

Government of Saint Lucia

National Emergency Management Organization



Disaster Vulnerability Reduction Project (DVRP)

TERMS OF REFERENCE

FOR CONSULTING SERVICES

QUALITY ASSURANCE/QUALITY CONTROL SUPPORT FOR CONSULTANCY TO DEVELOP DISASTER INFORMATION MANAGEMENT SYSTEM (DIMS)

Revised February 4, 2021

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QUALITY ASSURANCE/QUALITY CONTROL SUPPORT FOR CONSULTANCY TO DEVELOP DISASTER INFORMATION MANAGEMENT SYSTEM (DIMS)

1.0 BACKGROUND

Saint Lucia is a Small Island Developing State (SIDS) which faces many development challenges that include limited geographic space; an open, vulnerable economy; fragile ecosystems; limited human and institutional capacity; and vulnerability to natural phenomena, such as extreme weather. The onset of climate change has increased the frequency with which hydrometeorological climatic events occur with two extreme events (Hurricane Tomas, October 2010 and the Christmas Eve Trough, December 2013) striking the island within the last ten years.

Therefore, in an effort to strengthen its capacities and vulnerabilities, Saint Lucia obtained financing from the World Bank towards the implementation of the Disaster Vulnerability Reduction Project (DVRP). The DVRP is implemented by the Department of Economic Development, Transport and Civil Aviation through the Project Coordination Unit. A Component of the Project is the Contingent Emergency Response Component (CERC) which includes activities aimed at strengthening the National Emergency Management Organization (NEMO). An activity included and to be financed under the CERC is the development of a Disaster Information Management System (DIMS) for NEMO.

The proposed DIMS is expected to enhance NEMO's ability to collect, store, access and analyze data to better fulfill its mandate and support data-driven comprehensive disaster management and will be developed through a consultancy. The overall objective of that consultancy is to design, develop and operationally validate through User Acceptance Testing a comprehensive Disaster Information Management System (DIMS) and train and support users and administrators in the same to demonstrably improve decision making to enhance disaster risk management (before, during and after an event) in Saint Lucia. The DIMS will include the following priority applications and any other applications that may be agreed during implementation:

- NEMO Contact Management Application
- Volunteer Management Application
- Capacity Building/Training Application
- Memoranda of Understanding (MOU) Application

Details on each application is provided in Appendix 1 and the expected schedule of deliverables under the proposed consultancy is provided in Appendix III. The developed DIMS will be expanded and enhanced overtime and may include the applications detailed in Appendix II or others as recommended by the Consultant (herein after called the "DIMS Developer").

Therefore, to assist NEMO with effective implementation of the System, the Department of Economic Development, Transport and Civil Aviation seeks to engage the services of an Individual Consultant to provide NEMO with quality assurance and control services during the development of the Disaster Information Management System.

Background - NEMO

The National Emergency Management Organization (NEMO) is responsible for comprehensive disaster management in Saint Lucia. NEMO is comprised of a diverse membership from the Government, non-government and private sectors, headed by the Prime Minister, and is organized into:

- a. the National Emergency Management Advisory Committee (NEMAC)
- b. Sector Committees
- c. National Committees (structured along functional lines)
- d. District Committees
- e. the NEMO Secretariat

The NEMO Secretariat coordinates and supports the work of the various Committees and recognizes data as a critical input to enhanced disaster management. At present, the NEMO Secretariat has limited electronic database systems and primarily depends on hard copy paper files for accessing data.

2.0 OVERALL OBJECTIVE

The overall objective of this assignment is to provide Quality Assurance/Quality Control (QA/QC) support to the National Emergency Management Organization (NEMO) Secretariat during the implementation of the Consultancy to Develop the Disaster Information Management System (DIMS) as described in the Background section above (herein after referred to as "the Consultancy").

3.0 SCOPE OF SERVICES

In general, the Scope of Services includes:

- 1. Advising on matters related to contract management for the Consultancy
- 2. Supporting the NEMO Secretariat in interfacing with the DIMS Developer
- 3. Providing expert review of deliverables submitted under the Consultancy and ensuring that milestones are being met
- 4. Supporting the delivery and ensuring the quality of training provided under the Consultancy
- 5. Fully populating the DIMS applications developed under the Consultancy with data provided by the NEMO Secretariat, and
- 6. Supporting future planning for the DIMS based on the recommendations for further development of the DIMS produced under the Consultancy.

Specific Tasks

Task 1 - Advising on matters related to contract management for the Consultancy

The Consultant shall advise on matters related to contract management for the Consultancy to Develop the Disaster Information Management System (DIMS). In particular, the Consultant shall assist the NEMO Secretariat in crafting any required contract amendments and considering any requested contract extensions.

Task 2 – Supporting the NEMO Secretariat in interfacing with the DIMS Developer

As the Client's technical expert, the Consultant shall support the NEMO Secretariat in interfacing with the DIMS Developer. This may include, but it is not limited to:

- Participating in consultations with the NEMO Secretariat (in particular if these are remote) to determine the needs and functional requirements of the Disaster Information Management System (DIMS) and the optimal existing software package(s) which meet(s) the requirements for the DIMS;
- Participating in meetings between the DIMS Developer and the NEMO Secretariat, including contract management meetings and meetings to review/discuss deliverables;
- Translating complicated technical communications/reports submitted by the DIMS Developer for the NEMO Secretariat and the PCU;
- Liaising with the NEMO Secretariat, including during the remote support period, to ensure that the DIMS is meeting their requirements and to help communicate challenges encountered to the DIMS Developer

Task 3 - Reviewing deliverables submitted under the Consultancy and ensuring that milestones are being met

The Consultant shall serve as the Client's technical expert during the implementation of the Consultancy to Develop the Disaster Information Management System (DIMS) and shall provide the Client with advice as needed with respect to the DIMS Developer's performance and acceptability of their deliverables.

In particular, the Consultant shall:

- Review all reports submitted by the DIMS Developer for technical quality and soundness and provide detailed feedback/comments in writing. Reports required by the DIMS Developer are included in Appendix III;
- Develop a Test Plan for testing the delivered beta and final DIMS and all its applications, including testing for adherence to specifications and for security/stability;
- On behalf of the NEMO Secretariat, perform Quality Assurance/Quality Control (QA/QC) on the beta and final DIMS and all its applications to ensure compliance with specifications as per the Test Plan developed;
- Document all tests performed and report on compliance;
- Liaise with the DIMS Developer to repair identified bugs and patch any vulnerabilities; and

- Ensure that the final delivered DIMS and all its applications are free of bugs and securely protect sensitive information as per the Test Plan.

Task 4 - Supporting the delivery and ensuring the quality of training provided under the Consultancy

In respect of the User and Administrator Maintenance Training to be provided by the DIMS Developer, the Consultant shall:

- Support the delivery of training for the NEMO Secretariat and other stakeholders on the use of the DIMS and all its applications by providing any additional support required by trainees during training sessions. This may include, for example, helping trainees through practical exercises intended to illustrate use of the DIMS. This support does not in any way relieve the DIMS Developer of their obligations in respect of providing training.
- Review, validate and provide feedback on training materials developed by the trainer (DIMS Developer) in a Training Materials Review Report, and
- Assist the NEMO Secretariat in the scheduling of the training, selection of appropriate trainees and follow-up with training participants.

The Consultant shall also assist the NEMO Secretariat and other core DIMS users with accessing and benefitting from the remote technical support provided by the DIMS Developer until the end of the contract life. This can include, for example, helping to communicate bugs or user problems to the DIMS Developer. Remote technical support by the DIMS Developer is limited to a total of 10 hours.

Task 5 – Population of the DIMS Applications

The Consultant shall fully populate the following DIMS applications developed under the Consultancy with data provided by the NEMO Secretariat:

- NEMO Contact Management Application
- Volunteer Management Application
- Capacity Building/Training Application
- Memoranda of Understanding (MOU) Application
- Any other Application agreed and developed by the DIMS Developer

Available data is mainly in the form of hard copy files – more details on available data is provided in Appendix I. In entering the data, the Consultant should conduct reasonable validation and quality control, including consulting with the NEMO Secretariat on any data that appears erroneous, duplicated, missing or otherwise of concern.

In entering the data, the Consultant shall also populate the DIMS with any metadata available as required by each application.

Upon completion of data population, the Consultant shall write a report summarizing the data that has been populated, highlighting key data gaps and data quality concerns (including in respect to

available metadata) and detailing any challenges experienced with the DIMS or otherwise in the process.

The Consultant shall also document the workflow used for populating the application databases, including the specification of the tools and techniques used or developed to complete the process. At the end of the consultancy, the Consultant shall handover/indicate to NEMO any software developed/utilized for the automation of digitization/data-entry related processes. This is intended to assist NEMO to replicating this data entry process in the future as the application databases are updated.

Task 6 – Planning for future DIMS development

The Consultant shall assist the NEMO Secretariat in planning for the future development of the DIMS through producing a DIMS Future Development Report that shall serve as the Final Report for the consultancy and include:

- a technical summary of the work completed to date to develop the DIMS and any implementation challenges
- a description, breakdown and estimate of the work required to complete future DIMS applications specified
- a budget and plan for future DIMS development

The DIMS Future Development Report should build upon the recommendations for further development of the DIMS provided by the DIMS Developer.

#	Deliverable	Timeline				
	Solution Solution Sask 1 - Advising on matters related to contract management for the Consultancy					
1	Draft contract amendments and letters advising on	As required, within 1 week of				
	requested contract extensions, as necessary	request				
Task 3	3 - Reviewing deliverables submitted under the Consultant	cy and ensuring that milestones				
are be	ing met					
2	Test Plan for testing the beta and final DIMS	Within 2 weeks of receipt of				
	delivered, including all its applications	the DIMS Developer's DIMS				
		Requirements Report				
3	Quality Assurance/Quality Control (QA/QC)	Within 1 week of submission				
	Report on the beta DIMS, including report of all	of the beta DIMS				
	tests performed on all of its applications					
4	Quality Assurance/Quality Control (QA/QC)	Within 1 week of submission				
	Report on the final DIMS, including report of all	of the final DIMS				
	tests performed on all of its applications					
5	Report on review of each deliverable submitted by	Within 1 week of submission				
	the DIMS Developer	of each deliverable				

4.0 DELIVERABLES

	The Report should detail technical soundness and technical concerns and clearly indicate whether deliverables have met requirements and, if not, indicate deficiencies in detail. The Report should also include a marked up version of the deliverable where helpful to provide feedback to the DIM'S Developer.	
Task 4	– Supporting the delivery of training	
6	Training Materials Review Report	Within 1 week of submission of Training Materials
7	Training Support Report This report will summarize support provided under	Within 1 week of completion of remote support period
	Task 4.	
	– Population of DIMS Applications	
8 Tack	 DIMS Data Population Report This report will ensure the quality of work completed under Task 5 to: Populated DIMS applications, including: NEMO Contact Management Application Volunteer Management Application Capacity Building/Training Application Memoranda of Understanding (MOU) Application Any other Application agreed and developed by the DIMS Developer 	Within 4 weeks of acceptance of final DIMS applications
	- Planning for future DIMS development	
9	DIMS Future Development Report	Within 2 weeks of receipt of the DIMS Developer's Final Report providing recommendations for further development of the DIMS.

5.0 REPORTING

All reports and other deliverables shall be submitted to the Client's representative electronically in English in Microsoft Word, PDF or other relevant formats. A final version of each deliverable addressing comments received from the Client shall be submitted by the Consultant for approval.

As a part of the support offered to the NEMO Secretariat, the Consultant shall meet with the NEMO Secretariat team (and the Technical Working Group established to support the Consultancy) to

discuss their Report on review of each deliverable to ensure concerns are clearly communicated, understood and agreed.

All reports, documents and data collected relevant to the Consultant's services shall become the property of the Government of Saint Lucia.

6.0 WORKING ARRANGEMENTS AND LOGISTICS

This consultancy will run in tandem with the Consultancy to Develop the Disaster Information Management System (DIMS).

The Consultant shall serve as the Client's technical expert during the implementation of the Consultancy to Develop the Disaster Information Management System (DIMS) and shall provide the Client with advice as needed with respect to the DIMS Developer's performance and acceptability of deliverables.

In this capacity, the Consultant will:

- a) Execute the tasks outlined in Section 3 above with due diligence and efficiency and in accordance with the highest standards of professional competence, ethics and integrity;
- b) Coordinate, interact and report on an ongoing basis to the NEMO Secretariat and the Technical Working Group, as needed, during the conduct of this assignment;
- c) Submit reports and other deliverables within the timeframes stipulated in these Terms of Reference;
- d) Submit all underlying source files used in the consultancy in agreed formats;
- e) Provide all software, equipment, materials and transportation required to undertake the consultancy; and
- f) Execute the services in accordance with the laws, customs and practices of Saint Lucia and use the appropriate international/regional standards for preparation of technical information.

The Client is the Department of Economic Development, Transport and Civil Aviation (DEDTCA) with the National Emergency Management Organization (NEMO) Secretariat serving as the Client's representative. The NEMO Secretariat may form a Technical Working Group to provide additional technical support and stakeholder involvement in reviewing deliverables.

In its role, the NEMO Secretariat will:

- a) Ensure timely review of reports and other deliverables submitted by the Consultant, that is, within two weeks of receipt of deliverables;
- b) Initiate the consultation and cooperation of key staff and other agencies required to provide input to the Consultant for realization of the relevant aspects of the assignment;
- c) Provide access to the existing data and information required to facilitate the consultancy in a timely manner;
- d) Provide office accommodation (desk, chair and Internet and other connections) at the NEMO Secretariat Office at Bisee for the duration of the data population period to facilitate the required data population of the DIMS applications. In the event that the Consultant is unable to be present at the NEMO Secretariat Office, including due to COVID-19 travel restrictions, NEMO shall scan or otherwise share the hard copy records and soft copy records with the Consultant to facilitate data entry in a timely manner.

6.0 DURATION

The consultancy shall be conducted over a period not more than 8 months (35 weeks). The personmonths for the Consultant is expected to not exceed 3.5 person-months.

7.0 QUALIFICATIONS

In general, the Consultant must have:

Academic

- At least a bachelor's degree in Computer Science, Computer Engineering, Information Management Systems or a related field is required
- Certification in Microsoft Technologies for Software Developers is considered an advantage (with Microsoft Certified Solutions Developer certification preferred).

Experience and Skills

General professional experience:

• At least 3 years of cumulative professional work experience in a software development and/or information systems development role is required.

Specific professional experience:

- Experience with the management of contracts would be an asset
- Experience with software requirements elicitation and analysis is required.
- Experience in the successful completion of at least one data entry or digitization project is required

- Experience in database development is required.
- Experience with information security protocols and standards is required.
- Experience with the preparation and delivery of training for application-specific software packages is required.
- Experience working in a disaster management related role or volunteer experience with a disaster management office is an asset.
- Experience working with a development bank or international aid agency is an asset.

APPENDIX I

Priority Applications to Form Part of the Disaster Information Management System (DIMS)

(The final features and requirements of each DIMS application are to be discussed and determined during Task 1 of the Consultancy to the Develop the Disaster Information Management System)

Application	Business Cases	Access Requirements and Permissions	Existing Data and Sources
NEMO Contact Management Application (Applies to all key personnel and members of the National Emergency Management Organization (NEMO)) - Name - Affiliated agency/committee, - Position and supervisor, - Assigned NEMO function, - Contact details - Home address (including GPS coordinates)	- Enhancement of communication within NEMO during and outside of disaster events	• Access by NEMO	All required data exists but has to be sourced from individual agencies comprising NEMO. Data will be sourced by the NEMO Secretariat.
Volunteer Management Application(Applies to all registered NEMOvolunteers)- Name and key biographicinformation of volunteers- Home address (including GPScoordinates)- Contact details	 particular event Identification of capacity gaps in the volunteer system 	Secretariat • Remote/online access required • Access limited to identified	The following data fields are available for most volunteers from NEMO hard copy files: - Name - Age - Cell phone - Email address - NIC#

Application	Business Cases	Access Requirements and	Existing Data and Sources
 Skills/qualifications/ certifications Volunteering capacity (including Committee attached to) Assigned role(s) Volunteer service history Insurance coverage Medical condition / fitness level Psychological condition Background check data Employment details Details on dependents Availability for call out Access to transportation 	 Identification of insurance coverage needs and development of insurance coverage policies Identification of transportation support needs Identification of candidates for incentives/awards/ recognition 	Permissions	 Home Address Emergency Contact and Relationship Emergency Phone Occupation Employer Health limitations Physical and mental condition declaration District Disaster Management Committee attached to Affiliation with other disaster relief agencies Special skills and/or vocational/disaster training in the following areas: Medical Communications Office Support Services Structural Transportation Labour Equipment
Capacity Building/Training Application (applies to all NEMO Secretariat Staff,		Access by NEMO Secretariat	· · ·

Application	Business Cases	Access Requirements and	Existing Data and Sources
NEMO Committee members and volunteers)	- Identifying gaps and informing training/capacity building plans		attendance registers for past trainings. The training registers indicate the title
 Name and key biographic information Contact details Skills/qualifications/ certifications Assigned role(s) Medical condition /fitness level Psychological evaluation Employment details Certified trainer qualifications 	 and programmes Enhancing placement of resource persons within the NEMO system based on qualifications and capacities 	• Access limited to identified	 of each training: Name Organization Contact No. Email Gender
 Memoranda of Understanding (MOU) Application (Applies to all MOUs and informal working arrangements for disaster preparedness and response, including those with private and public sector partners and international agencies). Partner/agency name Key contact persons and contact details Location (address and GPS coordinates) 	 Identification of best suppliers to meet specific needs post disaster based on various criteria defined at the time – location will be a key determining factor in most cases. Maximizing assignment, management and leveraging of private and public sector partners in a disaster context Determination of gaps in MOUs 	 NEMO Secretariat and agencies, District Disaster Committees Remote/online access required Limited to select individuals 	 The following details are available for most MOUs from NEMO hard copy files: Private sector MOUs (with grocery stores, fuel stations, hardware suppliers) Relief items supplied, including item description, size, price estimate per unit Entry into force, amendment and duration

Application	Business Cases	Access Requirements and	Existing Data and Sources
		Permissions	
Additional fields:	- Identification of strategic areas requiring greater collaboration/ partnership		Other Private Sector, Public Sector and International Agency MOUs - General areas of cooperation
 Private sector MOUs (with grocery stores, fuel stations, hardware suppliers) Relief items supplied, including item description, size, price estimate per unit Entry into force, amendment and duration 			 Respective responsibilities of the parties Timeframe for action Legal liabilities of parties Entry into force, amendment and duration
 Other Private Sector, Public Sector and International Agency MOUs General areas of cooperation Respective responsibilities of the parties Timeframe for action Legal liabilities of parties Entry into force, amendment and duration 			

APPENDIX II

Applications for later development and addition to the Disaster Information Management System (DIMS)

Application	Business Cases	Access Requirements and	Existing Data and Sources
		Permissions	
Shelter Management Application (To be designed to accommodate all data obtained from the standard CDEMA form for assessment of shelters. Database fields to be fashioned based on the Dominica model to be provided to consultant and including detailed data fields within the following categories:)- Identification data - Assessment data- Management and Contact data- Use Compatibility - Accessibility (Evacuation from Home)- Safe Area - hazard exposure (environment of shelter)- Area available for shelter - Occupancy - Accessibility (in the shelter - people with disabilities) - Walling	 Enhancing shelter maintenance and management Determining needs for upgrading or construction of new shelters Linking persons with disabilities and special needs to the most appropriate shelter(s) 	 NEMO Secretariat and agencies, District Disaster Committees Remote/online access required Limited to select individuals 	

- Ro	ofing					
	inking water					
	strooms					
	entilation					
	ghting					
-	wer Supply					
	ooking					
	brage					
	Communication					
	nitary Conditions					
	creation Area					
_	rking					
	mp Area					
	ommunity Shelter Needs					
	eneral Recommendations and					
	omments					
Natural	and Manmade Hazards	_	Updating of hazard maps	•	Access by NEMO	Some examples of available natural
Applicati			e pauling of nuture maps		Secretariat and agencies,	hazard maps/inventories include:
	cation and scale of landslides	-	Conducting Hazard and		District Disaster	- Landslide Inventory Map
	cluding mapping)		Vulnerability Assessments		Committees (potentially	- Landslide Susceptibility Map
	tent and depth of community		(HVAs) and multi-hazard		the public, if a	- Flash Flood Hazard Map
	oding (including mapping of		analyses		crowdsourcing approach	- Coastal Flood Hazard Atlas (2006)
	eas)		2		to information gathering	- Wind Hazard Atlas (2006)
	tent and depth of coastal flooding	-	Damage and needs projections		is used)	- Risk Register (2006)
fro			for impact events of various	•	Remote/online access	
ma	pping of areas)		intensities		required	
	ind speeds at various stations			•	Limited to select	
isla	and wide during tropical cyclones				individuals	

 Earth shaking potential during earthquakes Location of other natural hazards (e.g. volcanoes) Location and mapping of coastal reclamation Location of manmade hazards (e.g. gas stations, hazardous waste sites, landfills, chemical storage sites etc.) Damage Assessment Application Type, intensity, duration of impact event Geographic extent of impact Standard data collected in damage and loss assessments and post disaster needs assessments 	 Development of Community Risk Profiles Development of Disaster Management Plans, including identification of best evacuation route(s) in communities Identification of community resilience projects Hazmat response 	 Access by NEMO Secretariat and agencies, District Disaster Committees Remote/online access required Limited to select individuals 	Data is available on past events from the following sources - Damage and Needs Assessments - After Action Reports - Situation Reports - NEMO's Annual Report (Soft copies available for more recent events/years and hard copies available otherwise)
 Community Profile Application Physical, social and economic characteristics of communities pertinent to disaster management planning and response Infrastructure characteristics Condition of housing stock and built environment 		 Access by NEMO Secretariat and agencies, District Disaster Committees Remote/online access required Limited to select individuals 	Data is available on communities from the following electronic sources: - 2010 Census - Ongoing 2020 Building Use Survey - Country statistics available at <u>https://www.eccb-</u> <u>centralbank.org/statistics/dashboard</u> -datas/

- Country Economic Review 2018 – Saint Lucia - Economic and Social Review 2018
(2019 expected)
- Quarterly Labour Force Survey current to December 2019
- Survey of Living Conditions (2015/2016)
- Household Budget Survey (2015/2016)
- Poverty by Settlement Map

Appendix III Expected Schedule of Deliverables under the Consultancy to Develop the Disaster Information Management System (DIMS)

#	Deliverable	Timeline (from start of contract)					
	Task 1 - Determine the needs and functional requirements of the Disaster Information						
	Management System (DIMS) and the optimal existing software package(s) to develop the DIMS						
based	on those requirements in consultation with NEMO						
1	DIMS Requirements Report	0.5 months					
	- Develop the Optimal Design for the DIMS						
2	DIMS Design Report	2 months					
	- Produce the Beta Disaster Information Management S						
3	DIMS Quality Assurance/Quality Control Report	4.5 months					
	This report will ensure the quality of work completed under Task 3 to:						
	- develop/build the beta DIMS						
	- Test the functionality of the DIMS and identity						
	potential bugs						
Task 4	- Produce the Final Disaster Information Management S						
4	Revised DIMS Quality Assurance/Quality Control Report	6 months					
	This report will ensure the quality of work completed under Task 4 to:						
	- revise the beta DIMS based on the UAT findings						
	and wider QA/QC Report, including fixing any						
	deficiencies in functionality and debugging the						
	DIMS, to produce the final DIMS version.						
T 1 5							
	- Develop Manuals to Support the Disaster Information I						
5	User Manual	6 months					
6	Administration and Maintenance Manual	6 months					
	6 – Conduct Training on the Disaster Information Mar	nagement System and Provide					
Remote Technical Support							
7	User and Administrator Training Report	6.5 months					
-	– Final Reporting						
8	Final Report	7 months					