the exiting documentation, personnel, equipment. The consultant shall perform site visits to each of the laboratories and perform workshops with relevant stakeholders.

**Prioritization of activities and Road Map.**Based on the previous analysis, the consultant shall identify the priority actions to be taken in order to support the laboratories that are in the most advanced stage for accreditation and develop an Action Plan with the activities and budget to be taken for accreditation of the priority labs. These Plan should include at least 5 laboratories as a priority and a timeline and estimated budget for a second stage of accreditation.

1. **Expected, Results Reports**

4.1 **Work plan:** Consultants will deliver a detailed work plan and a timetable of activities initiated 7 days consulting.

4.2 **Initial Analysis and Recommendation:** The consultant shall deliver an initial report with main findings and recommendations 15 days after starting the consultancy.

4.3 **Final Report:** The consultant shall submit a final report 30 days after the initiation of the consultancy.

1. **Payments**

30% to the signing of the contract

30% to the delivery and acceptance of the initial analysis.

40% to the delivery and acceptance of the Final Report.

1. **Characteristics of the Consultancy**

**Type of consulting:** International Individual Consultant.

**Date of onset and duration:** The start date is scheduled for xxx, with duration of 30 calendar days, including two one week visits to Guyana, the last visit to discuss proposals with stakeholders.

**Work:** The consultant will carry out activities in his/her place of work plus one visit to Guyana.

**Requirements of the consultant:** Consultant with international expertise in legal, institutional and regulatory frameworks related to private sector promotion, in particular standards and quality for private sector development. Consultant with experience in ISO certification and Laboratory Accreditation. Experience in the region and knowledge of Guyana is preferable.

**Institutional Strengthening of the National Quality Infrastructure in Guyana**

**(GY-T1129)**

**TERMS OF REFERENCE**

**Consultancy for Information System of Laboratories**

1. **Background**

Guyana experienced a 4.5% average economic growth during 2009-2014 period, mainly due to due to the expansion of mining and agricultural exports and the high prices of commodities, in particular gold.[[23]](#footnote-23) However, in 2015, as a response to the decline in international prices of commodities, economic growth declined to 1.6%, highlighting the vulnerability of the economy due to the high concentration of exports, mainly related to mineral and agricultural exports (45% correspond to gold, 18% to rice, raw sugar 6.6% and crustaceans 3.5%)[[24]](#footnote-24). Regarding Guyana’s economic structure is based on strong links between the main engines of growth (mining and agriculture) and other domestic sectors, as most goods (tradable and non-tradable) and services are bought on the domestic market.[[25]](#footnote-25) In this regard, there is consensus among public and private stakeholders on the need to diversify the economy and the export base, as well as to improve efficiencies and remove bottlenecks in the sectors that are currently the engine for growth, i.e. mining and agriculture.

The Ministry of Business is developing a strategy to support SMEs productivity, value added and export readiness, considering the modernization of traditional sectors: sugar, rice, forestry, and mining, and supporting new growth and diversification in new sectors: non-traditional agriculture, aquaculture, business process outsourcing/information technology, and tourism, under a social and environmentally sustainable framework.[[26]](#footnote-26) However, there is a need to modernize the current National Quality Infrastructure in order to facilitate the growth of businesses in the local and external markets, protect the people and the environment and provide recognition for the Guyanese brand in the international market.[[27]](#footnote-27) This modernization should be accompanied by a trade strategy to boost the participation of domestic firms in international markets.

Due to the need to implement best practices in the National Quality Infrastructure, the production and trading of goods and services in the principal sectors face a number of non-compliance risks in both the local and export markets with significant impact on competitiveness, product development, consumer protection and innovation such as: (i) rejection of products at border inspection point; (ii) increased costs due to delays while inspections/test are being done in overseas laboratories; (iii) disruptions in trade, loss or inability to expand into new market; (iv) loss of revenue where inaccurate measurements and test results are used; and (v) inability to command premium price where quality and safety products are not defined.[[28]](#footnote-28) In this regard to export markets in both traditional and non-traditional exports require compliance with technical requirements that are standards based.[[29]](#footnote-29)

The Guyana National Bureau of Standards holds primary responsibility for standardization, through a process of formulation and application of standards, technical regulations, conformity assessment procedures and metrology.[[30]](#footnote-30) However, all standardizing bodies need to modernize the legal and implementation framework of the National Quality Infrastructure,[[31]](#footnote-31) as Guyana has still has to implement national quality infrastructure practices.

The current laboratories infrastructure and equipment is not adequate for supporting exports, protect consumers and the environment**.** There are 20 existing main national laboratories offering services in metrology, chemical and microbiological and physical testing of products and materials used. These laboratories have limitations and gaps in terms of: (i) unsuitable laboratory facilities, lacking the proper physical conditions to assure reliability; (ii) absence of laboratory facility to perform tests for consumer protection and for dynamic sectors; (iii) limited calibration capacity in terms of capacity in temperature, moisture, pressure, force, volume, electricity;[[32]](#footnote-32) (iv) lack of adequate equipment and consumables; (v) outdated test methods that no longer meets the needs for the industry requirements; (vi) lack of accreditation and participation in proficiency testing programs; and (vii) insufficient trained staff for performing tests and calibrations as well as competence in use an maintenance of instrumentation.[[33]](#footnote-33) In this regard, the Government of Guyana carried out in 2014, with the support of the IDB a needs assessment of the NQI and related laboratories and is contemplating its implementation through and IDB loan.

Best practices from other countries in the region show that the creation of Laboratory networks will reduce inefficiencies in the system and promote collaboration. In particular, in Guyana several asymmetries in terms of equipment, physical facilities and personnel have been identified, as well as a lack of information on the type of available testing on other laboratories in the system. In this regard, in order to promote enhance collaboration between the existing laboratories, create economies of scale and collective actions toward public goods that will benefit the whole group of laboratories, the creation of a network of laboratories has been included as part of the National Quality Infrastructure Operation GY-L1059. The current TC will support the creation of an information system that will support this activity.

1. **Objective of Consultancy**

The objectives of the consultancy is to create an information system for the laboratories that are currently operating in Guyana.

1. **Activities**

**Data Gathering**. The consultant shall:

* Identify the laboratories to be surveyed with the basic information such as name, location, if its public or private, and contact information. There is an initial analysis of the current laboratories from the Gaps and Needs Analysis financed by the IDB through the Competitiveness Enhancement Program:
  + The GNBS Legal Metrology,
  + The GNBS Laboratory Services,
  + The Government Analyst - Food and Drug Department Laboratories
  + The Institute of Applies Science and Technology Laboratory,
  + The Guyana Rice Board Development Laboratory,
  + The GLDA Veterinary Public Health Laboratory,
  + The Pesticide and Toxic Chemicals Control Board,
  + The Public Works Laboratory (Construction Sector),
  + The Geology and Mines Chemical and Bullion Assay laboratories
  + The National Public Health Reference,
  + The Eureka Medical and
  + The Edward Beharry and Sons Limited’s In-house Testing Laboratory
* The consultant shall verify that this list cover the total of laboratories that could potentially contribute to conformity assessment of potential exports by consulting with at least the following institutions:
  + Ministry of Business, Ministry of Health and related regulatory bodies, including the GNBS.
  + Environmental Protection Agency
  + Ministry of Agriculture and related regulatory and research bodies, including NARE.
  + Universities and Research Centers
  + Chambers of Commerce and Private Sector Associations.
* The consultant shall develop a survey questionarie (a proposal is annexed) and initiate contact with the laboratories to be contacted and start the process of collecting information.

**Processing of Information.**The consultant shall develop an information system in a database with a design that allows for information management and analysis. The information should be managed in a format that facilitates consultation and information about the types of services that the network offers. This database should also be in a fomat to be easily updated.

**Analysis and Diffusion of Information**. The consultant shall provide to the GNBS and to the participant laboratories, an analysis of the data collection and mapping exercise that involves at least the following aspects:

* + Surveyed laboratories
  + Laboratories in the System
  + Laboratory capacity and available services for each sector.
  + Laboratories with managerial systems.
  + Accredited laboratories and in accreditation process.
  + Individual needs in terms of equipment, patterns, materials, physical infrastructure, personnel, consulting services, etc.
  + Other information that the consultant considers to be included.

1. **Expected, results reports**

**Work plan:** Consultants will deliver a detailed work plan and a timetable of activities initiated 7 days consulting.

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1. **Characteristics of the Consultancy**

**Type of consulting:** International Individual Consultant.

**Date of onset and duration:** The start date is scheduled for xxx, with duration of 30 calendar days, including two one week visits to Guyana, the last visit to discuss proposals with stakeholders.

**Work:** The consultant will carry out activities in his/her place of work plus one visit to Guyana.

**Requirements of the consultant:** Consultant with international expertise in information systems for standards and quality for private sector development. Consultant with experience on designing and implementing network of laboratories. Experience in the region and knowledge of Guyana is preferable.

**Annex I. Survey Format**

**The survey aims to assess the provision of laboratories for research and development, tests and calibrations Guyana, at the same time determine which laboratories should be or can be strengthened. It is also required to determine the potential each laboratory has to support the country's small and medium-sized industry.**

The survey must include basic information about standardization, certification, accreditation, certification systems and international reference, references on international standards; conformity assessment, metrology process, management principles and methods, as well as the auditing systems. Must have facilities for the communication interpersonal and be equipped with of a vision holistic and capability of synthesis and of transmission objective of ideas in the world technological. The interviewers should be familiar with the methodology of ISO 19011 and sufficient technical expertise in the evaluation of laboratories according to ISO 17025.

This survey must be filled for each visited laboratory. If an agency or company has several laboratories, must be filled a single survey for each of them.

Each one of them items of evaluation tool has a brief instruction on the action that must perform the surveyer for fill the item. In the pages following are explains something more about each one of them and their criteria of application.

Most of the items require closed questions, which lead to responses of quantitative or specific information, such as the code of a rule, a certain amount, or a physical parameter. Only items in section 4, to investigate aspects of large equipment and infrastructure, require open questions.

At the end of the survey, the interviewer has of space enough to reflect their appreciations personal and/or information complementary that considers relevant.

The survey must be filled clearly or be edited on electronic medium.

For the purposes of validating responses, each sheet shall be signed by the interviewer and the interviewee.

**EXPLANATION OF ITEMS OF THE INSTRUMENT OF EVALUATION**

In the box upper right specify the sector that the laboratory belongs through the following nomenclature:

**C: calibration**

**E: trials**

**A: food**

**U: University**

Then, start with the preparation of the survey according to the following instructions:

**1.1 name of the laboratory**

Write the name legal of the laboratory, according to was registered or appears in official documents.

**1.2 address or organizational affiliation area**

Include the name , address, management or administrative area of the evaluated laboratory.

**1.3 name of the institution**

Place the name complete of the institution to which belongs the laboratory (institutions private, universities, companies, etc.)

**1.4 Organization of affiliation**

Identify with your legal name, the body to which the laboratory is attached. If it is a private company, indicate the business register.

**1.5 interviewee / post / email**

Write the full name, position and profession of the person interviewed, as well as the personal contact and electronic mail, as specific as possible on this, to ensure that the future channels of communication are maintained. Try interview at the managerial or responsible technical level of the laboratory, that has access to strategic information, statistics, administrative and technical aspects of the laboratory.

**1.6 Tel / Fax / website**

Write the numbers telephone and fax, of the Laboratory. AIlways include the area codes, national and or international. If avaialble, include the Web site of the laboratory

**1.7 physical address - 1.8 City - 1.9 municipality - Apartado postal - 1.11 1.10 Federal entity -   
1.12. postal code**

Try to write the physical address in such a way that it can be located easily, postally or by another person who wants to visit the laboratory later. Indicate clearly the city and town internal, sector or parish, together with the municipality, its Code postal and the entity federal (State).

**1.13 Sectors of activity**

Described by itself only. May mark both options.

**1.14 Dedication of laboratory 1: little dedication; 2: medium dedication; 3: high dedication**

It explains itself only. Mark a choice for each activity: research and development (r & d), teaching, services or others.

**1.15 list the amount of testing that takes place at the year laboratory, by its nature (may indicate several options)**

Described by itself only. Can mark several options. Base is in records administrative and/or accounting, not is support in values of billing but of quantity of certificates of tests and/or calibrations issued.

**1.16 main industrial sectors served**

On this table to mark the main activity of the laboratory i.e. what industry heading its services (can mark all that apply).

**2. services to third parties**

**2.1 write in the boxes, the scope of the testing or calibration services provided laboratory associated to the standard it applied**

In each box, describe the specific the scope of each service of calibration that currently he laboratory provides. Indicate the standard that is applied in each case. If the laboratory is accredited for the test or calibration, indicate in the appropriate box the body that accredited, by specifying the year of expiration. It is valid if you are not accredited or is in the process of accreditation.

**3. Organization, staff and infrastructure**

**3.1 Write in the boxes, the agencies that are accredited or certified laboratory,**

**Below, write the year of maturity for each case.**

Both accreditations and certifications granted by the respective bodies, have a time of validity, typically between 2 and 4 years, and can vary.

**3.2 profile of the Organization of the laboratory**

This point inquires about some important aspects have to do with the ISO 17025 "General requirements for the competence of testing and calibration laboratories". For each item, rate the level of readiness, according to the following criteria:

**NE:** when there is absolute absence of aspects included in the item, they are not mentioned in the procedures nor does it apply in managing regular laboratory.

**Poor:** when their existence and/or implementation is barely mentioned in internal procedures, applied any time in the past or is applied sporadically without continuity or systemic arrangement, is applied by the minority of people instead of the staff that you should apply it or are not sufficiently documented results. The objectives of the management could compromise this deficiency.

**Enough:** when their existence and/or implementation is mentioned sufficiently in internal procedures but its application once did not take place or sporadically fails to do, without that commitment goals or jeopardize the operation, reliability and results of laboratory.

**Excellent:** When the aspects are thoroughly reflected in internal procedures, are widely disseminated and known by all staff, the methods are fully integrated in the culture of the Organization, documented their results which are always positive and contribute to the reliability of the laboratory.

**All the items in this array must be answered.**

**3.3 specify the quantity total of people that works in the laboratory according to each classification and point the surface occupied by each function, according to the table.**

Register only the personal fixed or of career that works directly in the laboratory. Temporary personnel is only due to circumstantial demands. Determine the physical area that occupies each unit or organizational segment, according to the table.

**3.4 information additional about the laboratory**

Oriented information is requested in this table to determine the capacity of the laboratory to extend its normal operations and their willingness to engage in a program of accreditation. If question 1.14 determined that the laboratory provides services to third parties, skip the question 3.4. a and pass the 3.4. b. If the response 3.4. b is affirmative, list and specify them trials or quantities in which the laboratory want to prove is. In the case otherwise, explain the reason by which the laboratory not want the accreditation.

**4 Needs Detection**

**4.1 what instruments or measuring systems do not can be calibrated in the country?**

Detail all those instruments or measuring systems are available currently in the laboratory whose calibration may not be carried out in the country. Explain why not is made, specifying if is must to reasons technical, economic, lack of knowledge and information about them entities that perform such calibrations, etc.

**4.2. Areas for expansion, modernization or extension to new services.**

Acording to the scope of services of the laboratory specify which should be expanded or modernized (1, 2, 3, 4, 5 or 6 place a single option). Also, indicate which new service is planned to be provided with the corresponding justification.

**4.3 equipment**

**4.3.1 describe the main instruments or equipment testing and/or calibration you need lab**

Carefully record this fact and ask for that they are prioritized 5 equipment or means test that require laboratory to improve their ability to meet their growth targets. This question is directly related to the question 4.2, which must declare the number of the scope for which is required for each team. Must exist a justification strategic (new market to be addressed), technical (obsolescence, lack of spare parts, change of technology, etc.) or administrative (reduction of costs, rationalization of resources and work, modernization of the methods, necessary change of supplier, etc.). Try of specify the cost associated to each team, not has that deal is of a quantity exact, only is requests a dear.

**4.4. infrastructure**

**4.4.1 describe the 5 main aspects of physical infrastructure needed for laboratory to improve their capabilities**

Ask to be prioritized le 5 aspects of infrastructure that require laboratory to improve their ability to meet their growth targets. In any case, there must be a reasonable justification.

**4.5. training of resources human**

**4.5.1 describes the aspects of the training that requires the laboratory to expand or improve their skills**

Indicate those aspects that do lack the technical capabilities of the staff. Detail training courses and training necessary to improve the level of training of personnel working in the laboratory. Point in the table annex to each aspect the number corresponding to your justification (can noted several options), each an of those options are based in the way in which is would take to out the process of enlargement and improves of the personal.

**1. identification of the laboratory**

|  |  |
| --- | --- |
| 1.1 name of the laboratory | 1.2 address or organizational affiliation area |
| 1.3 name of the institution | 1.4 agency affiliation |
| 1.5 interviewee / post / email | 1.6 Tel / Fax / website |
| 1.7. physical address | 1.8 city |
| 1.9 municipality | 1.10. p.o. box |

1.13 Sectors of activity

|  |  |  |
| --- | --- | --- |
| Mark with x | Private: | Public: |

1.14 Dedication of the laboratory 1: little dedication; 2: medium dedication; 3: high dedication

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Mark with 1, 2 or 3 | R & D: | Teaching: | Services: | Others: |

1.15 list the amount of testing that takes place at the year laboratory, by its nature (may indicate several options)

|  |  |  |  |
| --- | --- | --- | --- |
| **Trials** | **NDT**  **Non-destructive testing technique** | **Calibration** | **Metrology**  **legal** |
|  |  |  |  |

1.16 main ramos industrial that serves

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Electricity |  | Mechanical |  | Chemistry |  | Automotive |  | Construction Civil |  |
| Metallurgy |  | Transport |  | Biochemistry |  | Food |  | Oil and Gas |  |
| Energy |  | Environment |  | Bless you |  | Communications |  | Manufacturing |  |
| Computer science |  | Mining |  | Agriculture and breeding |  | Sec. Industrial |  | Other |  |

**2. services to third parties**

2.1 Write in them boxes, them reaches of those trials or services of calibration that provides the laboratory associated to the standard that this applies.

|  |  |  |
| --- | --- | --- |
| **Scope** | **Standard applied** | **Accreditation**  **Body and year of expiration** |
|  |  |  |
|  |  |  |
|  |  |  |
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**3. Organization, staff and infrastructure**

3.1. type in the boxes, bodies which are accredited or certified laboratory, according to System.

(IAF, ILAC, IAAC, FONDONORMA, SENCAMER, other).

Below, write the year of maturity for each case.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SYSTEM** | **ISO9001** | **OSHA** | **ISO14000** | **ANOTHER** |
| Certifications |  |  |  |  |
| Year of expiration |  |  |  |  |

3.2 Profile of the Organization of the laboratory

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criterion: NE: does not exist; Def: poor; SUF: enough: Exc: excellent.  If not applicable, leave blank.  Qualify for the adaptation in: NE, Def, Suf, Exc. | | **NE** | **D** ef | **S** uf | **E** xc |
| **N °** | **APPEARANCE** |
| 3.2.1 | It has documented the technical procedures of the laboratory |  |  |  |  |
| 3.2.2 | There are sufficient and conditioned spaces in accordance with laboratory function |  |  |  |  |
| 3.2.3 | It participates in comparisons of ring |  |  |  |  |
| 3.2.4 | They possess the instruments or systems of measurement traceability to the SI |  |  |  |  |

3.3 Specifies the total number of people working in the laboratory according to each classification and point to the area occupied by each function.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Level of instruction** | **Quality management** | **Managements** | **Administrac.** | **Trials** | **Calibration** | **Serv. Aux.** |
| **Basic** |  |  |  |  |  |  |
| **Bach** |  |  |  |  |  |  |
| **TEC Med** |  |  |  |  |  |  |
| **TSU** |  |  |  |  |  |  |
| **Eng/sci** |  |  |  |  |  |  |
| **MSc** |  |  |  |  |  |  |
| **PhD / Dr** |  |  |  |  |  |  |
| **Total staff** |  |  |  |  |  |  |
| **Surface by function (m2 ))** | | | |  |  |  |

3.4 information additional about the laboratory

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| a. | Where laboratory is dedicated only to teaching and/or r & d, would you be able to provide service in the near future? | | Yes | Not |
| b. | The laboratory accreditation has interest. In that trial or magnitudes |  | | |
|  |  |  |  |  |

**4. detection of needs**

4.1 what instruments or systems of measurement not can be calibrated in the country?

|  |
| --- |
|  |
|  |
|  |
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|  |

4.2 what scope would extend, modernise or that would lend new scope?

Indicate the respective numbering justification:

1. To comply with a technical regulation or standard mandatory for trials that are not made in the country.
2. For give compliance to a regulatory technical or standard mandatory for expand the offer of services that is provided in the country.
3. To satisfy a demand for services that are not provided in the country and are not subject to RT or mandatory rules.
4. To expand the offer of services that is provided in the country and that not are subject to RT or standards mandatory.
5. Modernization.
6. Other, explain

Otherwise, parentheses, the key words that describe each requirement

|  |
| --- |
| **1.** |
| **2.** |
| **3.** |
| **4.** |
| **5.** |
| **6.** |
| **7.** |
| **8.** |
| **9.** |
| **10.** |
| **11.** |
| **12.** |

**4.3 equipment**

4.3.1 describe the main instruments or equipment testing and/or calibration you need the lab to improve, expand, or providing new services. Specify.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Instrument or equipment 01 | **Brand** | **Model** | **Estimated cost** | **Name and description** |
|  |  |  |  |
| Justification | Number of the scope: | | | |
|  | | | |
|  | | | |
| Instrument or equipment 02 | **Brand** | **Model** | **Cost estimate** | **Name and description** |
|  |  |  |  |
| Justification | Number of the scope: | | | |
|  | | | |
|  | | | |
| Instrument or equipment 03 | **Brand** | **Model** | **Cost estimate** | **Name and description** |
|  |  |  |  |
| Justification | Number of the scope: | | | |
|  | | | |
|  | | | |
| Instrument or equipment 04 | **Brand** | **Model** | **Estimated cost** | **Name and description** |
|  |  |  |  |
| Justification | Number of the scope: | | | |
|  | | | |
|  | | | |
| Instrument or equipment 05 | **Brand** | **Model** | **Estimated cost** | **Name and description** |
|  |  |  |  |
| Justification | Number of the scope: | | | |
|  | | | |
|  | | | |

**4.4 infrastructure**

4.4.1 describe the main aspects of physical infrastructure needed for laboratory to improve their capabilities

|  |  |  |
| --- | --- | --- |
| Appearance 01 | **Name of the physical area** | **Estimated cost** |
|  |  |
| Justification |  | |
|  | |
|  | |
| Appearance 02 | **Name of the physical area** | **Cost estimate** |
|  |  |
| Justification |  | |
|  | |
|  | |
| Aspect 03 | **Name of the physical area** | **Estimated cost** |
|  |  |
| Justification |  | |
|  | |
|  | |
| Aspect 04 | **Name of the physical area** | **Estimated cost** |
|  |  |
| Justification |  | |
|  | |
|  | |
| Appearance 05 | **Name of the physical area** | **Estimated cost** |
|  |  |
| Justification |  | |
|  | |
|  | |

**4.5 human resources training**

4.5.1. describe the aspects of the training that requires the laboratory to expand or improve their skills.

Point with the respective number.

1. Advice of skilled foreigners.
2. National expert advice.
3. Stay of specialists on the outside.
4. Formal training courses.
5. Others, explain in the leaf of clarification of the surveyor.

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**Particular insights and clarifications made by the surveyor**

**ANNEX II**

**Scheme and performance criteria**

**SERVICES-BEST SEARCH ENGINE**

**NETWORK OF LABORATORIES FOR TESTING AND CALIBRATION**

**I. scope:** set up the scheme and the criteria of the engine performance of automated search of the service offerings of the laboratories belonging to the network of laboratories of Guyana from the information contained in a data base supplied and updated by the bidders.

**II. message introductory:**

To activate the tab or link to the website of the identified network such as: Search engine of the network or other identifier services must submit the following message:

**"THE search engine of the network of laboratories of Guyana metrological service offerings is an automated search engine that lets users that demand testing services and settings identify the offers available in the country using keywords or an advanced search system"**

**"The information contained in this system and its reliability is liability absolute of the laboratories of the network who feed this database"**

**DO YOU WANT TO DO?**

Options to select:

       **Start Search service offerings**

       **Register to provide services through the system**

       **Enter or update my offer of services**

       **Send a message to the system administrator**

**III. option "start search of offers of services metrological"**

Enter this option, the plaintiffs of metrological services can start searching through two options:

**Quick Search** , by entering a keyword or set of keywords in quotation marks, so that the system behaves as a GOOGLE search engine. Is recommended opt by a system predictive of words key to avoid the entry of words key with errors spelling that the system not be capable of identify.

**Advanced search** , where the system presents a window of dialogue with options for filtering of the information discriminated by:

By magnitude of measurement (of them existing in the database)

By geographic location (of the already existing in the database)

By instrument of measurement (of them existing in the database)

By type of testing (of the already existing in the database)

By rule or procedure (of the existing ones in the database)

By category of laboratories (accredited, not accredited or all)

In the advanced search system, data filtering must be done with "and" logical condition.

Once the user enters the desired selection, the system will present coincident with the requested search data base lines on-screen.

The system will present as a result the name of the laboratory (s), web page if you have, phone contact, name and email address of the contact. Also, a link to the user optionally can display them lines of offer of services of each laboratory, specifically the lines of offers related with the instrument, the magnitude and and/or the material of reference selected.

When the system is not coincidence with the database, the system will present a message on-screen:

"No matches found with our database try other keywords or go to the advanced search option"

**IV. option "register to provide services through the system":**

The registration is free and to the end the process of registration the system assigns and delivers a key sent to the mail electronic of the applicant. It applies only to laboratories wishing to become members of the network.

Prompted previously filling the diagnostic survey (see annex 2)

The data must be recorded and stored on a database of suppliers of services. The key will be used in it thereafter by the laboratory to start the process of load or update of information in the database of services.

**V. option "enter and/or toupdate my offer of services"**

When you select this option, be prompted through a dialog window the following information:

       Mail electronic of the user

       Key

The window of dialogue must contain the option: "would forgot your key?". When the user selects this option the system sends the key to the direction of mail of the user only if existence coincidence with of the mail electronic of the user. The software developer can specify another mechanism of recovery of key deemed safer.

Only on the condition of both information matching system deploys the following Services form metrological provisions to be modified or upgraded:

At the end of the edition of the form, the user should save the information. At this time, should appear the following message:

"Your information has been successfully sent to the system administrator to review, within 24 hours the information will be processed and loaded into our database, if it is necessary will contact you"

The saved information should be sent to the email of the system administrator who reviews and checks among other misspellings, correct filling the form elements, the correct use of the symbols of the units of measurement and the correct identification of the offered service. Some formal errors can be corrected directly by the system administrator. In case of being necessary the administrator of the system can contact directly to the user to clarify doubts.

Once reviewed and approved the form in electronic format the system administrator authorizes the entry of the information to the database of the system.

**VII. option "send a message to the system administrator"**

To the Select this option the user of the system has the possibility of send a message to the administrator of the system for those purposes that is want to: complaints, claims, complaints, congratulations, questions, etc.

**VI. statistics that should produce the system:**

Starting from them results of search and answers of the system this should be capable of generate them statistics in real time that allow to the administrator of the system know the behavior of the offer and the demand on them following indexes:

Number of consultations

Number of reported laboratories

Percentage of queries that threw matches with the database

Percentages of queries that do not threw coincidence with the database

Frequency of consultation by magnitude

Frequency of consultations by type of instruments

Frequency of query by type of reference materials

Frequency of keywords used by users who threw NO coincidence

Frequency of laboratories that the system as a result of the search

**VII. update data alert:**

The system must have a warning system so that metrological service providers update their data in the form of metrological services. He message of update of data will be sent annually to the mail electronic of the person contact registered starting from the last date of update carried out in the system.

**Institutional Strengthening of the National Quality Infrastructure in Guyana**

**(GY-T1129)**

**TERMS OF REFERENCE**

**Consultancy for Information Support and Analysis**

1. **Background**

Guyana experienced a 4.5% average economic growth during 2009-2014 period, mainly due to due to the expansion of mining and agricultural exports and the high prices of commodities, in particular gold.[[34]](#footnote-34) However, in 2015, as a response to the decline in international prices of commodities, economic growth declined to 1.6%, highlighting the vulnerability of the economy due to the high concentration of exports, mainly related to mineral and agricultural exports (45% correspond to gold, 18% to rice, raw sugar 6.6% and crustaceans 3.5%)[[35]](#footnote-35). Regarding Guyana’s economic structure is based on strong links between the main engines of growth (mining and agriculture) and other domestic sectors, as most goods (tradable and non-tradable) and services are bought on the domestic market.[[36]](#footnote-36) In this regard, there is consensus among public and private stakeholders on the need to diversify the economy and the export base, as well as to improve efficiencies and remove bottlenecks in the sectors that are currently the engine for growth, i.e. mining and agriculture.

The Ministry of Business is developing a strategy to support SMEs productivity, value added and export readiness, considering the modernization of traditional sectors: sugar, rice, forestry, and mining, and supporting new growth and diversification in new sectors: non-traditional agriculture, aquaculture, business process outsourcing/information technology, and tourism, under a social and environmentally sustainable framework.[[37]](#footnote-37) However, there is a need to modernize the current National Quality Infrastructure in order to facilitate the growth of businesses in the local and external markets, protect the people and the environment and provide recognition for the Guyanese brand in the international market.[[38]](#footnote-38) This modernization should be accompanied by a trade strategy to boost the participation of domestic firms in international markets.

Due to the need to implement best practices in the National Quality Infrastructure, the production and trading of goods and services in the principal sectors face a number of non-compliance risks in both the local and export markets with significant impact on competitiveness, product development, consumer protection and innovation such as: (i) rejection of products at border inspection point; (ii) increased costs due to delays while inspections/test are being done in overseas laboratories; (iii) disruptions in trade, loss or inability to expand into new market; (iv) loss of revenue where inaccurate measurements and test results are used; and (v) inability to command premium price where quality and safety products are not defined.[[39]](#footnote-39) In this regard to export markets in both traditional and non-traditional exports require compliance with technical requirements that are standards based.[[40]](#footnote-40)

The Guyana National Bureau of Standards holds primary responsibility for standardization, through a process of formulation and application of standards, technical regulations, conformity assessment procedures and metrology.[[41]](#footnote-41) However, all standardizing bodies need to modernize the legal and implementation framework of the National Quality Infrastructure,[[42]](#footnote-42) as Guyana has still has to implement national quality infrastructure practices.

The current laboratories infrastructure and equipment is not adequate for supporting exports, protect consumers and the environment**.** There are 20 existing main national laboratories offering services in metrology, chemical and microbiological and physical testing of products and materials used. These laboratories have limitations and gaps in terms of: (i) unsuitable laboratory facilities, lacking the proper physical conditions to assure reliability; (ii) absence of laboratory facility to perform tests for consumer protection and for dynamic sectors; (iii) limited calibration capacity in terms of capacity in temperature, moisture, pressure, force, volume, electricity;[[43]](#footnote-43) (iv) lack of adequate equipment and consumables; (v) outdated test methods that no longer meets the needs for the industry requirements; (vi) lack of accreditation and participation in proficiency testing programs; and (vii) insufficient trained staff for performing tests and calibrations as well as competence in use an maintenance of instrumentation.[[44]](#footnote-44) In this regard, the Government of Guyana carried out in 2014, with the support of the IDB a needs assessment of the NQI and related laboratories and is contemplating its implementation through and IDB loan.

In this regard, the different activities for the institutional enhancement of the GNBS, in particular regarding the data gathering and analysis, need to be coordinated to assure consistency of the information and of the different studies to be carried out.

1. **Objective of Consultancy**

The purpose of the consultancy is support the GNBS and the counterpart team with analysis of the data and technical support to ensure consistency of the different activities in the TC.

1. **ACTIVITIES**

The Consultant is expected to perform the following services:

Support the GNBS and relevant stakeholders in the process of verifying the consistency of the information and coordination of the data gathering activities and information analysis.

Support the GNBs and counterpart in the technical supervision and dialogue with the consultants in charge of the activities.

1. **Deliverables**

**Reports:** The consultant will provide:

* + 1. Inception report
    2. Periodic monitoring reports
    3. Final Reports

**Means of Payment:**

30% upon contract signature

30% upon the inception report

40% upon approval of the final report.

1. **Characteristics of the Consultancy**

**Type of consultancy:** Individual consultant.

**Duration:** Ninety (90) Working Days within six months starting from xx.

**Place of work:** Guyana and the consultant’s country of origin

**Qualifications:**

* Individual consultant with Masters degree in economics, engineering or related field.
* Experience in data analytics and research.
* Experience in economic analysis and research in the Caribbean.
* . Experience in Guyana and/or the Caribbean region is preferred.

**Fortalecimiento Institucional de la Infraestructura de Calidad Nacional en Guyana**

**(GY-T1129)**

**TÉRMINOS DE REFERENCIA**

**Consultoría para Recolección de Datos de Exportadores y de Laboratorios de Guyana**

1. **Antecedentes**

El Banco Interamericano de Desarrollo (BID) está interesado en realizar un levantamiento de línea de base para la caracterización de exportadores no tradicionales y laboratorios de testeo y certificación de Guayana en acompañamiento a la operación GY-L1059 (Mejoramiento de la Infraestructura de Calidad nacional para la Diversificación Económica y Promoción del Comercio) al que busca fortalecer el sistema nacional de calidad de Guyana (agencias supervisoras y regulatorias, red de laboratorios, red de usuarios) para fomentar el crecimiento de las exportaciones no tradicionales del país.

El programa GY-L1059, apoyado por la presente TC tiene por objetivo contribuir al incremento y diversificación de las exportaciones, y al fortalecimiento de la Infraestructura de Calidad (IC). Los objetivos específicos son apoyar al conjunto de actores del sistema de IC, fortalecer los laboratorios en los ámbitos de certificación e infraestructuras, y apoyar el proceso de diversificación productiva a través del acceso a nuevos mercados o la profundización de los mismos, en particular en el ámbito de las exportaciones no tradicionales.

La necesidad de este tipo de programas se enmarca en un panorama internacional de moderación de precios y crecimiento moderado. El caso particular de Guyana, requiere consolidar una estrategia de internacionalización de la economía, y proveer a la estructura productiva de las condiciones necesarias para fortalecer el cumplimiento de estándar o normativas internacionales para el acceso a nuevos mercados.

En este sentido, dado que el programa apoya el mejoramiento de la infraestructura de los laboratorios existentes para que puedan apoyar a los exportadores no-tradicionales para que estos puedan realizar las pruebas y certificaciones requeridas para colocar sus productos en los mercados externos, es necesario profundizar en la información existente respecto a las necesidades, requerimientos y usos actuales de pruebas de laboratorio.

1. **Objetivo de la Consultoría**

Adelantar el trabajo de campo para el levantamiento de la línea de base sobre exportadores y laboratorios de Guyana.

1. **Actividades**

**Muestra de exportadores**

**Tamaños de Muestra**

Basados en los cálculos de poder preliminares de GY-L1059, se propone inicialmente una muestra de 250 exportadores/producto.

**Estrategia de Sobre-cobertura y Ausencia de respuesta no ignorada**

En todos los estudios se está expuesto a esta variable de la No respuesta, en este estudio se tiene que la No Respuesta es un formulario que no tiene respuesta en todas las preguntas, en este sentido una entrevista que le falte toda la información de la encuesta será tratada como no respuesta. Aquí se establece que una persona después de ser seleccionada no responde a la encuesta o después de hacer las reiteradas visitas la persona no pudo ser contactada.

En la reducción de la no respuesta se establecen varias técnicas:

**Capacitación:**

* Capacitar debidamente y con gran rigurosidad los encuestadores y supervisores que estarán en campo recolectando la información.
* Adicional a lo anterior se coloca un personal de coordinación de campo para que la recolección cumpla las reglas establecidas en el diseño.

**Revisitas:**

* Si la firma seleccionada no tiene un funcionario disponible para respuesta en el momento de llegar a la dirección entonces se hará una revisita de hasta tres veces con el fin de contactarla.

**Sobremuestra:**

* Con el fin de contra restar la no respuesta después de pasar por todos los anteriores puntos se plantea para el presente estudio una **sobremuestra del 10%** que garantice que se cumpla el tamaño de muestra mínimo calculado. De esta manera para las distintas fuentes se emplea que se haga un número adicional de encuestas.

Con estos puntos se espera que la no respuesta reduzca pero no va a desaparecer, se evaluara la diferencia entre la muestra total y la muestra planeada con el fin de establecer la técnica a realizar para estimar los valores perdidos.

Si la no respuesta es muy baja entonces se hará un sistema de imputación simple. Imputaciones con el vecino más próximo (Características de estudio similares). Es importante que se tendrá un porcentaje bajo de imputaciones según recomendaciones académicas. (Debajo de 5%).

Muestra de laboratorios

**Metodología**

Cuantitativa, no probabilística sin diseño muestral

**Técnica**

Encuestas Presenciales

**Población objetivo:**

Lideres distribuidos así:

* Funcionarios de la alcaldía
* Líderes de Asociaciones de Productores
* Líderes comunitarios

**Método de Captación del Informante:**

Por cita previa e identificación de la comunidad

**Muestra:** 20 laboratorios existentes en Guyana

**Instrumento**

Se estima una guía con 30 minutos de duración

**Manuales, perfiles de personal y logística**

La firma debe contar con un amplio conocimiento en la elaboración de los manuales de aplicación de los instrumentos y de supervisión necesarios para los cuestionarios.

En paralelo, se adelantará un cuidadoso proceso de selección, reclutamiento y entrenamiento de los encuestadores, los cuales no saldrán a terreno hasta que no tengan un manejo adecuado del tema y de los diferentes componentes del cuestionario.

**Prueba piloto**

Los instrumentos, manuales, material de entrenamiento y procesos logísticos serán sometidos a prueba piloto. La prueba piloto implicará el desplazamiento de supervisores, encuestadores y coordinadores del trabajo de campo y del equipo de expertos, junto con las personas que para este propósito designe el equipo interventor.

* Los manuales de trabajo de campo serán utilizados durante la prueba piloto para asegurar su consistencia, comprensión y completitud.
* Los procesos logísticos serán utilizados y evaluados, para asegurar que los tiempos estimados de desplazamiento, recolección, visitas, y entrevistas están acorde con la ejecución.
* Los instrumentos serán aplicados para verificar su viabilidad, la comprensión y el grado de dificultad de los mismos y efectuar los ajustes necesarios.
* Los resultados de la prueba serán evaluados y se realizarán los cambios requeridos en los instrumentos de recolección.

## Selección de personal de campo y supervisores

La selección del personal de campo se realizará teniendo en cuenta las características del estudio y los resultados de la prueba piloto. Para lo cual se tendrán los siguientes criterios:

Para los encuestadores:

* Experiencia como encuestadores (mínimo un año) y sobre todo en la aplicación de encuestas presenciales en hogares.
* Formación académica: secundario y/o universitaria.
* Relaciones humanas.
* Idoneidad (facilidad de expresión, comprensión de lectura, buena escritura, buena vocalización, tolerancia, comportamiento en otros estudios, rendimiento en otros estudios).

Los criterios a tener en cuenta en la selección de los supervisores son los siguientes:

* Liderazgo
* Dos años de experiencia en supervisión y manejo de personal
* Formación académica
* Creatividad e iniciativa

## Entrenamiento

En cada ciudad base de ejecución, se desarrollará un taller de entrenamiento para los supervisores y encuestadores que participarán en el estudio.

El entrenamiento de campo tiene en cuenta los siguientes aspectos:

* Temas objeto del estudio
* Revisión y actualización de las técnicas de recolección de información
* Explicación y conocimiento de los propósitos del estudio
* Explicación de la estructura de los instrumentos
* Lectura y profundización
* Forma de aplicación de los instrumentos
* Manejo de cartografía
* Ejercicios de simulación en la aplicación de los instrumentos
* Manejo de situaciones difíciles.

El entrenamiento de supervisores utilizará la misma estrategia de capacitación de los encuestadores, incorporando ejercicios de supervisión, verificación y control. Los entrenamientos de encuestadores y supervisores se realizarán en forma independiente, sin embargo, se llevarán a cabo prácticas conjuntas.

## Supervisión

La supervisión de campo comprende varias etapas:

* La asignación, el seguimiento y la coordinación operativa del trabajo en campo.
* La verificación telefónica de hasta el 10% de los instrumentos recogidos realizadas por cada encuestador.
* Se analizará el 100% de los formularios en cuanto a la consistencia de sus respuestas, lo cual se llevará a cabo durante el proceso de crítica y codificación.
* Si se presentan inconsistencias en la información, se volverá a campo para verificación.

## Crítica y codificación

El proceso de crítica y codificación prevé los siguientes pasos:

* Verificación del cumplimiento de la muestra por segmento y región
* Verificación de la consistencia de las respuestas, de acuerdo con los criterios establecidos en el manejo del formulario.
* Diseño de codificación de preguntas abiertas: el proceso para el diseño de la codificación de las preguntas abiertas se llevará a cabo teniendo en cuenta el siguiente procedimiento:
  + - * Se tabula el 25% del total de la muestra para darle una categorización a los diferentes ítems.
      * Se agrupan y categorizan las respuestas para la asignación de códigos.
* Codificación de las encuestas: para la codificación de las encuestas se siguen los siguientes pasos:
  + - * Verificación de la consistencia de la información
      * Verificación del seguimiento de la encuesta (formulario) y los saltos respectivos
      * Verificación de los campos asignados para cada respuesta
* Proceso de codificación de las preguntas abiertas de acuerdo a las pautas establecidas en el diseño.

## Captura de datos

Los datos se almacenaran en una base de datos en formato Dbase y Stata.

**Coordinación**

## Todas las fases del trabajo de campo se harán en estrecha coordinación con el equipo del GNBS y del Banco. Para facilitar la coordinación, la firma asignará un director del estudio, quien será responsable de mantener informados a estos sobre cada uno de los pasos en el trabajo de campo. Esto incluirá, pero no estará limitado, a lo siguiente:

1. Asegurar que los instrumentos de encuesta a aplicar, han sido debidamente aprobados por la entidad contratante, y cooperar con la revisión de consistencia entre los cuestionarios y los objetivos propuestos.
2. Presentar el plan de trabajo de campo, y hacer informes verbales sobre el diseño del operativo de campo.
3. Coordinar la participación del equipo técnico del BID y del Gobierno en el entrenamiento de los equipos de encuestadores, para asegurar que todo el personal involucrado en el proyecto está debidamente informado del objetivo perseguido por el proyecto.
4. Coordinar reuniones de retroalimentación entre el equipo del BID y del Gobierno con los equipos de campo. Estas reuniones le permitirán a los investigadores recoger impresiones, observaciones y experiencias del trabajo de campo, para enriquecer el análisis e interpretación de los datos.
5. **Reportes y Entregables**
6. Informe cuantitativo recogiendo la información recolectada (Formato PPT, Medio Magnético)
7. Base de Datos cruda **con el número efectivo de encuestas según cada escenario propuesto.** (Formato Ddbase, Medio Magnético),
8. Informe de campo con aprendizajes alcanzados con los equipos de campo (Formato Word, Medio Magnético)
9. Cuestionarios, diccionarios de bases de datos y ficha técnica de la encuesta (Formato Word, Medio Magnético)
10. Presentación cara a cara de los resultados

**Cronograma**

El estudio tendrá una duración de 4 meses a partir de la suscripción del Acta de Inicio.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Actividad** | **SEMANAS** | | | | | | | | |
|  | **1** | **3** | **5** | **7** | **9** | **11** | **13** | **15** | **17** |
| Etapa exploratoria |  |  |  |  |  |  |  |  |  |
| Elaboración, prueba y aprobación de formularios |  |  |  |  |  |  |  |  |  |
| Entrenamiento de encuestadores |  |  |  |  |  |  |  |  |  |
| Trabajo de Campo Cuantitativo y Cualitativo |  |  |  |  |  |  |  |  |  |
| Elaboración de programa de captura y procesamiento |  |  |  |  |  |  |  |  |  |
| Crítica, codificación y digitación |  |  |  |  |  |  |  |  |  |
| Procesamiento y análisis |  |  |  |  |  |  |  |  |  |
| Elaboración de informe final |  |  |  |  |  |  |  |  |  |
| Presentación |  |  |  |  |  |  |  |  |  |

**Cronograma de Pagos**

* 20% a la firma del contrato
* 30% a la entrega de los productos 1 y 2
* 30% a la entrega de los productos 3 y 4
* 20% a la entrega del producto 5

**Características de la Consultoría**

* Categoría y Modalidad de la Consultoría: Proveedor externo, internacional
* Duración del Contrato: 6 meses , iniciando XX
* Lugar(es) de trabajo: Consultoría de una firma externa.

**Institutional Strengthening of the National Quality Infrastructure in Guyana**

**(GY-T1129)**

**TERMS OF REFERENCE**

**Consultancy for Training and Awareness Workshops with Stakeholders**

1. **Background**

Guyana experienced a 4.5% average economic growth during 2009-2014 period, mainly due to due to the expansion of mining and agricultural exports and the high prices of commodities, in particular gold.[[45]](#footnote-45) However, in 2015, as a response to the decline in international prices of commodities, economic growth declined to 1.6%, highlighting the vulnerability of the economy due to the high concentration of exports, mainly related to mineral and agricultural exports (45% correspond to gold, 18% to rice, raw sugar 6.6% and crustaceans 3.5%)[[46]](#footnote-46). Regarding Guyana’s economic structure is based on strong links between the main engines of growth (mining and agriculture) and other domestic sectors, as most goods (tradable and non-tradable) and services are bought on the domestic market.[[47]](#footnote-47) In this regard, there is consensus among public and private stakeholders on the need to diversify the economy and the export base, as well as to improve efficiencies and remove bottlenecks in the sectors that are currently the engine for growth, i.e. mining and agriculture.

The Ministry of Business is developing a strategy to support SMEs productivity, value added and export readiness, considering the modernization of traditional sectors: sugar, rice, forestry, and mining, and supporting new growth and diversification in new sectors: non-traditional agriculture, aquaculture, business process outsourcing/information technology, and tourism, under a social and environmentally sustainable framework.[[48]](#footnote-48) However, there is a need to modernize the current National Quality Infrastructure in order to facilitate the growth of businesses in the local and external markets, protect the people and the environment and provide recognition for the Guyanese brand in the international market.[[49]](#footnote-49) This modernization should be accompanied by a trade strategy to boost the participation of domestic firms in international markets.

Due to the need to implement best practices in the National Quality Infrastructure, the production and trading of goods and services in the principal sectors face a number of non-compliance risks in both the local and export markets with significant impact on competitiveness, product development, consumer protection and innovation such as: (i) rejection of products at border inspection point; (ii) increased costs due to delays while inspections/test are being done in overseas laboratories; (iii) disruptions in trade, loss or inability to expand into new market; (iv) loss of revenue where inaccurate measurements and test results are used; and (v) inability to command premium price where quality and safety products are not defined.[[50]](#footnote-50) In this regard to export markets in both traditional and non-traditional exports require compliance with technical requirements that are standards based.[[51]](#footnote-51)

The Guyana National Bureau of Standards holds primary responsibility for standardization, through a process of formulation and application of standards, technical regulations, conformity assessment procedures and metrology.[[52]](#footnote-52) However, all standardizing bodies need to modernize the legal and implementation framework of the National Quality Infrastructure,[[53]](#footnote-53) as Guyana has still has to implement national quality infrastructure practices.

The current laboratories infrastructure and equipment is not adequate for supporting exports, protect consumers and the environment**.** There are 20 existing main national laboratories offering services in metrology, chemical and microbiological and physical testing of products and materials used. These laboratories have limitations and gaps in terms of: (i) unsuitable laboratory facilities, lacking the proper physical conditions to assure reliability; (ii) absence of laboratory facility to perform tests for consumer protection and for dynamic sectors; (iii) limited calibration capacity in terms of capacity in temperature, moisture, pressure, force, volume, electricity;[[54]](#footnote-54) (iv) lack of adequate equipment and consumables; (v) outdated test methods that no longer meets the needs for the industry requirements; (vi) lack of accreditation and participation in proficiency testing programs; and (vii) insufficient trained staff for performing tests and calibrations as well as competence in use an maintenance of instrumentation.[[55]](#footnote-55) In this regard, the Government of Guyana carried out in 2014, with the support of the IDB a needs assessment of the NQI and related laboratories and is contemplating its implementation through and IDB loan.

In this regard, the stakeholders involved in the improvement of the National Quality Infrastructure, both public and private need to be made aware of the benefits of participating in the system, either as providers of services, as the laboratories or as users, such as potential exporters.

1. **Objective of Consultancy**

The purpose of the consultancy is contribute to the enhancement of the National Quality Infrastructure in Guyana by to design and coordinate the execution of a suite of educational programs geared towards sensitizing key stakeholders on the activities associated with NQI. Specifically, its aim is to develop and implement a multifaceted public awareness model as well as public awareness packages for the stakeholders, both public and private involved.

1. **Activities**

The Consultant is expected to perform the following services:

1. Liaise with GNBS and all the relevant stakeholders of the NQI, to design a comprehensive, sustainable public awareness program.
2. Develop and implement a comprehensive, national multi-media package involving professionals, professional organizations, and other relevant stakeholders utilizing, but not limited to, print and electronic media The program created should include, but not be limited to the following features:

Sustainability - Capability of being reused and replicated for an indefinite period.

Capability of being disseminated to a wide cross-section of persons as well as to specific groups, with particular attention given to the poorer, less informed segments of the population.

Capacity building for stakeholders in the areas of standards and quality for the case of SMEs and potential exporters and in network collaboration for laboratories.

Execution of the seminars contemplated above, by actual implementation of such seminars involving key stakeholders, with a view to evaluating/analyzing effectiveness of the design.

1. Implement the public outreach program in the form of public education and awareness package comprising and electronic and printed versions of each medium (booklets, brochures, radio and television announcements, documentary) and a proposal for website development.
2. **Deliverables**

**Reports:** The consultant will provide:

* + 1. Proposal for awareness campaign
    2. Final report with implementation of seminars and workshops

**Means of Payment:**

25% upon contract signature

25% upon the approval of the gap analysis

25% upon approval of Policy and Regulatory Framework

25% upon approval of final report

1. **Characteristics of the Consultancy**
2. **Type of consultancy:** Consulting firm with at least 7 years of experience in design and implementation of public outreach programs. The consultancy will be carried out under the lump-sum modality and will include all the costs of support materials and the implementation costs. The proposal should include a budget specifying the professional fees and the cost of the implementation of the program.
3. **Duration:** Ninety (90) Working Days within six months starting from xx.
4. **Place of work:** Guyana and the consultant’s country of origin
5. **Qualifications:** The consulting firm must have a proven track record in Public Relations and five (5) years’ experience in developing public educational awareness campaigns, seminars, educational materials and programs for public education and outreach. Experience in Guyana is preferred.

1. Guyana Private Sector Assessment Report. 2014. Bureau of Statistics Data. [↑](#footnote-ref-1)
2. Observatory of Economic Complexity 2016. [↑](#footnote-ref-2)
3. PSAR. 2015 [↑](#footnote-ref-3)
4. The economy is highly dependent on raw materials and unprocessed foods, as the main contributors to the economy are agriculture, forestry and fishing (19% of GDP), mining and quarrying (10%), agroindustry (7%) and services (66%). Source: Bureau of Statistics. [↑](#footnote-ref-4)
5. Needs Assessment for the State of the Art Testing and Metrology Facilities. 2014. Between 2006 and 2010, there were a total of 59 rejections of foods exported to the US from Guyana at an annual average of 12 rejections. The Unit Rate of Rejection for the US market from 2002 to 2010 ranged from 0.9 in 2003 to just about 0.2 in 2010, higher than the average of countries such as Trinidad and Tobago and Jamaica [↑](#footnote-ref-5)
6. Needs Assessment for State of the Art Testing and Metrology Facilities. Executive Summary. 2014. [↑](#footnote-ref-6)
7. Food Safety, Good Agricultural Practices, Quality Standards, Animal Health, Plant Health, Environmental, Social, Safery, Information Security, Efficiency and Certification, each with its own specific requirements. [↑](#footnote-ref-7)
8. GNBS Strategy. 2011 [↑](#footnote-ref-8)
9. The GNBS Standards Catalogue 20212 lists twenty (20) standards as having mandatory status. The WTO Report by Measures 2009, states that Guyana makes minimal use of technical regulations” [↑](#footnote-ref-9)
10. Unsuitable type of construction materials to ensure a sterile environment, layouts that may conduce to cross contamination, locations subject to flooding, poor ventilation, humidity and direct sunlight. Needs Assessment Report, 2014. [↑](#footnote-ref-10)
11. Ibid. [↑](#footnote-ref-11)
12. Guyana Private Sector Assessment Report. 2014. Bureau of Statistics Data. [↑](#footnote-ref-12)
13. Observatory of Economic Complexity 2016. [↑](#footnote-ref-13)
14. PSAR. 2015 [↑](#footnote-ref-14)
15. The economy is highly dependent on raw materials and unprocessed foods, as the main contributors to the economy are agriculture, forestry and fishing (19% of GDP), mining and quarrying (10%), agroindustry (7%) and services (66%). Source: Bureau of Statistics. [↑](#footnote-ref-15)
16. Needs Assessment for the State of the Art Testing and Metrology Facilities. 2014. Between 2006 and 2010, there were a total of 59 rejections of foods exported to the US from Guyana at an annual average of 12 rejections. The Unit Rate of Rejection for the US market from 2002 to 2010 ranged from 0.9 in 2003 to just about 0.2 in 2010, higher than the average of countries such as Trinidad and Tobago and Jamaica [↑](#footnote-ref-16)
17. Needs Assessment for State of the Art Testing and Metrology Facilities. Executive Summary. 2014. [↑](#footnote-ref-17)
18. Food Safety, Good Agricultural Practices, Quality Standards, Animal Health, Plant Health, Environmental, Social, Safery, Information Security, Efficiency and Certification, each with its own specific requirements. [↑](#footnote-ref-18)
19. GNBS Strategy. 2011 [↑](#footnote-ref-19)
20. The GNBS Standards Catalogue 20212 lists twenty (20) standards as having mandatory status. The WTO Report by Measures 2009, states that Guyana makes minimal use of technical regulations” [↑](#footnote-ref-20)
21. Unsuitable type of construction materials to ensure a sterile environment, layouts that may conduce to cross contamination, locations subject to flooding, poor ventilation, humidity and direct sunlight. Needs Assessment Report, 2014. [↑](#footnote-ref-21)
22. Ibid. [↑](#footnote-ref-22)
23. Guyana Private Sector Assessment Report. 2014. Bureau of Statistics Data. [↑](#footnote-ref-23)
24. Observatory of Economic Complexity 2016. [↑](#footnote-ref-24)
25. PSAR. 2015 [↑](#footnote-ref-25)
26. The economy is highly dependent on raw materials and unprocessed foods, as the main contributors to the economy are agriculture, forestry and fishing (19% of GDP), mining and quarrying (10%), agroindustry (7%) and services (66%). Source: Bureau of Statistics. [↑](#footnote-ref-26)
27. Needs Assessment for the State of the Art Testing and Metrology Facilities. 2014. Between 2006 and 2010, there were a total of 59 rejections of foods exported to the US from Guyana at an annual average of 12 rejections. The Unit Rate of Rejection for the US market from 2002 to 2010 ranged from 0.9 in 2003 to just about 0.2 in 2010, higher than the average of countries such as Trinidad and Tobago and Jamaica [↑](#footnote-ref-27)
28. Needs Assessment for State of the Art Testing and Metrology Facilities. Executive Summary. 2014. [↑](#footnote-ref-28)
29. Food Safety, Good Agricultural Practices, Quality Standards, Animal Health, Plant Health, Environmental, Social, Safery, Information Security, Efficiency and Certification, each with its own specific requirements. [↑](#footnote-ref-29)
30. GNBS Strategy. 2011 [↑](#footnote-ref-30)
31. The GNBS Standards Catalogue 20212 lists twenty (20) standards as having mandatory status. The WTO Report by Measures 2009, states that Guyana makes minimal use of technical regulations” [↑](#footnote-ref-31)
32. Unsuitable type of construction materials to ensure a sterile environment, layouts that may conduce to cross contamination, locations subject to flooding, poor ventilation, humidity and direct sunlight. Needs Assessment Report, 2014. [↑](#footnote-ref-32)
33. Ibid. [↑](#footnote-ref-33)
34. Guyana Private Sector Assessment Report. 2014. Bureau of Statistics Data. [↑](#footnote-ref-34)
35. Observatory of Economic Complexity 2016. [↑](#footnote-ref-35)
36. PSAR. 2015 [↑](#footnote-ref-36)
37. The economy is highly dependent on raw materials and unprocessed foods, as the main contributors to the economy are agriculture, forestry and fishing (19% of GDP), mining and quarrying (10%), agroindustry (7%) and services (66%). Source: Bureau of Statistics. [↑](#footnote-ref-37)
38. Needs Assessment for the State of the Art Testing and Metrology Facilities. 2014. Between 2006 and 2010, there were a total of 59 rejections of foods exported to the US from Guyana at an annual average of 12 rejections. The Unit Rate of Rejection for the US market from 2002 to 2010 ranged from 0.9 in 2003 to just about 0.2 in 2010, higher than the average of countries such as Trinidad and Tobago and Jamaica [↑](#footnote-ref-38)
39. Needs Assessment for State of the Art Testing and Metrology Facilities. Executive Summary. 2014. [↑](#footnote-ref-39)
40. Food Safety, Good Agricultural Practices, Quality Standards, Animal Health, Plant Health, Environmental, Social, Safery, Information Security, Efficiency and Certification, each with its own specific requirements. [↑](#footnote-ref-40)
41. GNBS Strategy. 2011 [↑](#footnote-ref-41)
42. The GNBS Standards Catalogue 20212 lists twenty (20) standards as having mandatory status. The WTO Report by Measures 2009, states that Guyana makes minimal use of technical regulations” [↑](#footnote-ref-42)
43. Unsuitable type of construction materials to ensure a sterile environment, layouts that may conduce to cross contamination, locations subject to flooding, poor ventilation, humidity and direct sunlight. Needs Assessment Report, 2014. [↑](#footnote-ref-43)
44. Ibid. [↑](#footnote-ref-44)
45. Guyana Private Sector Assessment Report. 2014. Bureau of Statistics Data. [↑](#footnote-ref-45)
46. Observatory of Economic Complexity 2016. [↑](#footnote-ref-46)
47. PSAR. 2015 [↑](#footnote-ref-47)
48. The economy is highly dependent on raw materials and unprocessed foods, as the main contributors to the economy are agriculture, forestry and fishing (19% of GDP), mining and quarrying (10%), agroindustry (7%) and services (66%). Source: Bureau of Statistics. [↑](#footnote-ref-48)
49. Needs Assessment for the State of the Art Testing and Metrology Facilities. 2014. Between 2006 and 2010, there were a total of 59 rejections of foods exported to the US from Guyana at an annual average of 12 rejections. The Unit Rate of Rejection for the US market from 2002 to 2010 ranged from 0.9 in 2003 to just about 0.2 in 2010, higher than the average of countries such as Trinidad and Tobago and Jamaica [↑](#footnote-ref-49)
50. Needs Assessment for State of the Art Testing and Metrology Facilities. Executive Summary. 2014. [↑](#footnote-ref-50)
51. Food Safety, Good Agricultural Practices, Quality Standards, Animal Health, Plant Health, Environmental, Social, Safery, Information Security, Efficiency and Certification, each with its own specific requirements. [↑](#footnote-ref-51)
52. GNBS Strategy. 2011 [↑](#footnote-ref-52)
53. The GNBS Standards Catalogue 20212 lists twenty (20) standards as having mandatory status. The WTO Report by Measures 2009, states that Guyana makes minimal use of technical regulations” [↑](#footnote-ref-53)
54. Unsuitable type of construction materials to ensure a sterile environment, layouts that may conduce to cross contamination, locations subject to flooding, poor ventilation, humidity and direct sunlight. Needs Assessment Report, 2014. [↑](#footnote-ref-54)
55. Ibid. [↑](#footnote-ref-55)