

TERMS OF REFERENCE
Project Final Evaluation
Improving Climate Data & Information Management
Pilot Program for Climate Resilience in Jamaica

1. BACKGROUND

Under the Pilot Programme for Climate Resilience (PPCR), the Government of Jamaica received a grant of US\$6.8million from the Climate Investment Fund (CIF) through the World Bank (WB) to implement Investment Project 1, Improving Climate Data and Information Management Project (ICDIMP). The ICDIMP is one of a suite of projects giving effect to the goals and objectives of Jamaica’s Strategic Programme for Climate Resilience (SPCR). The objective of the ICDIMP is to improve the quality and use of climate related data and information for effective planning and action at the local and national levels.

Jamaica’s location in the tropics makes its climate especially variable and the island will likely experience significant changes in temperature, precipitation and sea level rise according to downscaled models described in the 2015 “State of Jamaican Climate, Information for Resilience Building” report. In summary, the models have indicated that an increase in climate variability will likely result in: a) the mean temperature increase by 0.85°-1.80°C by the 2050; b) the 2030s being up to 4% drier, and the 2050s up to 10% drier; c) 2 % less rainfall in the annual mean by the mid-2020s d); an 80% increase in the frequency of Saffir-Simpson category 4 and 5 Atlantic hurricanes over the next 80 years ; and e) sea level rise by 0.26-0.82 m by 2100 relative to 1986-2005 levels. Consequently, more impact and damage are anticipated: sea level rise leading to accelerated coastal erosion in some areas; increased flood risk and loss of land; saline intrusion into coastal aquifers; increased destructiveness of tropical storms; loss of protective coastal systems, such as coastal vegetation and coral reefs partly due to higher ocean surface temperatures and loss of livelihoods, especially in climate-and weather-sensitive sectors such as tourism, agriculture and fisheries.

The current and predict climate variability denotes a greater need for and larger benefits from, high quality climate forecasts, and assessments. Therefore, improving the country’s capacity to accurately monitor, model and predict weather and climate, and build adaptation measures to the impacts of climate change is a priority of the Government of Jamaica (GOJ).

The ICDIMP is executed by the Planning Institute of Jamaica (PIOJ) and contributes directly to the Government’s national strategy in addressing Outcome number 14 of Vision 2030 Jamaica – National Development Plan which speaks to hazard risk reduction and adaptation to climate change. Specifically the project aims to:

- Strengthen Jamaica’s meteorological observation and data collection systems to enhance climate monitoring, weather forecasting and early warning systems

- Enable effective planning and design of adaptation initiatives, through access to climate change scenarios specific to Jamaica, including scenarios for priority sectors
- Use climate scenarios generated to assess the expected consequences of climate change for each priority sector and utilize assessments to develop sector-based methodologies for climate resilient planning and decision making
- Conduct detailed vulnerability assessment of the health sector to generate information needed to improve resilience of the health sector by climate proofing health care facilities
- Improve knowledge, attitudes and practices of the Jamaican public towards climate change.

The ICDIMP is implemented under four components:

Component 1: Upgrading Hydro-Meteorological Data Collection, Processing and Forecasting Systems (US\$4.009 million) aimed at enhancing the availability and reliability of data for climate change scenario modelling, risk analysis and warning systems, and knowledge sharing.

Component 2: Climate Resilient Planning and Hydro-meteorological Information Services (US\$1.386 million) to provide technical assistance support to promote Jamaica's readiness for climate events.

Component 3: Climate Change Education and Awareness towards Behavioural Change (US\$0.725 million) to provide technical assistance support to promote climate change awareness at the national and local levels.

Component 4: Project Management, Monitoring and Evaluation (US\$0.68 million) to provide support to PIOJ for project implementation, including overall technical management, financial management, procurement, project visibility, environmental and social safeguards implementation, monitoring and evaluation of project activities, data collection, supervision of works through the provision of consulting services, non-consulting services, goods, and Operating Costs.

The PIOJ works closely with various Implementing Agencies including: Meteorological Service Jamaica; Water Resources Authority (WRA); Rural Agricultural Development Authority (RADA); Ministry of Health and Wellness (MOHW); National Spatial Data Management Branch (NSDMB); Climate Change Division (CCD) in the Ministry with responsibility for the Environment and Climate Change; Office of Disaster Preparedness and Emergency Management (ODPEM); and the Climate Studies Group Mona, University of the West Indies (CSGM).

The project was designed to benefit various end users of agro-met data and information services, including the agricultural commodity boards and farmers, the Ministry of Health and health facilities, tourism centres (hotels), Civil Aviation Authority and airlines, and the Coast Guard. Improvement in the climate information database and institutional mechanisms for effectively disseminating early warning messages and agricultural knowledge and adaptation interventions is expected to assist poverty reduction and food security issues and by extension, be of direct benefit to both male and female-headed households, agricultural workers and fisher folk. The ICDIMP is expected to have considerable benefits to the international hydro-met community by improving access to more reliable observation data from the Jamaica territory, contributing to more accurate regional forecasting and planning throughout the Caribbean region.

2. OBJECTIVE

The objective of the consultancy is to undertake the project final evaluation (FE) of the ICDIMP to:

1. Assess the performance in terms of relevance and coherence of the project design, efficiency of project implementation, effectiveness in the achievement of the project development objective (PDO) and associated PDO indicators (as measured by the project results framework), project impacts and sustainability (*annex 1*).
2. Assess efficiency in terms of economic analysis reflecting a comparison of the original economic and financial analysis outlined in the Project Appraisal Document with the reality.
3. Document lessons learned by analysing the problems encountered, actions taken to resolve them and whether alternative actions should have been taken. The evaluation will assess key factors and events pertaining to preparation and implementation, that affected performance and outcomes, operational aspects of project management including the use of adaptive management, management of project budget and resources, monitoring and evaluation, back stopping support, stakeholder engagement and project visibility.
4. Provide additional data and information required for completion of the World Bank's Implementation Completion Report (ICR) (*annex 2- elements included in the ICR*).

In addition, the FE is expected to promote learning, feedback, and knowledge sharing through results and lessons learned among the Climate Investment Fund (CIF), the WB, the Planning Institute of Jamaica (PIOJ) and Implementing Partners.

3. SCOPE OF WORK

In carrying out the assignment, the consultant is required to utilize a desk/project outputs review and consultative approach to obtain the perspective of various Implementing partners, beneficiaries and other stakeholders involved in and/or impacted by the project. The consultative approach is intended to complement a comprehensive project documentation review process focused on assessing the relevance, efficacy, effectiveness, impact and sustainability of the project's outputs and the outcome that have accrued from its implementation.

Specifically, the Consultant will:

- I. **Assess the relevance and coherence of project design.** This is defined as the extent to which the project's design (its planned activities) is consistent with the stated objectives, results framework and CIF programmatic approach and the extent to which the project's design respond to Vision 2030 Jamaica National Development Plan, project beneficiaries, institutional needs, and other priorities. It will assess the compatibility of the project with other interventions in Jamaica and whether there is complementarity with other projects from Jamaica's Strategic Programme for Climate Resilience and other PPCR projects in the region.
- II. **Evaluate the efficiency of project implementation.** The consultant will review and report on the timeliness (delivery is within the intended timeframe) with which project components were implemented, the conversion of inputs (funds, expertise, time, etc.) into outputs, outcomes and impacts, in the most cost-effective way possible and the appropriateness of budgets. The consultant will assess whether the project leveraged resources with other interventions to ensure the efficient usage of resources and maximum benefit for beneficiaries.
- III. **Evaluate project effectiveness.** The consultant will report on the results of the project, that is, whether the project has achieved its objectives. The achievement of each objective is assessed based on the level of achievement and concept of "**plausible causality**". This will be established by assembling evidence from each part of the results or causal chain supported by the project – the inputs and outputs – and

the observed intermediate outcomes or impacts for each objective; and discussing and (to the extent feasible) presenting evidence of the contribution of other, non-project factors in leading to these outcomes (the counterfactual), with the intent of pointing to the plausible attribution of the outcomes to the ICDIMP.

- IV. Evaluate project impacts.** Document the extent to which the project has generated any intended or unintended impacts, positive or negative and any significant transformative change and learning. It seeks to identify effects of the intervention that are longer term or broader in scope than those already captured under the effectiveness of project implementation by examining the changes in systems or norms, and potential effects on beneficiaries (including economic analysis). To illustrate project impacts the consultant will highlight/capture some success stories.
- V. Evaluation project sustainability.** Evaluate the extent to which the benefits of the ICDIMP will continue, or are likely to continue, including an assessment of the institutional capacities needed to sustain and build on the benefits over the medium to long term.
- VI.** Review relevant documentation including, but not limited to: the Grant Agreement, Project Appraisal Document, Project Operational Manual, Project Reports, Mid-term review, Interim Status reports and main consultancy contracts and deliverables.
- VII.** Consult key stakeholders involved in the management and implementation of the ICDIMP including, but not limited to: Members of the Project Steering Committee, PIOJ, MSJ, WRA, ODPEM, NSDMD, CCD, RADA and University of the West Indies – CSGM.
- VIII.** Assess to what extent the project facilitated and benefitted from stakeholder involvement and was socially inclusive particularly with respect to gender.
- IX.** Identify and document any issues or challenges that may have impacted implementation, as well as corrective actions taken, if any.
- X.** Document lessons learned, best practices observed and make recommendations as appropriate that may be applied through to completion of the project, or to other WB-funded or other related projects. The recommendations will include any areas for scaling up of output or approaches.

4. RATINGS

The findings of this FE are to be presented in utilizing the five main areas outlined in the objective:

- i. Relevance and coherence of project design
- ii. Efficiency of project implementation
- iii. Effectiveness in achieving outcomes
- iv. Project impact and
- v. Sustainability.

The consultant will prepare a ‘performance table’ for the project. This table should specify each of the assessment areas, the findings/levels of performance, assigned score and justification. An overall rating for the project should also be given.

The following rating system is to be applied:

5.1 – 6	HS	Highly Satisfactory
4.1 – 5	S	Satisfactory
3.1 – 4	MS	Moderately Satisfactory
2.1 – 3	MU	Moderately Unsatisfactory
1.1 – 2	U	Unsatisfactory
0 – 1	HU	Highly Unsatisfactory

Each area to be assessed will be assigned a score in line with the table above. The highest total score possible is thirty for the project. The actual score will be presented as a percentage.

5. EXPECTED DELIVERABLES

No	Deliverables	Submission Dates	Payment schedule	Format
1.	Inception report outlining detailed work plan, methodology for undertaking the assignment, the of findings of the desk review, preliminary meetings and other activities	Weeks 2	20%	Electronic Copy
2.	Draft final evaluation report including findings from stakeholder consultations	Week 6	40%	Electronic Copy
3.	Final evaluation report (incorporating feedback from stakeholders)	Week 8	40%	Electronic and 2 hard copies
The consultant is expected to present the final report to the project steering committee at a project close out meeting.				

6. SPECIFICATION OF THE CONSULTANCY

- I. Type of Consultant: Individual Consultant (Local). The consultant selected for this assignment cannot have participated in the project preparation and or implementation and should not have a conflict of interest with ICDIMP activities.
- II. Duration: The consultancy will be for a maximum of 40 man-days over a period of 8 weeks.
- III. Location: The consultant will work from the consultant's place of business; however PIOJ will provide all required documentation.
- IV. Qualifications and Experience: Candidates should have at least a post-graduate degree in Management, Economics, Development Planning, Project Management, Public Administration or related discipline with at least 5 years' experience in evaluating projects in the areas of environment, natural resources management disaster risk reduction or climate change adaptation. **Or**

An undergraduate degree in Management, Economics, Development Planning/Finance, Environmental Management, Public Administration or related discipline with at least 7 years’ experience in evaluating projects in the areas of environment, natural resources management, disaster risk reduction or climate change adaptation.

- Experience working with international development partners in programme evaluation and monitoring; and knowledge of their systems, processes and operations for approving and implementing projects in Jamaica or the Caribbean
- Experience in working with GOJ Ministries, Departments and Agencies
- Proven ability to produce results within agreed timeframe
- Demonstrated understanding of climate change issues and their implications for Jamaica and the Caribbean
- Excellent oral/written communication and report-writing skills

7. REPORTING ARRANGEMENTS

The consultant will work under the direct supervision of the Deputy Director General – Sustainable Development and Social Planning Division and will liaise closely with the Project Manager for the ICDIMP who will be the focal point for coordination with the project stakeholders.

8. EVALUATION CRITERIA

CRITERIA	Maximum Score
(1) Education/Qualifications and Experience	35
<ul style="list-style-type: none"> ▪ A post-graduate degree in Management, Economics, Development Planning, Project Management, Public Administration or related discipline 	25
<ul style="list-style-type: none"> ▪ At least 5 years’ experience in evaluating projects in the areas of environment, natural resources management disaster risk reduction or climate change adaptation. 	10
<ul style="list-style-type: none"> ▪ OR 	

CRITERIA	Maximum Score
<ul style="list-style-type: none"> ▪ An undergraduate degree in Management, Economics, Development Planning, Project Management, Public Administration or related discipline 	20
<ul style="list-style-type: none"> ▪ At least 7 years' experience in evaluating projects in the areas of environment, natural resources management, disaster risk reduction or climate change adaptation. 	10
(2) Knowledge, Skills and Expertise	65
<ul style="list-style-type: none"> ▪ Experience working with GOJ Ministries, Departments and Agencies. 	15
<ul style="list-style-type: none"> ▪ Experience working with international development partners in programme evaluation and monitoring; and knowledge of their systems, processes and operations for approving and implementing projects in Jamaica or the Caribbean 	20
<ul style="list-style-type: none"> ▪ Understanding of climate change issues and their development implications for Jamaica and the Caribbean. 	10
<ul style="list-style-type: none"> ▪ Excellent report writing skills. 	20
TOTAL	100

APPENDIX 1: RESULTS FRAMEWORK

Indicator Name	Core	Unit	RESULTS								Comments
			Baseline	YR1 (2016)	YR2 (2017)	YR3 (2018)	YR4 (2019)	YR 5 (2020)	Year 6	End Target	
Quality of weather forecasts ² (Quantitative Precipitation forecast)	Contributes to PPCR Core Indicator 3	%	66	66	71	72	72	72	—	75	Due to loss of capacity, the MSJ has been unable to accurately update the report on this indicator. The project will contract a short-term consultant to build the capacity of the MSJ to report on this indicator as a part of their quality management operations. The consultant will also collect and analysis data for accurate reporting of 2019 and 2020.
Targeted TIAs who use improved climate data and information services produced under the project in their work.	Contributes to PPCR Core Indicator & 4	#	0	1	3	6	6	8	9	8	The entities are: MSJ, WRA, MOHW, CCD, ODPEM, NSDMD, RADA and PIOJ. Climate data and Information Services used by the entities include, the Infilled data set for period of 1970-2010, SOJC 2015, WRA quarterly water monitoring bulletin, soil moisture probe data.

² Measured by the accuracy of 24-hour precipitation forecast and methodology used to meet the criteria.

											The National Fisheries Authority under the Ministry of Agriculture and Fisheries implementing entity of the PPCR- Promoting Community-based Climate Resilience in the Fisheries Sector Project also utilizes data and information produced by the ICDIMP in several of their project activities.
Targeted Vulnerable groups having access to early warning messaging ³	Contributes to PPCR Core Indicator 4	#	0	0	0	0	0	0	0	6	Activity ongoing and on track for results to be obtained before the end of the project. Early warning messaging being prepared for at least 7 vulnerable groups.
Instruments for ⁴ climate planning and action informed by improved climate data and information	Contributes to PPCR Core Indicator 3	#	0	0	0	1	1	4	5	6	Completed activities: <ol style="list-style-type: none"> 1. 2015 SOJC 2. VA in Health 3. Action plan from VA in Health completed (actions Water supply systems and back power supplies for Health Facilities being implemented. 4. SOJC 2019 prepared and uploaded to PIOJ website. Copy editing for final publishing is presently being undertaken.

³ The number of vulnerable groups targeted by the Office of Disaster Preparedness and Emergency Management for early warning messaging.

⁴ This includes the development of the NSDMD climate change/ disaster risk node, VA in health sector, Community Risk profiles, Action/prioritization plan from the VA in Health sector and the SOJC 2015 & 2019 reports

											<p>5. NSDMD, Climate Data node. The project has completed the investment into the node including improvement of bandwidth to 50mbps</p> <p>In progress:</p> <ol style="list-style-type: none"> Draft Community Risk Profiles prepared and validation exercise ongoing.
Meteorological, hydro-met and agro-met equipment operational ⁵	Contributes to PPCR Core Indicator 3	#	0	32	100	115	121	154	158	170	<p>Achievement includes:</p> <ul style="list-style-type: none"> 4 AquaCalc Meters WRA 20 Soil moisture probes MSJ. 35 AWS for MSJ 12 Soil Moisture probes by WRA 57 hydro-met stations 30 Others (ground water probes, surface water velocity radars etc.) <p>Additionally 10 AWSs were procured and together with 8 other AWSs make 18 AWSs that will be installed by the project.</p>

⁵ Operational for stationary equipment means equipment installed, functioning and providing data related to core mandate/function of Technical Implementing Agencies (TIAs) e.g. Water Level sensor or AWS. Operational for mobile equipment means equipment functioning temporarily utilized on sites by the TIAs as needed for the provision of data related to the core mandate/function of the TIAs. e.g. Surface velocity radar or Aquacalc meter.

Doppler Radar Operational	Contributes to PPCR Core Indicator 3	Range ⁶ 1-4	Radar Obsolete	1	1	2	2	2	4	5	The Doppler weather radar passed operational tests and fencing work complete. The installation of the Solar PV system should be complete by December 21, 2021, at which time the target of 5 will be met.
Meteorological, hydro-met and agro-met stations reporting data in real time and meets quality standards ⁷	Contributes to PPCR Core Indicator 3	%	MSJ-31 WRA-0	MSJ-31% WRA-0	MSJ-38% WRA-16%	MSJ-51% WRA-20%	MSJ-54% WRA-42%	MSJ-58% WRA-51%	MSJ-58% WRA-51%	MSJ-46 WRA-15	The real time data transmission system for the MSJ was launched on world Met day -Mach 23, 2021. The system is at final stages of testing with installation planned to commence in November 2021.
Technical staff and other personnel trained in development, dissemination and use of weather, climate and hydrological data	Contributes to PPCR Core Indicator 2	#	0	100	150	183	183	228	367	320	<p>Since the last reporting period 130 persons were trained under, the CDRM activity. 6 forecasters and 3 instrument technicians trained in the Edge software and operations by the new weather radar.</p> <p>Training still to be completed includes:</p> <ul style="list-style-type: none"> • Training in the use of radar data and products for MSJ, WRA, and RADA. The Training plan was submitted and approved. • Training in the use of SOJC 2019 for Municipal corporations.

6 Intends to capture stage of procurement, installation and operation of weather radar; where: 1 – specifications defined; 2 – Supplier contracted; 3 – Radar procured & installed; 4 – radar is operational (passing operational test and MSJ utilizing Radar Products); 5-Weather Radar Station Solar Powered- climate resilience

7 Baseline: WRA had 0 stations reporting in real time within their network. MSJ had 31% of their station being AWS.

											<ul style="list-style-type: none"> • Training in the calculation and reporting of the quality of weather forecasts
Accurate and high resolution national and sectoral climate change scenarios developed	Contributes to PPCR Core Indicator 3	Yes/No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	2015 scenarios completed and launched. Final scenarios produced for 2019.
Households' awareness and concern about climate change ⁸ .	Contributes to PPCR Core Indicator 4	%	66				77	77		86	Full KAP ongoing. Results will be known by end of December 2021.

⁸ The indicator reflects two questions taken from the 2012 Climate Change Knowledge Attitudes & Behavioural Practice survey: 1-.have you ever heard the term 'climate change' and 2-how concerned are you about climate change?

APPENDIX 2: ELEMENTS OF THE WORLD BANK IMPLEMENTATION COMPLETION REPORT

- Project Context and Development Objectives
- Context at Appraisal
- Significant Changes During Implementation (If Applicable)
- Outcome
- Relevance Of PDOs
- Achievement Of The PDOs (Efficacy)
- Efficiency
- Justification of Overall Outcome Rating
- Rating the Outcome Of Operations with Revised Objectives
- Other Outcomes and Impacts (If any)
- Key Factors that Affected Implementation and Outcome
- Key Factors during Preparation
- Key Factors during Implementation
- Bank Performance, Compliance Issues, and Risk to Development
- Outcome
- Quality of Monitoring and Evaluation
- Environmental, Social, and Fiduciary Compliance
- Bank Performance
- Risk to Development Outcome

APPENDIX 3: REPORTING TEMPLATE

Inception Report

The Consultant will issue an Inception Report within the first month of the commencement. The Inception Report will include the findings of the desk review, preliminary meetings and other activities. It will also include the consultant's work plan and itinerary, draft document outline and preliminary identification of key issues.

Draft and Final Report

The report should be brief to the point and easy to understand. It must explain the purpose of the evaluation, exactly what was evaluated and the methods used. The report must highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons. The report should provide information on when the evaluation took place, the places visited, who was involved and be presented in a way that makes the information accessible and comprehensible. The report should include an executive summary that encapsulates the essence of the information contained in the report to facilitate clear managerial responses.

The evaluation will rate the overall implementation success of the project and provide individual ratings of the aspects described in the scope of work. The ratings will be presented in the format of a table with brief justifications based on the findings of the main analysis.

Evidence, findings, conclusions and recommendations should be presented in a complete and balanced manner. Any dissident views in response to evaluation findings will be appended in an annex. The evaluation report shall be written in English, be of no more than 50 pages (excluding annexes), use numbered paragraphs and include:

- I. An executive summary providing a brief overview of the main conclusions and recommendations of the evaluation;
- II. Introduction and background giving a brief overview of the evaluated project, purpose of the evaluation and scope of work.
- III. Methodology of the evaluation including steps in the evaluation process, limitations and constraints.

IV. Findings of the evaluation highlighting the relevance of project design, effectiveness of project implementation, efficacy in achieving project objectives, impacts, sustainability, major issues and challenges and lessons learned.

V. Summary of findings

VI. Conclusions and rating of project implementation success giving the evaluator's concluding assessments and ratings of the project against given evaluation criteria and standards of performance.

Annexes should include Terms of Reference, list of interviewees, documents reviewed, photographs etc. Dissident views or management responses to the evaluation findings may later be appended in an annex.