

SPCR Reviewer Comments and Responses

COMMENTS/SUGGESTIONS/RECOMMENDATIONS	RESPONSE/ACTIONS TAKEN
GENERAL COMMENTS/SUGGESTIONS FOR IMPROVEMENT	
<p>The SPCR is strong in several areas, in particular in identification of and recommendations for enhancing climate monitoring. The executing agency is highly capable of implementing the program effectively on the basis of sound technical assessments and promoting the implementation of specific adaptation measures to address key vulnerabilities in the region.</p>	<p>No Change Recommended or Made</p>
<p>A special need is to increase the observational and research capacities in many regions, particularly in developing countries. Finally, as is the goal of this assessment, there is a continuing need to communicate research advances in terms that are relevant to decision making on an ongoing basis. That being said there are core areas in need of strengthening. In particular the strategy reflects a bias towards incremental changes to existing practices as opposed to effecting transformative and robust adaptation.</p>	<p>The SPCR actions in this regard are made up mainly of Components 1 and 2, which together are intended to provide for further acquisition of baseline data, and enable improved hazard mapping, and to strengthen the inter-linkages of the regional data collection and management system. These initiatives has to be combined with separate and concurrent efforts to (i) expand the regional climate monitoring system, including sea level and coral reef monitoring systems, and to facilitate the establishment of a flexible, inter-disciplinary and operational system.</p>
<p>In critical areas of developing resilience information, insurance, infrastructure, integrated systems (watersheds, coastal) the Strategies offers an applications framework instead of a truly adaptive and transformative approach the leads ro societal and environmental robustness in a changing environment.</p>	<p>The fully adaptive and transformative approach would have to be achieved through a combination of both regional and national initiatives. Key national intiatives in this area include financing mechanism components of the national SPCRs for Saint Lucia and Jamaica, and under consideration in Dominica. Furthermore, account has to be taken of the ongoing CCRIF efforts, the Economics of Climate Change and the Review of the Economics of Climate Change. Further initiatives intended through the regional SPCR and the CCCCC led effort for xx include an update of the Caribbean Climate Change Adaptation Tool.</p>

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Transformative Change	
<p>Most critically the Strategy should frame its advances in terms of innovations instead of incremental changes. It presents a very linear approach to risk assessment and informing management i.e. 1) collection of climate relevant data, (2) data analysis, (3) impact modeling and (4) applied adaptation. This is known to be limited for contextual analyses and for informing practice through a social process of risk communication.</p>	
<p>The Strategy cites issues of gender but the recommendations on implementation underestimate the complexities in addressing gender (e.g. “disseminate gender modules”, policy makers are effectively lobbied to ensure gender impacts are understood and prioritized etc. Local information networks not identified or emphasized to support adaptation planning. Stakeholders are characterized as almost passive recipients of information and adaptation intervention.</p>	
<p>The two key areas of concern that are critical to the SPCR approach and addressed in the Strategy will be discussed in detail. These are (1) Climate Risk Management and (2) Institutional Capacity and Coordination</p>	
(1) Climate Risk Management	
<p>Critical to development of risk profiles to prioritize interventions is the improvement of systems and methods for long-term monitoring and understanding the consequences of climate variability, climate change and other stresses on human and natural systems. This is well documented in the Strategy.</p>	<p>No action required. Additional text further underscore the importance of this area.</p>
<p>Models of future climate cannot be downscaled statistically to produce completely accurate representation of future local climate because climate change is inherently a non-stationary process. The strategy appears to offer a carte blanche acceptance of downscaled information. Model validation thus needs greater research attention, both to meet user needs above and to sensitize modelers to deficiencies.</p>	<p>The strategy elements in this regard respond in part to a need expressed by national stakeholders, but tries to balance this need with measures that would ensure that a long terms solution is built. This is attempted particularly where data collection is concerned, In addition, the SPCR takes account of (i) the ongoing climate modeling activities being undertaken by the climate modeling group, which includes the CCCCC, the UWI and INSMET and now the Univeristy of Suriname, and (ii) provides for a data workshop intiaitive that will serve to validate the model outputs.</p>

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<p>The increase in the number of storms which may be due to decadal-scale variability and the increasing intensity which may in part be due to anthropogenic forcing highlights the point that it is neither variability, abrupt nor anthropogenic change but a combination (hence “a changing climate” and changing vulnerabilities) that are critical to the region.</p>	<p>Noted. Adjustment has been made also to limit reference to increased intensity only, rather than to increase in frequency. This was prompted by a stakeholder observation in that regard.</p>
<p>To adequately reproduce weather scenarios for the recent historical record, existing climate models must be able to reproduce the form, seasonality, and variance of the phenomenon that constitute the dominant controls on weather systems and their variability.</p>	
<p>Additional needs would be the development of reconstructions of past climate periods and improving tools for integrated assessment, including risk assessment, to investigate interactions between components of natural and human systems and the consequences of different policy decisions. Impact assessment and scenario development must approach climate model output far more critically, conducting expert and thorough historical record validation of all critical aspects of the problem as a first mandatory step.</p>	<p>The data workshop activity intended by the climate modeling group under Component 3 of the regional SPCR will seek to work through the historical information in order to determine consistency of the model outputs with the actual data.</p>
<p>· Downscaling (statistical or dynamic) is inherently flawed as a tool to inform adaptations. A mixed portfolio of approaches that includes but is not limited to downscaling is needed.</p>	<p>Noted. The mixed portfolio must include the EU CARIFORUM initiative, the IDB supported DMS initiative and sectoral level adaptation activities anticipated at Component 4.</p>
<p>Strengthen the scientific and data foundations for early warning</p>	<p>This is being pursued collectively through the EU CARIFORUM initiative and Components 1 and 2 of the regional SPCR, as well as through national SPCR efforts and through the IDB supported DMS effort to consolidate the Data Management System to allow for broad base access and use.</p>
<p>Better understand whether and how best to use probabilistic information with scenarios-reliable set of statistical procedures to test whether an increase in autocorrelation is significant (response curve)</p>	<p>This is to be addressed through the training to be provided under the EU CARIFORUM initiative</p>

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Develop risk and vulnerability profiles of at-risk regions and locales	
Place multiple indicators within a statistically consistent triggering framework-cross-correlation among units before a critical threshold	
<ul style="list-style-type: none"> Research and monitoring for thresholds and critical transitions in agriculture, water resources and ecosystems 	
<ul style="list-style-type: none"> Develop capacity and training focused on analytical capabilities to support inputs to global, regional, national and local impacts projects and climate outlooks 	
<ul style="list-style-type: none"> Active search for assumptions and gaps in research-based knowledge including consequences of i) methodological choices, and ii) the implicit uncertainty in the loss data 	
<ul style="list-style-type: none"> Use of “lay” and local knowledge as well as all relevant specialist expertise 	This is intended to be incorporated in Component 4 of the regional SPCR, as well as in key activities of the national SPCRs
Thresholds can be defined for water resources, coral bleaching, and infrastructure strength, but these must be placed within social, economic, and environmental contexts to determine actual tipping points-buffers?	
Rapid socioeconomic and environmental changes will occur at the same time as climate changes and co-evolve in nonlinear ways, increasing the potential for surprises	
The present status of monitoring systems (CPACC seal level gauges) need to be described.	This is adequately described in the EU CARIFORUM initiatives, the DMS project document, and now in the enhancements to this document at

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<p>Improvement of systems and methods for long-term monitoring and understanding the consequences of climate change and other stresses on human and natural systems are highlighted in the document. For instance regional climate monitoring systems including coral reef early warning is articulated. How this monitoring is to be targeted to inform risk profiles, thresholds that are critical to risk management and conducted in partnership with local communities, tourism and fishing sectors etc. are not well articulated. <i>The use of scenario-based approaches (not just climate) to climate risk management has been widely recommended as a necessary complement to traditional simulation and optimization studies.</i> However, most impact assessments employ a small number of scenarios with limited usability at the island scale. These constraints illustrate the need for adopting management measures that are robust to uncertainty—that is, that are themselves adaptable from event to event without reliance on the need for precise projections of future conditions. Integrated water resources and coastal zone management, for example, are based around the concept of flexibility, using measures that are robust to changing conditions</p>	<p>The approach recommended here is more expansive than can be provided for by the SPCR, and is in fact being employed holistically through the ECA and RECC initiatives, through the upcoming vulnerability and impact assessment initiatives and capacity building exercises under the EU CARIFORUM effort and are intended in part through Component 4 of the regional SPCR. It is critical to note also that the proposed measures require (i) a critical mass of investment across the range of socioeconomic sectors and (ii) a relatively long gestation period which would make it unlikely for impacts to be identified within the life of the SPCR.</p>
<p>Uncertainty will remain a pervasive issue in assessing climate change impacts and developing adaptation initiatives. Adaptation will not be able to wait for perfect knowledge but will be implemented using the best knowledge available.</p>	
<p>For this reason, tools that enable good, but partial, knowledge to be used to develop adaptation initiatives are an important element of these plans.</p>	

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Institutions: Capacity and Coordination	
<p>The institutions highlighted CIMH, CDEMA CEHI, and others are critical to the effort. The cross-coordination and role of these institutions as boundary organizations that link applied research to user needs and practices should be developed. Improved use of mixes for national, academic and private sector partnerships to assess and deliver information. Having a lead agency is useful (as in the Strategy) but care has to be taken to ensure that the goals of the lead agency does not subsume the entire agenda for different project components. A main component of societal resilience that is not adequately addressed is the development of interagency cultures and adaptation policy entrepreneurs to (1) Assess climate impacts, evaluate adaptation practices and identify opportunities with government and the private sectors to improve adaptation practice and network building is necessary but not addressed on the document beyond requirements for technical training and (2) Understand local and regional decision processes and networks and identifying entry points for embedding climate risk information in practice, and (3) Identifying the needs for cross-sectoral approaches that bridge the energy–water, agriculture–tourism, and other nexuses. Cross-institutional improvement of systems and methods for long-term monitoring and understanding the consequences of climate change and other stresses on human and natural systems would focus on identifying and reducing institutional barriers to learning and action including</p>	<p>Noted. Attempts have been made to better articulate the management arrangements toward this end; however the role of the Regional Framework for Achieving Development Resilient to Climate Change is to be noted here, as well as that of dissemination of information. Measures toward improving the latter are enshrined in the DMS, and are articulated through the coordination functions within the Regional SPCR (sections E (i) and Component 4, i).</p>
<ul style="list-style-type: none"> • Impediments to the flow of knowledge among existing components 	
<ul style="list-style-type: none"> • Policies and practices that can give rise to failures of the component parts working as a system 	
<ul style="list-style-type: none"> • Opportunities for and constraints to learning and institutional innovation 	

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<p>While “learning by doing” is needed in adaptive management the Strategy lays out several discrete option and does not actually state how learning will actually occur. How such learning would be ensured or at least engaged is not articulated satisfactorily in the Strategy,</p>	
<p>Adaptation takes the form of proactive infrastructure and risk management, it will also result from crisis, learning and redesign. While UWI is mentioned developing a framework for collaboration between research and management would go a long way towards increasing the capacity to develop learning based on criteria for implementation including costs of inaction, apply what is being learned and evaluate outcomes.</p>	
<p>As is widely recognized, identifying the need and types of adaptation or optimal governance structures does not automatically translate into actions on the ground without catalysts for coordination, leadership, and public engagement. Governments of countries participating in the Caribbean regional program have been adequately involved in the design of the SPCR for the regional track. However the Strategy does not appear to be engaging ongoing national policy reform processes and existing, relevant activities and strategies in the countries participating in the regional program.</p>	<p>Efforts in this regard were built into Phase I of the regional SPCR and were coordinated with the stakeholder consultations surrounding the development of the regional framework.</p>
<p>To this end, there is a need to more effectively link present adjustment to longer-term adaptation strategies with an understanding of how the actions are evaluated and serving to guarantee individual and social welfare across these climate timescales. The strategy is a clear step in that direction. To be transformative implementation goals would include efforts to (1) raise the present low-priority status given to sustaining ecological services, (2) understand the impacts of long-term land use, and urban planning, and (3) develop and show the benefits of multi-way information exchanges that facilitate shared awareness and coordinated action.</p>	
<p>The Report advocates laudable goals</p>	
<ul style="list-style-type: none"> · An integrated development planning approach 	

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<ul style="list-style-type: none"> · Early incorporation of adaptation into development planning initiatives through a multi-stakeholder approach founded on mutual respect and responsibility and 	
<ul style="list-style-type: none"> · Sustaining strategy and action through public education and awareness Programs 	
<p>However early incorporation is built on long term trust and respect. As articulated, the process of implementation may not be able to accomplish these goals. How are key individuals and organizations engaged beyond a communications perspective into an organizational framework. , Sustaining strategy is not adequately defined-who is responsible for continued implementation and how does new information become incorporated as it arises (whether form climate model, data or impacts analyses).</p>	
<p>For a “pilot” to be truly transformational this effort should show the benefits of participation-etc. One path forward is to engage resources and community level groups in:</p>	
<ul style="list-style-type: none"> · Setting goals/priorities, and involving partners in problem definitions 	
<ul style="list-style-type: none"> · Using professionals from relevant agencies etc. to build and secure a common basis for action 	
<ul style="list-style-type: none"> · Producing collectively authored gaps knowledge and information gaps assessments agreement on the way forward 	
<ul style="list-style-type: none"> · Integrating different types of knowledge in early warning across climate timescales, particularly in terms of linking scientific and local knowledge 	
<ul style="list-style-type: none"> · Revisiting major or landmark drought events to show benefits of new information and coordination processes 	

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<p>The 5Cs through MACC has developed a harmonized approach to assessing vulnerability and capacity needs. This approach should be applied to key questions that inform learning and robust adaptation e.g. What can be learned about the adaptive capacity of settlements from responses to past extremes and variability in the past? Analysis of existing responses from public and private institutions to climate change risks, and assessment of proposals to improve the effectiveness, efficiency and equity of future responses.</p>	
<p>The Strategy should address key transformative changes in climate sensitivity such as expansion of land degradation and urbanization into agricultural regions and critical ecosystems especially that protect and buffer from stronger storm surges.</p>	
<p>Additional areas could include:</p>	
<ul style="list-style-type: none"> · Behaviours that promote community preparedness and preventive strategies in a changing climate 	
<ul style="list-style-type: none"> · Strategies to ensure that individuals, governments and the private sector adopt better practices in preparing for the increased risk to communities, business operations or critical infrastructure arising from climate change 	
<ul style="list-style-type: none"> · Adapting existing urban planning principles and practices to accommodate climate change and the uncertainty of climate change impacts. How should these principles and practices differ, based on the location and spatial scale of the settlement? 	
<ul style="list-style-type: none"> · Governance of urban planning in the Region including formal and informal rules, nationally consistent approaches and guidelines, and locally driven standards and outcomes, and the institutions responsible for decision making, be improved to facilitate planning processes and outcomes which incorporate adaptation to climate change 	

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<ul style="list-style-type: none"> Particular planning needs of small community settlements under a changing climate? 	
<ul style="list-style-type: none"> Design options and principles for adapting existing and new buildings to climate change in different locations, and how these can be implemented 	
<ul style="list-style-type: none"> What impacts on key infrastructure might have downstream or cascading impacts during extreme climate events, and how might these impacts be avoided? 	
<p>The main areas in need of strengthening are in the areas of the governance of knowledge assessments and risk management include:</p>	
<ul style="list-style-type: none"> the distribution of capital and investment, enable or constrain adaptation; 	
<ul style="list-style-type: none"> social practices and opportunities enable or constrain adaptation; 	
<ul style="list-style-type: none"> the distribution of power in decision making enables or constrains adaptation; 	
<ul style="list-style-type: none"> what differing types of decision makers consider to be the goals of adaptation 	
<ul style="list-style-type: none"> assessing the potential for, and limits to, market-based adaptation measures, including insurance markets. 	
<p>Analysis of existing responses from public and private institutions to climate change risks, and assessment of proposals to improve the effectiveness, efficiency and equity of future responses, including: analysis of responses in the public, private and third (civil society) sectors; analysis of the distribution of roles, responsibilities and capacities of different levels of government and cross-jurisdictional bodies; understanding how laws and legal institutions, including regulatory instruments, support or impede adaptation planning and practice, and identifying reforms needed to reduce obstacles to effective practice.</p>	