

CARIBBEAN DEVELOPMENT BANK



**AFRICAN CARIBBEAN PACIFIC - EUROPEAN UNION - CARIBBEAN
DEVELOPMENT BANK NATURAL DISASTER RISK MANAGEMENT PROGRAMME
PLANNING FOR THE INTEGRATION OF CLIMATE RESILIENCE IN THE ROAD
TRANSPORT SECTOR IN THE BORROWING MEMBER COUNTRIES OF THE CARIBBEAN
DEVELOPMENT BANK - USE OF FUNDS - REGIONAL**

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Considered at the Two Hundred and Seventy-Second Meeting
of the Board of Directors held in Barbados on July 21, 2016

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CARIBBEAN DEVELOPMENT BANK

TWO HUNDRED AND SEVENTY-SECOND MEETING OF THE BOARD OF DIRECTORS

TO BE HELD IN BARBADOS

JULY 21, 2016

PAPER BD 97/16

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1. BACKGROUND

1.01 On December 12, 2013, at its Two Hundred and Fifty-Ninth meeting, the Board of Directors considered Paper BD 80/13 and approved entry, by the Caribbean Development Bank (CDB), into an agreement with the European Union (EU) for the CDB executed projects within the ACP-EU Natural Disaster Risk Management (NDRM) in the CARIFORUM Programme¹. The contribution agreement² between CDB and the EU was signed in July 2014. The objective of the Programme is reduced vulnerability to long-term impacts of hydro meteorological and geological natural hazards, including potential impacts of climate change. It is expected that this will contribute to the achievement of regional and national sustainable development and poverty reduction goals in the CARIFORUM³ countries.

1.02 CDB, Caribbean Disaster Emergency Management Agency (CDEMA) and the Government of the Dominican Republic (DR) are the Implementing Agencies contracted by the EU, each with responsibility for the implementation of various activities and the achievement of agreed results. Among the expected results of the programme is Strengthened Sector Resilience in Key Public Sectors through Disaster Risk Reduction and Climate Change Adaptation Mainstreaming. CDB has responsibility for the achievement of this result, which is to be accomplished through a series of actions, including activities that will make critical infrastructure in the road transport and water sectors in the CARIFORUM countries more resilient to natural hazards and better prepared for Climate Variability and Climate Change.

1.03 The ACP-EU-CDB NDRM in the CARIFORUM Countries Programme intends to review and adapt risk and resilience decision-making standards and approaches pertaining to the road transport and the water and sanitation sectors. The Programme will develop and pilot approaches for mainstreaming gender-sensitive climate resilience by assessing the climate vulnerability in these sectors and identifying, designing and piloting technologies and techniques for resilience building and climate change adaptation (CCA).

¹ https://ec.europa.eu/europeaid/sites/devco/files/aap-ACP-action-fiche-20131010_en.pdf [accessed April 19, 2015]

² Contribution Agreement for the African Caribbean Pacific – European Union – Caribbean Development Bank Natural Disaster Risk Management (ACP-EU-CDB NDRM) in CARIFORUM Countries Programme.

³ The Forum of the Caribbean Group of African, Caribbean and Pacific (ACP) States (CARIFORUM) is the body that comprises Caribbean ACP States for the purpose of promoting and coordinating policy dialogue, cooperation and regional integration. http://caricom.org/jsp/community_organs/cariforum/cariforum_main_page.jsp?menu=cob

1.04 Drawing from the findings of the respective studies, a package of guidelines and technical notes will be developed for use across the participating countries to help mainstream climate resilience in these two sectors. Knowledge about application of these resources will be disseminated electronically and through workshops for awareness building and Training of Assessors of road resilience, with participants drawn from the public sector of CARIFORUM countries. It is also intended that regional Communities of Practice be developed around CCA and disaster resilience in these sectors, championed by CDB, and with participation from development partners, including Caribbean Community Climate Change Centre (CCCCC) and the Caribbean Institute of Meteorology and Hydrology. At its Two Hundred and Seventieth meeting, the Board of Directors of CDB approved Paper BD 23/16 entitled “African Caribbean Pacific - European Union – Caribbean Development Bank: Natural Disaster Risk Management Project Planning for the Integration of Climate Resilience in the Water Sector in the Borrowing Member Countries of the Caribbean Development Bank - Use of Funds - Regional”. The Bank now proposed to address the CCA and disaster resilience objectives of the Programme as they pertain to the road transport sector.

1.05 Much of the road network within the Bank’s BMCs is coastal and low-lying or in mountainous terrain, characterised by inadequate drainage features, and thus vulnerable to climate-related phenomena characteristic of the region. These include heavy and extreme rainfall events, storm surges associated with tropical storms and hurricanes, and sea level rise. Recent experiences include the failure of roads and bridges in Dominica⁴ and The Bahamas⁵ in 2015, due to pluvial, riverine and coastal flooding associated with Tropical Storm Erika and Hurricane Joaquin, respectively, and the damage to roads and bridges in St. Vincent, St. Lucia and Dominica that occurred during the extreme rainfall events in December 2013. Such occurrences also result in losses to the local and national economies, often disproportionately affecting the poor and vulnerable within the population.

1.06 This TA Project was designed with the support of technical resources provided by the European Investment Bank Climate Action Line of Credit Technical Assistance Programme, building on the outcome of work financed under the GIZ/CDB/CCCC Climate Finance Readiness programme.

2. PROPOSAL

2.01 It is proposed that CDB approve Use of Funds (UOF) resources in an amount not exceeding the equivalent of seven hundred and sixty eight thousand United States dollars (USD768,000), from its Special Funds Resources (SFR) to fund consulting services to, in respect of the road transport sector,: (a) complete a sector-wide, gender-sensitive climate risk and vulnerability assessment (CRVA); (b) assess relevant policies, plans, strategies, legal and regulatory frameworks and proposals to build capacity to implement resilience measures; (c) develop an index to measure the level of resilience in the road transport sector; (d) develop and pilot the application of adapted decision support instruments⁶ for CCA and resilience building climate; (e) identify sector investment needs for CCA and resilience building; and (f) facilitate associated regional training workshops for increasing awareness of the outputs of the TA and its objectives, and the Training of Assessors of road resilience (Train the Trainers).

2.02 The project intends to develop and pilot in two countries, approaches for mainstreaming climate resilience into these road transport sector. The pilot countries will be selected on the basis of geography and risk profiles that would allow the outputs of the study to be most transferrable. Variation across the Bank’s BMCs will be reflected in the selection, and the two countries may reflect differences in topography, rainfall patterns, population distributions, exposure to various potential climate change factors, history of

⁴ USD287.53 mn in damage to roads and bridges, reported in the Rapid Damage and Impact Assessment - Tropical Storm Erika – August 27, 2015. Government of the Commonwealth of Dominica (September 2015).

⁵ USD24.55 mn in damage to roads reported in the Draft Assessment of the Effects and Impacts Caused by Hurricane Joaquin. UN ECLAC and IDB (January 2016).

⁶ Instruments may include guidance resources, technical materials, technologies, techniques, etc. - a toolkit.

damage and loss from natural hazard event, among other considerations. Country selection will be finalised through consultation between the consultants and CDB.

2.03 The Draft Terms of Reference (TOR) for the consultancy services assignment are presented at Appendix 1.

3. OUTCOME

3.01 The expected outcome of the study is strengthened capacity of Borrowing Member Countries (BMCs) to provide road infrastructure resilient to natural hazards and climate change impacts. A Design and Monitoring Framework Matrix for this activity is presented at Appendix 2.

4. JUSTIFICATION

4.01 Each year, transport infrastructure in the Caribbean, and particularly road infrastructure, suffers substantial damage as a result of natural hazard events, with flooding being among the most frequent and costly of events. In 2015, over USD 300mn in damaged occurred to road infrastructure in two countries alone – Dominica and The Bahamas, as a result of two separate events. Significant damage also occurred to roads and bridges in other BMCs. The threat to road transport infrastructure is heightened by the projected effects of Climate Variability and Climate Change, particularly increased intensity of rain storms, sea level rise, and increased ambient temperatures. In 2010, it was estimated that about 570km of roads in CARICOM member countries would be inundated by 1m rise in sea level, with greatest risks affecting the road networks in The Bahamas (14%), Dominica (14%) and Guyana (12%).⁷

4.02 Most of the road agencies across BMCs have not mainstreamed changes in their approaches or requirements for the design, construction and management of road infrastructure that enhance resilience to the threats from natural hazards and climate change. This is, in part, due to the limited availability of tools tailored for their particular use, as well as the limited data and capacity within the responsible agencies with regard to the assessment of the vulnerability of infrastructure to climate risks and the determination of appropriate response strategies. The differential impacts on women and men, youth, the aging population and persons with disabilities arising from the vulnerability of road infrastructure has also not been adequately considered across the BMCs. Issues of inclusivity and gender must be integrated into the operation of the road transport sector, in infrastructure and in road transport services.

4.03 To achieve the objective of the ACP-EU-CDB NDRM in CARIFORUM Countries Programme, it will be necessary to strengthen regional, national and community level capacities for mitigation, preparedness, management and coordinated responses to natural hazards and the effects of climate change. Adaptation approaches and tools⁸ have been developed by other agencies, for example, the Caribbean Climate Online Risk and Adaptation Tool (CCORAL) developed by the CCCCC and the Climate & Disaster Risk Screening Tools available from the World Bank⁹. This study will draw on these and other established instruments to contribute to a systematic framework¹⁰ for strengthening sector resilience as it relates to assets and infrastructure, policies, plans, strategies and institutions that are appropriate in the Caribbean context.

⁷ CARIBSAVE and the United Nations Development Programme (2010). Quantification and Magnitude of Losses and Damages Resulting from the Impacts of Climate Change: Modelling the Transformational Impacts and Costs of Sea Level Rise in the Caribbean.

⁸ Climate and disaster screening tools are available to assess high level impacts at national, sector and project levels, while CVA are used for more detailed assessments. Adaptive Capacity Assessment, as a part of CVAs, identifies gaps in institutions and communities' ability to identify and undertake adaptation measures, while policy-based approaches are used to mainstream climate resilience into planning processes.

⁹ <http://caribbeanclimate.bz/general/ccoral-risk-management-tool.html>; <http://climatescreeningtools.worldbank.org/> [accessed April 21, 2016]

¹⁰ Package of guidelines and technical notes or tool box

4.04 Based on CDB’s Performance Rating System, the Project has been assessed as highly satisfactory with a score of 3.5. Appendix 3 shows the rating system. This suggests that it is likely to contribute to development effectiveness.

4.05 The proposed study will assist CDB:

- (a) In identifying and developing resources for mainstreaming disaster risk reduction and CCA in the road transport sector of its BMCs, hence determining priority areas of intervention and investment, which should assist in the:
 - (i) reduction of vulnerability to long-term impacts of natural hazards, including potential impacts of climate change, thereby contributing to regional and national sustainable development and poverty reduction goals in BMCs of CDB; and
 - (ii) incorporating gender-responsive approaches to the operation of the road transport sector; and, at the community level, strengthening mitigation, preparedness, management and coordinated responses to natural hazards and the effects of climate change.
- (b) To better support its BMCs in the implementation of policies, strategies, projects and programmes geared towards addressing challenges in the road transport sector.

4.06 The study is assessed as marginally mainstreamed, based on CDB’s Gender Marker, as the preparation of the analysis underpinning the Project’s design recognises the different mobility needs and patterns of women and men, the youth, the elderly and the disabled, and that the impact of disasters and climate change on these groups must be considered in order to increase resilience of the road transport infrastructure. The gender marker is summarised in Table 1. Gender equality incorporated as a crosscutting theme is shown at Appendix 4 in the Gender Marker Analysis.

TABLE 1: GENDER MARKER SUMMARY

| Gender Marker | Analysis | Design | Implementation | Monitoring and Evaluation | Score | Code |
|---------------|----------|--------|----------------|---------------------------|-------|------------------|
| | 0.25 | 0.5 | 0 | 1.0 | 1.75 | MM ¹¹ |

4.07 The proposed project is consistent with:

- (a) CDB’s Strategic Objective of Supporting Inclusive Growth and Sustainable Development within its BMCs.
- (b) CDB’s Corporate Priorities of: (i) Strengthening and Modernising Social and Economic Infrastructure; and (ii) Promoting Environmental Sustainability (climate change resilience, environmental management and DRM).
- (c) CDB’s Technical Assistance (TA) Policy and Operational Strategy of commitment to strengthening the synergies between TA operations and the Bank’s investment lending.

¹¹ Marginally Mainstreamed: The project has limited potential to contribute to gender equality.

- (d) Sustainable Development Goals (SDG) 5, 9, 11, 13.¹²

5. EXECUTION

5.01 CDB will be the executing agency and the consultants will be supervised by the staff of the Economic Infrastructure Division (EID), specifically the Project Manager-ACP/EU/CDB NDRM Project located within EID, and financed through the ACP-EU NDRM Project. In addition, CDB will organise and host the consultation workshops with key stakeholders from its BMCs. EID and the appointed consultants will work closely with the Bank's Environmental Sustainability Unit to ensure satisfactory deliverables. It is estimated that the study will be completed over a period of nine months.

5.02 The resources of CDB will be used to finance the following:

- (a) Consultancy - professional fees, cost of travel and accommodation for country visits and conduct of the workshops; and
- (b) Cost associated with the regional workshops:
 - (i) meals and materials for participants; and
 - (ii) the publication (electronic) and dissemination of the assessment tool.

6. RISK ASSESSMENT AND MITIGATION

6.01 Some risks have been identified which could have an effect on the undertaking of the study. The risks have been classified according to their relevance to the implementation and operational phase of the project. The summary of risks and mitigation measures is presented in Table 2 below.

¹² SDG 5 - Achieve gender equality and empower all women and girls.
SDG 9 - Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.
SDG 11 - Make cities inclusive, safe, resilient and sustainable.
SDG 13 - Take urgent action to combat climate change and its impacts.

TABLE 2: RISK ASSESSMENT AND MITIGATION

| Risk Type | Description of Risk | Mitigation Measures |
|------------------|---|--|
| Implementation | Unavailability of data, information and personnel from BMCs as key inputs to enable the consultant to effectively complete the scope of services. | <ol style="list-style-type: none"> 1. Timely communication with stakeholders prior to the start of the consultancy. 2. Leveraging CDB’s established links in the sector and within the pilot countries to obtain available data. |
| Operation | Limited commitment to the use of the tools to mainstream DRM and CCA in the road transport sector across the BMCs. | <ol style="list-style-type: none"> 1. Stakeholder consultations specific to this project will be conducted, and communications with BMCs will be coordinated around other related transport sector interventions. 2. Upon acceptance of the toolkit, it will be recommended that its use be mandatory for the design of projects to be financed by CDB. 3. CDB will invite participation from other development partners during the development of the toolkit and in the conduct of the workshops. Encouraging buy-in among partners for the use of a robust toolkit with specific applicability to the Bank’s BMCs will increase its use in the sector. |
| | Limited applicability of the tools developed outside the pilot countries. | Pilot countries to be selected on the basis of a range of criteria, including topography, geography, population and other risk factors, which would allow for the outputs of the study to be most transferrable. Transferability is a key objective of the TOR of the consultants. |

7. COST AND FINANCING

7.01 The total cost of the study is estimated at USD768,000. The detailed budget is shown at Appendix 5. The financing plan is summarised in Table 3 below:

TABLE 3: SUMMARY FINANCING PLAN

| Contributors | USD |
|--------------------------|----------------|
| CDB SFR (OSF ACP-EU-CDB) | 768,000 |
| Total | 768,000 |

8. FUNDING SOURCE

8.01 CDB's UOF of the equivalent of seven hundred and sixty eight thousand United States dollars (USD768,000), is eligible for financing from CDB's SFR allocated from resources provided under the CDB executed sub-programme of the ACP-EU NDRM in the CARIFORUM Countries Programme. Funds are available within existing resources.

9. PROCUREMENT

9.01 Procurement of CDB-financed consultancy services shall be in accordance with CDB's procurement procedures with respect to its UOF. Financing shall be provided under ACP-EU-CDB NDRM in CARIFORUM Countries and thus eligibility shall be extended to reflect the applicable eligibility provisions of the EU. The Procurement Plan is provided at Appendix 6.

10. REPORTING REQUIREMENTS

10.01 The Consultancy will be required to submit to CDB, reports in keeping with the draft TOR at Appendix 1.

11. RECOMMENDATION

11.01 It is recommended that the Board of Directors approve the use of funds of an amount not exceeding the equivalent of seven hundred and sixty-eight thousand United States dollars (USD768,000), from CDB's SFR, to engage consulting services to:

- (a) Pilot, with regard to two BMCs:
 - (i) the preparation of CRVA of key infrastructure and assets in the road transport sector;
 - (ii) gender-sensitive climate screening of relevant policies, plans and strategies in the sector and recommendations for integrating resilience;
 - (iii) assessment of the adaptive capacity of the works agency and other key institutions and recommendations for strengthening;
 - (iv) identification and prioritisation of sector investment needs for climate resilience; and
 - (v) the development of a roads sector resilience index to measure progress on adaptation.
- (b) Deliver awareness and training of trainers workshops on Roads Sector Resilience Assessment and Integration.

SUPPORTING DOCUMENTATION

- Appendix 1 - Draft Terms of Reference - Consultancy Services – Planning for the Integration of Climate Resilience in The Road Transport Sector in the Caribbean
- Appendix 2 - Design and Monitoring Framework
- Appendix 3 - Performance Rating System
- Appendix 4 - Gender Marker Analysis
- Appendix 5 - Budget
- Appendix 6 - Procurement Plan

DRAFT TERMS OF REFERENCE

CONSULTANCY SERVICES - PLANNING FOR THE INTEGRATION OF CLIMATE RESILIENCE IN THE ROAD TRANSPORT SECTOR IN THE CARIBBEAN

1. INTRODUCTION

1.01 The African Caribbean Pacific – European Union – Caribbean Development Bank Natural Disaster Risk Management (ACP-EU-CDB NDRM) in CARIFORUM Countries Programme (July 2014) is aimed at reducing vulnerability to long-term impacts of natural hazards, including potential impacts of climate change, among Borrowing Member Countries (BMCs). Its overall goal is to achieve regional and national sustainable development and poverty reduction goals in the CARIFORUM Countries. One of these is “making critical infrastructure in the transportation and water sectors in the CARIFORUM countries more resilient to natural hazards and better prepared for climate variability and climate change”. To achieve this outcome, the programme intends to develop and pilot in two countries approaches for mainstreaming gender-sensitive climate resilience into these two sectors by assessing the climate vulnerability of the sectors, identifying resilience measures and creating an investment program to implement these measures. In order to strengthen regional capacity to respond to climate change, the project would use this experience to develop a package of guidelines and technical notes or tool box that could be utilised across the region to help mainstream climate resilience in these sectors. Staff from CARIFORUM countries would be trained (training of trainers) in the implementation of the approach. The focus of the present study is on developing the package of guidelines for the road transport sector.

1.02 This is in-keeping with the Caribbean Development Bank’s (CDB) efforts to support its BMCs to design transformative sector-wide interventions for key climate sensitive sectors such as road, that are responsive to the eligibility requirements of global climate finance mechanisms such as the Green Climate Fund and the Adaptation Fund. It was designed with the support of technical resources provided by the European Investment Bank Climate Action Line of Credit Technical Assistance Programme, building on the outcome of work financed under the GIZ/CDB/Caribbean Community Climate Change Centre Climate Finance Readiness programme.

1.03 Several adaptation approaches and tools are already in use in both the Caribbean and elsewhere. Climate and disaster screening tools are available to assess high level impacts at national, sector and project levels, while Climate Vulnerability Assessments (CVA) are used for more detailed assessments. Adaptive Capacity Assessment, as a part of CVAs, identifies gaps in the ability of institutions and communities to identify and undertake adaptation measures, while policy-based approaches are used to mainstream climate resilience into planning processes. This study would draw on these established approaches and develop a systematic framework to strengthen sector resilience including assets and infrastructure, policies, plans, strategies and institutions that is appropriate in the Caribbean context.

2. OBJECTIVES

2.01 The study will establish a suite of tools and guidance resources for institutions responsible for road transport policies, plans and the implementation of investment programmes to assess and design effective climate resilient action, to help practitioners establish robust and implementable climate resilience sector policies and investment plans and to identify potential financing for effective implementation.

2.02 The objective of this work is to therefore demonstrate how gender-sensitive climate and disaster resilience measures could be integrated into the road transport sector, and in so doing, develop a package of materials that would provide guidance, lessons learnt and technical notes to help practitioners in the

region implement the approach. Building on existing methods and tools, work will be carried out in two BMCs to develop a framework that would enable:

- (a) Assessment of the vulnerability of key infrastructure and assets in the road transport sector.
- (b) Gender-sensitive climate screening of relevant policies, plans and strategies in the sector and recommendations for integrating resilience.
- (c) Assessment of the adaptive capacity in the road transport agencies and other key institutions and recommendations for strengthening.
- (d) Preparation of a climate resilient investment plan that would include priority infrastructure investments and proposals and strategies to deliver the identified adaptation options. ERR and NPV shall be computed and considered in establishing the priority of investments.
- (e) Development of a road transport sector resilience index to measure progress on adaptation.

The methodology will be to develop the guidance based on two-country case studies where appropriate technical approaches and good practices from international experience would be tested in building resilience in the road transport sector. Ensuring transferability of the outputs of the consulting services across the Bank's BMCs is a key objective of the services.

3. SCOPE OF SERVICES

3.01 The services included in the current study are to be conducted in accordance with generally accepted international standards and professional practices acceptable to CDB. The scope of services is understood to cover all activities necessary to accomplish the objectives of the consultancy, whether or not a specific activity is cited in these Terms of Reference (TOR). A participatory and consultative approach shall be utilised in the conduct of the services, which will contribute to their completion in as timely a manner as possible. Key stakeholders will include those involved with, or affected by, infrastructure, as well as with road transport services provided by the private and public sectors. Consultants, contractors, public and private sector entities and various categories of road users shall be among those consulted.

3.02 The scope of services of the Consultant will include, *inter-alia*, the following tasks and sub-tasks to be carried out for each case study:

- (a) Sector-wide Climate Risk and Vulnerability Assessment (CRVA). The proposed study would assess the effects of projected climate change on the road transport infrastructure and identify and evaluate resilience measures to address the vulnerabilities of the network that would result from the projected changes in future climate, including temperatures, precipitation and other climatic variables. The study would include the following:
 - (i) Development of a geo-referenced exposure database of roads transport assets;
 - (ii) Assessment of the vulnerability of the infrastructure and assets; and
 - (iii) Assessment of the adaptive capacity of the roads agency
- (b) Assessment of relevant, policies, plans, strategies legal and regulatory framework and proposals to build capacity to implement resilience measures.

- (c) Based on the above, development of an index to measure the level of resilience in the sector that takes account of the level of vulnerability and existence of actions to prepare for and implement adaptation options.
- (d) Preparation of a package of materials that would provide guidance for increasing the resilience of the roads transport sector.
- (e) Development of a prioritised program of climate-resilient investments in transport infrastructure (including both new-built, reconstruction and maintenance works) that will contribute to the achievement of sustainable development of the country. This prioritisation exercise will be done using a multi-criteria evaluation (MCE) methodology that will take into consideration a combination of factors, including physical, social, economic and institutional criteria, amongst others. This process will allow the Works agency in each country to prioritise the threats posed by climate change by assessing asset vulnerabilities against a number of criteria thereby enabling it to make decisions on the treatment of risk based on scientific projections of future climate scenarios. The result of this process will be a prioritised list of works for possible investment.
- (f) Delivery of awareness and training of trainers workshops on Roads Sector Resilience Assessment and Integration.

Task 1: Climate Vulnerability Assessments

3.03 The objective of the CRVA is to identify and evaluate the effects of climate change on the road transport infrastructure and to identify resilience measures that could be included in the proposed investment plans. The consultant should undertake a quantitative analysis that is consistent with the Inter-Governmental Panel on Climate Change guidelines and includes, *inter-alia*, the following sub-tasks [(a) to (e)]:

- (a) *Establishment/development of a database of road transport assets – Exposure Database:* - collection of all necessary geo-referenced data on quantity and quality of road transport infrastructure.

3.04 This road exposure database is intended to become an essential reference tool for the agencies responsible for roads maintenance in the countries. Once it is developed, the governments will decide which entity in their respective country will have the responsibility for the maintenance and updating of the database, which, ideally, should be done at least on a yearly basis. The consultant will provide the roads agencies with all the written information necessary to access and update the road data base, including the associated metadata information in International Standards Organization standards. Some staff (of the roads agencies) training may be required in order to perform this task.

3.05 To establish the road database, the consultant will use all available data and will add the missing information and correct the data by undertaking field work, as needed: network surveys, traffic counts, etc. Field work to obtain statistically significant sampling data and interviews with technical experts and relevant stakeholders will be among the approaches used in the event that the resources for field work surveys are limited.

3.06 The data to be collected/created should include, but not be limited to:

- (i) Information on road type, classification (based on traffic level – light, medium, heavy, etc., – and pavement surface conditions – e.g. based on International Roughness Index, IRI) and numbering.
- (ii) Information on length, alignment, profile and width of road sections.
- (iii) Data on location of road section references (villages, junctions, mile posts, structures).
- (iv) Photos and Global Positioning System data.
- (v) Data on traffic characteristics and volumes (AADT).
- (vi) Information on road section surface type/pavement (asphalt/concrete/gravel).
- (vii) Data on surface condition and serviceability (deterioration, surface condition, roughness, travel speed).
- (viii) Data on road section history (construction, rehabilitation and heavy maintenance dates), information on road maintenance and repair strategies.
- (ix) Information on bridge condition, ranking of importance of bridges in the road network (considering factors such as available of alternate facilities, communication dependency, economic impact, functional importance, replacement cost, etc.).
- (x) Information on culverts condition.
- (xi) Information on other road appurtenances: condition of road intersection, condition of road signs, condition of retaining wall, condition of seawall/coastal defense.

3.07 Among the activities to be included in this task are:

- (i) Literature review of Best Practices for transportation infrastructure database development in the Caribbean.
 - (ii) Data collection and collation and required field work surveys.
 - (iii) Stakeholder consultations, interviews and surveys. Stakeholders shall include groups representing the differential interests of women and men, youth, the aging population and persons with disabilities.
 - (iv) Development of exposure database.
 - (v) Creation of metadata files.
- (b) *Assessment of Hazards and Exposure* – Characterisation of relevant climate variables and establishment of a climate baseline. This could include temperature and precipitation changes; mean sea level; incidence of hurricanes and tropical storms and associated storm

surge levels and wind. Both historical data and future scenarios will be required. The consultant will be expected to provide advice on the appropriate recurrence intervals for meteorological events impacting the proposed siting and design of the infrastructure. It is recommended that the consultant begin with a consultation with stakeholders to obtain their historical knowledge of past events and responses.

3.08 Among the activities to be included in this task are:

- (i) Identification of the hydraulic, hydrologic, topographic and bathymetric variables affecting road conditions together with characterisation of relevant climate variables and establishment of climate baseline. Mid-century climate change scenarios should be used to assess road and culvert design/capacity requirements. Climate variables could include temperature and precipitation changes (more precisely, maximum 24 hour daily precipitation could be used as the basis for assessing the risk of floods from surface runoff); mean sea level rise, incidence of hurricane, tropical storms and associated storm surge heights.
 - (ii) Selection of appropriate return periods. The consultant will be expected to provide advice on the appropriate recurrence intervals for meteorological events impacting the road network and relevant infrastructure. The recurrence interval proposed should not be less than 10 years for drainage structures. In the case of coastal infrastructure, it is recommended that a 150-year return be used for the assessment of storm surge and wave heights. It is recommended that the consultant begin with a consultation with stakeholders to obtain their historical knowledge of past events and responses.
 - (iii) Preparation of hazard maps showing the spatially distributed expected levels for different frequencies (i.e. 50-year, 100-year and 150-year return periods) and for different hazard types (coastal flooding, riverine flooding, landslides, subsidence, gullying, storm surges, sea level rise, volcanic eruptions, earthquakes).
- (c) Sensitivity and Impact Assessment – The consultant will assess the road network for sensitivity to the effects of projected climate change impacts for the reference variables described above and for different climate scenarios, and rank each accordingly. The expected detail for each critical site (where impacts are likely to occur) will depend on site specific considerations. For each site, where appropriate, biophysical models such as hydrodynamic models can be used to analyse the physical interactions. It will also be important to specify any uncertainties involved given the wide cost variation this may imply in the application of adaptation measures. Among the activities to be included in this sub-task are:
- (i) Undertake the necessary modelling exercises for the return periods previously selected. For each site, where appropriate, biophysical models such as hydrodynamic models can be used to analyse the physical interactions. For hilly areas subject to erosion, landslide models could be used. For road sections adjacent to the coast, sites where coastal dynamics are likely to impact roads and other physical assets (culverts, bridges, etc.), the consultant shall use the necessary coastal processes modelling to determine wave heights, storm surge levels, projected erosion rates, etc.

- (ii) Analyse the population affected by the climate-related impacts on road infrastructure and road transport services, including affected user groups and communities with potentially limited choices, such as women, children, the elderly and the disabled, providing sex-disaggregated socio-economic data, including, but not limited to: household size and types, level of education, access to health care, and poverty levels.
- (iii) Based on the above analysis the consultant will identify key vulnerable hotspots. For these areas, the consultant should prepare an impacts matrix describing for each relevant climate variable: the outcome (e.g. higher intensity hurricanes leading to extreme storm surges), the impact on the road asset (flooding).
- (d) *Adaptive Capacity Assessment:* The consultant will make an assessment of the adaptive capacity of the works agencies, in terms of their ability to undertake risk and impact assessments, to plan and implement adaptation actions and to undertake adaptive management. The consultant should assess the agencies capacity to manage the process and the requirements for additional support to enable them implement adaptation measures.
- (e) *Adaptation Assessment:* The consultant will identify and prioritise the most appropriate resilience measures that could be incorporated into the country's road investment program in order to address the vulnerabilities identified above. The consultants should consider a range of adaptation options including both hard infrastructure, ecosystems based approaches as well as institutional measures. For one of the identified hotspots, an illustrative economic analysis should be conducted of each technically feasible option, showing the costs and benefits, or a cost-effectiveness analysis if the adaptation options are expected to deliver the same benefits. The adaptation assessment should address different categories such as: (i) design or construction of new or replacement assets (pavement, structures, drainage); (ii) maintenance and management of existing assets; and (iii) managing network operations. The consultants should include a section which summarises how the options considered and the selected project site took account of climate risks. The assessment in respect of different group, including men, women, the youth, the elderly and the disabled, should be articulated.

Task 2: Assessment of Relevant Policies, Plans, Strategies Legal and Regulatory Framework Governing Roads Transport

- (a) *Diagnosis*
 - (i) Assess existing and proposed transport master plans and other sector policies, strategies and plans for exposure to climate risks. The assessment shall consider the extent to which policies, strategies and plans are inclusive and promote gender equality.
 - (ii) Assess relevant laws and regulatory framework.
 - (iii) Review budgets for implementing transport sector plans and their sensitivity to climate change.

- (iv) Assess relevant government agencies involved in the roads transport sector in terms of their institutional mandate and determine their level of awareness of climate change and incorporation of climate risks in the organisation's work.
 - (v) Identification of main challenges and risk from climate change: Potential barriers to adaptation; what can constrain the ability of the relevant organisations to adapt including: Legislation and regulation; management policies and procedures; human and financial capital; inclusivity and gender equality, and information and science. The consultant will use secondary information and interviews with key stakeholders and knowledgeable individuals in the characterisation of the organisational context in which the adaptation planning must take place.
- (b) *Building Sector Institutional Capacity to Cope with Climate Change*
- (i) Sustainability analysis.
 - (aa) Identification of financial options.
 - (bb) Identification of policy and regulatory options.
 - (ii) Identifying any required changes to policy and regulation.
 - (iii) Strengthening the capacity of the relevant agencies to identify and implement resilience measures.

Task 3: Development of a Roads Sector Resilience Index

3.09 Based on Tasks 1 and 2, the consultant will develop an index to measure the level of resilience in the roads transport sector that could be applied in different countries and contexts. The index should take account of a measure of the level of vulnerability of the sector (infrastructure and transport assets) and the existence of capacity (policies, plans, strategies, awareness, trained staff) to prepare for and implement adaptation options.

Task 4: Manual or a Package of Materials that would provide Guidance for Increasing the Resilience of the Roads Transport Sector

3.10 Drawing on the experience of the case studies undertaken in carrying out the above tasks the consultant would prepare a package of guidance material detailing the steps to be followed, technical notes, lessons learned and best practices in implementing the framework developed for integrating climate resilience into the roads transport sector. The "toolkit" may include techniques and recommended technologies to achieve this aim. The draft final document will be presented at regional workshops to be organised by CDB and the final package would incorporate the feedback received from this workshop. The materials shall be prepared in a manner to facilitate electronic dissemination/access by website, etc. as agreed with CDB. The material should also be prepared in a format suitable for publication by CDB.

Task 5: Prioritisation of Investments for Road Infrastructure

3.11 The objective of this exercise is to develop a prioritised program of climate-resilient investments in road transport infrastructure that will contribute to the achievement of sustainable development of the

country. An MCE process that will take into consideration a combination of criteria, including physical, social economic and institutional criteria, amongst others, is to be used to support the prioritisation of investments by means of two parallel activities: the assessment of the road infrastructure criticality; and the evaluation of the level of hazard and risk posed to the road network.

3.12 *Infrastructure criticality* represents the importance of specific links or nodes in the transportation network in terms of its provision of access to various economically or socially significant locations. These critical assets are the keys to supporting important transportation services, supporting the economy, moving people and freight, and providing emergency management functions.

3.13 The combination of the criticality of the different segments of road network and the hazard levels that these segments are exposed to will provide a ranking of segments of roads or road investment prioritisation that is expected to guide the government in its decision making process.

3.14 On the basis of the availability of spatial data, the consultants will undertake the assessment of the road network and the evaluation of hazard levels using Geographic Information Systems.

3.15 In summary, the approach will consist of the following three activities/stages (see Figure 1):

- (a) Assessment of infrastructure criticality.
- (b) Evaluation of hazard levels (hazard analysis as per the CRVA).
- (c) Integration of criticality and hazard levels.

3.16 The consultant should undertake this assessment taking in consideration, at least, the following sub-tasks:

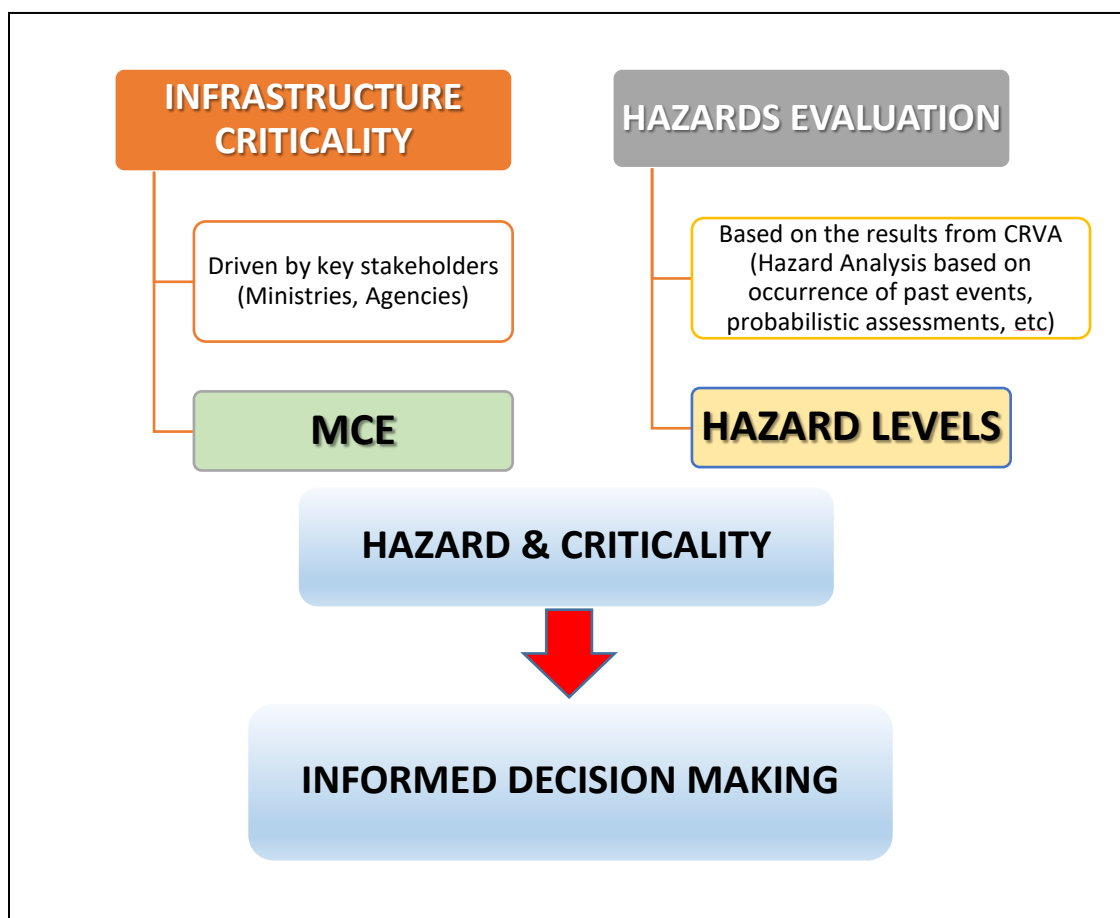
- (a) *Assessment of infrastructure criticality*

3.17 Under this Task the consultants will estimate the road network criticality by means of an MCE process based on a combination of physical, technical, social and economic factors, amongst others, that will help in assessing the importance of the different sections of the road network.

3.18 Among the activities to be included in this sub-task are:

- (i) Stakeholder consultation: - Consult key stakeholders in each of the islands through meetings, group consultations, workshops with sector agencies, to identify and agree on relevant criteria to be included in the MCE process and the data available and required for the assessment of the criteria. The procedure to derive the relevant criteria is proposed to be as participatory as possible, in order to include the perspective of as many of the local stakeholders as possible. The consultants shall involve the relevant stakeholders (or affected parties) at all stages of the MCE.

FIGURE 1: PROPOSED METHODOLOGY FOR PRIORITISATION OF ROAD INFRASTRUCTURE INVESTMENTS IN THE COUNTRY



- (ii) Identify and agree on relevant criteria to be included in the MCE process and identify the data that would be required to measure them, its availability and data gaps. The criteria to be taken into account will be defined by the consultants and should include *inter-alia*:
- (aa) environmental impacts;
 - (bb) the advantage of timely implementation of initial measures (quick wins);
 - (cc) climate change impacts;
 - (dd) population served;
 - (ee) continuity of sources of income (livelihood);
 - (ff) access to social services;
 - (gg) access to economic services;
 - (hh) views of local communities;
 - (ii) local potential for development;
 - (jj) development projects (tourism);

- (kk) alternate access roads;
- (ll) conservation of utilities;
- (mm) road safety issues;
- (nn) road maintenance capabilities;
- (oo) capital preservation; and
- (pp) budgetary constraints.

- (iii) Identify indicators to measure each of the selected criteria and the scoring and weighting of criteria and indicators. The consultants will establish a scoring and weighting methodologies emphasising future sustainability and social benefits.
- (iv) Combine indicators and criteria to estimate the criticality of the different road sections

(b) *Evaluation of hazard levels (hazard analysis as per the CRVA)*

3.19 This task will be covered by the CRVA. The hazard analysis performed as part of the CRVA will assist in determining the hazard levels that different sections of the road network are exposed to. The outcome of the hazard analysis will be a hazard map (per hazard) depicting the geographical distribution of the levels of hazards in the country.

(c) *Integration of criticality and hazard levels*

3.20 The combination of the outcome of the assessment of criticality and the hazard analysis will be done for each section of the road with a different value of criticality, overlaying these with the hazard levels. The outcome of this last stage will be a ranking of segments of roads with different levels of importance that will reflect the priority needs for climate resilient investments.

3.21 Deliverable: For each case study, the consultants will deliver reports on: (a) the climate vulnerability assessment; and (b) an investment plan based on the prioritisation task described above.

Task 6: Awareness and Training of Trainers' Workshops on Roads Sector Resilience Assessment.

3.22 Once the package of guidance material has been finalised the consultant will organise and deliver two regional workshops on the use of this material for staff from CARIFORUM countries. The workshops will assist in the formation of Communities of Practice around CCA and disaster resilience in the road transport sector.

4. REPORTING REQUIREMENTS AND DELIVERABLES

4.01 The consultant will also make regular presentations to the respective governments and CDB on methodological proposals, data gathering, coordination issues, and relations with key stakeholders, resource use and progress in accomplishing the tasks. The presentations will serve to enhance coordination, facilitate the consultant work, inform the countries, and to receive technical feedback on methods and approaches. These presentations will start with the inception report and should be scheduled every six weeks, coinciding with the completion of key subtasks, or the draft presentation of deliverables. In the fulfilment of all

reporting requirements, data and information presented shall, to the extent practicable, be disaggregated by sex.

4.02 The Consultant will present two hard copies of each report to CDB. The reports shall also be submitted in “pdf” as complete documents, as well as in Microsoft Word and Excel and/or other formats used in their creation. Electronic copies of all data used in the preparation of the reports shall also be submitted to CDB in formats that readily allow further analysis of the data. The reports and related data and information will be the sole property of CDB. A period of two week should be allowed for the receipt of comments by CDB on the key deliverables.

4.03 In addition, the consultant shall provide progress reports on a monthly basis.

Summary of Outputs/Deliverables

- (a) Task 1: CRVA Reports - within 3 months of the award of contract.
- (b) Task 2: A report on the assessment of policies, plans, etc. and recommendations for integrating resilience measures – within 4 weeks after the receipt of comments on Task 1 deliverables.
- (c) Task 3: A description and methodology for calculating a resilience index for the roads sector. – within 6 weeks after the receipt of comments on Task 2 deliverables.
- (d) Task 4: A package of guidance resources, technical materials, technologies, techniques, etc., (the toolkit) for the integration of climate resilience into the roads sector. – within 4 weeks after the receipt of comments on Task 3 deliverables.
- (e) Task 5: Climate Resilient Investment Plan for the sector in the 2 initial pilot counties. The Investment Plan should identify short-term investment needs, required for a period of five years or less, medium-term needs and long-term needs, those that might be postpone for ten years or more. The Plan should also include proposals for institutional strengthening where relevant – within four weeks after the receipt of comments on Task 3 deliverables.
- (f) Task 6: Delivery of regional workshops – within 4 weeks after the receipt of comments on Task 4 deliverables.

5. QUALIFICATIONS AND EXPERIENCE

5.01 The consulting team should consist of a team of professionals with the following key personnel:

(a) Key Professional 1: Highway Engineer

- (i) Education: A degree in civil engineering and professional engineering registration/licensure.
- (ii) Experience: At least ten years relevant professional experience in highway engineering. The specialist will lead the characterisation and technical assessment of existing social and economic infrastructure in the roads sector. He/she will conduct interviews with relevant organisations and stakeholders and undertake site visits to determine the existing road conditions and existing and planned proposals

and investment programs. In addition, he/she will lead in the preparation of the investment plans and in the preparation of summary profiles of proposed investments. The specialist will assist in the preparation of cost estimates for capital and recurrent costs related to projects proposed.

(b) Key Professional 2: Climate Change and Climate Vulnerability Expert

- (i) Education: An advanced degree in environmental science or a related discipline.
- (ii) Experience: At least ten years relevant professional experience in the in the area of climate change impacts adaptation and mitigation is required, including the conduct of detailed climate vulnerability and adaptation assessment. The specialist will be responsible, *inter-alia*, for: identifying the climate change parameters to be assessed; collection of relevant local historical climate data and climate change projections; identify the probabilities of specific climate change occurrences; conduct field investigations with local stakeholders to identify existing vulnerabilities (such as areas prone to flooding); and, in consultation with other team members, contribute to the identification of adaptation options, including their costs and benefits and prioritisation.

(b) Key Expert No. 3: Social and Gender Analyst

- (i) Education: An advanced degree in social analysis, social planning, gender analysis or similar.
- (ii) Knowledge and Experience: At least ten years relevant professional experience in the application of qualitative and quantitative methods to the analysis of social and gender conditions and factors affecting social development. Living standards and access to services for and the level of service provided to different population groups should be assessed in qualitative and quantitative terms to the extent practicable within the assignment on the basis the differential needs of women and men, the elderly, disabled and the youth with regards to transport.

(a) Key Expert No. 4: Transport Planner

- (i) Education: A Master's degree (or its equivalent) in a Transportation Planning or a closely-related discipline combined with training in Public Policy or Public Administration.
- (ii) Knowledge and Experience: At least ten years relevant professional experience in transport sector analysis, transport policy and strategy, institutional development and sector governance, transport sector reforms, private sector participation and monitoring and evaluation. Demonstrated expertise and technical knowledge in designing transport policies and strategies, transport sector development programmes, and public finance.

(c) Key Expert No. 5: Environment Specialist

- (i) Education: An advanced degree in environmental science or a related discipline.

- (ii) Knowledge and Experience: At least ten years relevant professional experience Policy and planning; environmental impact assessment; disaster risk management; and the climate vulnerability and climate change mitigation and adaptation.

(c) Key professional 6: Economist

- (i) Education: An advanced degree in development economics or equivalent.
- (ii) Experience: At least ten years relevant professional experience in the economic analysis of development projects and sector strategies based on economic analyses. Experience with incorporating climate change concerns into economic analysis as well as multi criteria analysis will also be required.

5.02 It is expected that the consulting team will be supported by expertise in disciplines such as geographic information systems and others that may be appropriate for the conduct of the services.

6. DURATION

6.01 The consultancy is expected to be conducted over a period of approximately nine months.

7. COMMENTS BY THE CONSULTANTS

7.01 The Consultant are required to make any comments on, and suggestions for, improvements to these TOR. The financial implications, if any, of these recommendations should be indicated in the Financial Proposal.

8. COORDINATION AND FACILITIES

8.01 The Consultant shall report to CDB's Division Chief, Economic Infrastructure Division (EID) or her/his designate. The staff of EID will assist the Consultant to coordinate activities including the planning of meetings, the stakeholder's workshops, interaction with the BMCs agencies and representatives and general administrative matters. EID staff will also work closely with the Consultant in reviewing working papers and reports as well as finalising the Strategy and Operational Plan. The cost of hosting the workshop will not be for the Consultant's account.

DESIGN AND MONITORING FRAMEWORK

| Design Summary | Performance Targets / Indicators | Data Sources / Reporting Mechanisms | Assumptions / Accountabilities |
|---|--|---|--|
| <p>1. <u>IMPACT:</u></p> <p>1. Optimal investments made by BMCs towards improving the efficiency and resilience of the road transport sector.</p> | Four BMCs use the resilience toolkit in the preparation of road transport plans or projects by December 2019. | <p>1. CDB evaluation reports.</p> <p>2. BMC Reports.</p> <p>3. Development Effectiveness Reports</p> | |
| <p>2. <u>OUTCOME:</u></p> <p>1. Strengthened capacity of BMCs provide road infrastructure resilient to natural hazards and climate change impacts.</p> | <p>1. 100% of road designs by the roads agencies in the pilot BMCs reflect adopted practices influenced by the gender-responsive resilience toolkit.</p> <p>2. At least 80% of participants who attended workshops have indicated that they are confident in their ability to use the tool index by September 30, 2017.</p> <p>3. Resilient Road infrastructure designs for two projects in two additional countries (other than initial pilot BMCs) prepared using resources from the ACP-EU-CDB NDRM Project by December 31, 2018.</p> | <p>1. CDB's Project documentation.</p> <p>2. Workshop feedback and follow-up by CDB staff.</p> <p>3. CDB Portfolio Performance Reports.</p> | <p>(i) BMCs committed to sustainable development and establish/ maintain relevant governance and management systems.</p> <p>(ii) Economic and social conditions within BMCs are stable.</p> <p>(iii) BMCs provide the necessary source of funding to meet investment requirements.</p> |
| <p>3. <u>OUTPUTS:</u></p> <p>1. Investment Plans for enhanced road transport sector resilience completed for two BMCs.</p> <p>2. Road resilience toolkit prepared, including a resilience index.</p> <p>3. Road sector representatives from BMCs trained as trainers in application of resilience toolkit.</p> | <p>1. Two Investment Plans completed by April 30, 2017.</p> <p>2. Roads sector resilience toolkit prepared by June 30, 2017.</p> <p>3. 40 participants (total) from 19 BMCs participate in 2 regional workshops (20 each workshop) by July 31, 2017. Participation to be gender responsive and reporting data disaggregated by sex.</p> | <p>1. Consultant's reports.</p> <p>2. CDB Supervision Reports</p> <p>3. Project Completion Report</p> | <p>(i) The toolkit, investment plan and recommendations are accepted by CDB, its BMCs and development partners.</p> <p>(ii) Participation in Stakeholder workshops is broad and at the levels appropriate to sensitise key decision makers.</p> |
| Activities/Inputs | USD | | <p>(i) Stakeholders participate meaningfully in consultations.</p> <p>(ii) BMCs' agencies cooperate with consultants in data gathering and data readily available.</p> |
| | CDB | TOTAL | |
| Consultancy Services: | | | |
| Professional Fees | 506,500 | 506,500 | |
| Accommodation and Travel | 125,000 | 125,000 | |
| Workshops - BMCs | 100,000 | 100,000 | |
| Contingencies | 36,500 | 36,500 | |
| Total | 768,000 | 768,000 | |

PERFORMANCE RATING SYSTEM

| Criteria | Score | Justification |
|----------------------|--------------|--|
| Relevance | 4 | The justification for addressing resilience to disaster risks and climate change impacts is made on the basis of damage experienced and potential risks faced. Increasing the resilience of roads, bridges and other elements of roads transport infrastructure to climate change impacts is a sustainable development priority for CDB's BMCs, as is accessing resources to do so. The Project is consistent with: (a) CDB's Strategic Objective of supporting inclusive and sustainable growth and development within its Borrowing Member Countries; (b) CDB's Corporate Priorities of strengthening and modernising economic and social infrastructure and promoting environmental sustainability; and (c) CDB's TA Policy and Operational Strategy of commitment to strengthening the synergies between TA operations and the Bank's investment lending. The Project does not duplicate, but aligns with the TA to conduct a Transport Sector Study of the BMCs and prepare a Transport Sector Policy, Strategy and Operational Guidelines for CDB. |
| Effectiveness | 3 | The project will be implemented by CDB and the implementation schedule is realistic. The risks to achievement of the project outcome has been suitably mitigated and it is expected that the designed outcome of the project will be fully achieved. The composition of the consulting team is being designed to ensure delivery of comprehensive outputs. The TOR for the services are comprehensive and the schedule and budget are consistent with the design of similar TA activities recently financed by the Bank |
| Efficiency | 4 | The expected cost of the consultancy has been based on current professional rates, and given the potential level of capital investment, is considered reasonable. The planned activities are expected to be achieved within time and budget. The intervention is expected to lead to increased engagement with BMCs, providing further opportunities for country assistance. |
| Sustainability | 3 | The outputs of the TA will enable BMCs to operate and manage the road transport sector more effectively. The tool will be owned by CDB, which has the capacity to update it as recommended. The training of staff from BMCs and continuing engagement by CDB and other development partners should result in appropriate future usage of the toolkit. |
| Overall Score | 3.5 | Highly Satisfactory |

GENDER MARKER ANALYSIS

| Project Cycle Stage | Criteria | Score |
|---|---|--------------|
| Analysis: Introduction/ Background/ Preparation | Consultations with women/girls/men/boys and relevant gender-related or sector-related public or private organisations have taken place. | 0 |
| | Social analysis identifies gender issues and priorities. | 0.25 |
| | Macroeconomic analysis identifies gender issues and priorities. | 0 |
| Design: Project Proposal/ Definition/ Objective/ Description | To address the needs of women/girls and men/boys concrete interventions to reduce existing gender disparities have been designed. Effect on project outcome is direct. | 0 |
| | Project objective / outcome includes gender equality. | 0.5 |
| Implementation: Execution | Implementation arrangements (gender mainstreaming capacity building or gender expertise in implementing agency) to enhance the gender capacity of the implementing agency. Effect on project outcome is indirect. | 0 |
| | Terms of Reference of project coordinating unit / project management unit include responsibilities of gender mainstreaming, especially at the levels of the project coordinator/director and the Monitoring and Evaluation (M&E) officer. | 0 |
| M&E: Results-Monitoring-Framework (RMF) | Collection of sex-disaggregated data required for M&E (stated and budgeted in Project) | 0.5 |
| | At least one gender-specific indicator at the outcome and/or output level in the RMF. | 0.5 |
| Scoring Code | | 1.75 |
| Scoring Code | | |
| Gender specific (GS): if 3.75 points to 4 points Gender mainstreamed (GM): if 3 points to 3.5 points Marginally mainstreamed (MM): if 1.5 to 2.75 points. NO: if projects score zero or 1; if NO please give a justification why Marginally Mainstreamed (MM): the project has limited potential to contribute to gender equality. | | |

BUDGET

(USD)

| Items | CDB |
|--------------------------|----------------|
| Professional Fees | 506,500 |
| Accommodation and Travel | 125,000 |
| Workshops | 100,000 |
| Contingencies | 36,500 |
| Total | 768,000 |

PROCUREMENT PLAN

I. General

1. Project Information:

Country: Regional

Grant Recipient: N/A

Project Name: African Caribbean Pacific – European Union – Caribbean Development Bank Natural Disaster Risk Management (ACP-EU-CDB NDRM) Project Planning for the Integration of Climate Resilience in the Road Transport Sector in the BMCs of CDB

Project Executing Agency: CDB - EID

2. Bank’s Approval Date of the Procurement Plan: July 21, 2016

3. Period Covered By This Procurement Plan: July 2016 – June 2017

II. Goods and Works and Non-Consulting Services

1. Reference to (if any) Project Operational/Procurement Manual: CDB’s procedures applicable to its Use of Funds

2. Any Other Special Procurement Arrangements: To comply with the requirements of the ACP-EU Finance Agreement the following is required:

- (a) Procurement of CDB-financed consultancy services shall be in accordance with CDB’s procurement procedures with respect to its UOF. Financing shall be provided under ACP-EU-CDB Natural Disaster Risk Management in CARIFORUM Countries and thus eligibility shall include CDB member countries and be extended to reflect the applicable regulatory provisions of the EU.

3. Procurement Packages with Methods and Time Schedule:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|----------------|-------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------------|-----------------|
| Ref No. | Contract (Description) | Estimated Cost (USD ‘000) | Procurement Method | Prequal. (Yes/No) | Expected Bid-Opening Date | Comments |
| 1. | Stakeholder Workshops (2 no) | █ | DC | N/A | N/A | |


III. Consulting Services

1. **Reference to (if any) Project Operational/Procurement Manual:** CDB's procedures applicable to its Use of Funds

2. **Any Other Special Procurement Arrangements:** To comply with the requirements of the ACP-EU Finance Agreement the following is required:

- (b) Procurement of CDB-financed consultancy services shall be in accordance with CDB's procurement procedures with respect to its UOF. Financing shall be provided under ACP-EU-CDB Natural Disaster Risk Management in CARIFORUM Countries and thus eligibility shall include CDB member countries and be extended to reflect the applicable regulatory provisions of the EU.

3. **Procurement Packages with Methods and Time Schedule:**

| 1 | 2 | 3 | 4 | 5 | 6 |
|----------------|---------------------------------|---|-------------------------|--|--------------------------------|
| Ref No. | Assignment (Description) | Estimated Cost (USD '000) | Selection Method | Expected Proposal Submission Date | Comments |
| 1. | Consultant |  | QCBS | August 2016 | Expected start: September 2016 |

This information is withheld in accordance with one or more of the exceptions to disclosure under the Bank's Information Disclosure Policy.

V. Summary of Proposed Procurement Arrangements

| Project Component | CDB ACP-EU (USD'000) | | | | | | | | | NBF (USD'000) | Total Cost (USD'000) |
|-----------------------------|----------------------------|-----------|-----|-----|----------|----|----|------|-----|------------------|-------------------------|
| | Primary | Secondary | | | Other | | | | | | |
| | ICB | NCB | RCB | LIB | Shopping | DC | FA | QCBS | CQS | Country | |
| 1. Professional Fees | - | - | - | - | - | - | | | | - | |
| 2. Accommodation and Travel | - | - | - | - | - | - | | | | - | |
| 3. Stakeholders Workshops | - | - | - | - | - | | | - | | - | |
| 4. Contingencies | - | - | - | - | - | | | | | - | |
| Total | - | - | - | - | - | | | | | - | |

CQS - Consultant Quality Selection
DC - Direct Contracting
FA - Force Account
FBS - Fixed Budget Selection
ICB - International Competitive Bidding

LIB - Limited International Bidding
NCB - National Competitive Bidding
NBF - Non-Bank Financed
QCBS - Quality and Cost-Based Selection
RCB - Regional Competitive Bidding

This information is withheld in accordance with one or more of the exceptions to disclosure under the Bank's Information Disclosure Policy.