

## Achieving Development Resilient to Climate Change: A SOURCEBOOK FOR THE CARIBBEAN WATER SECTOR

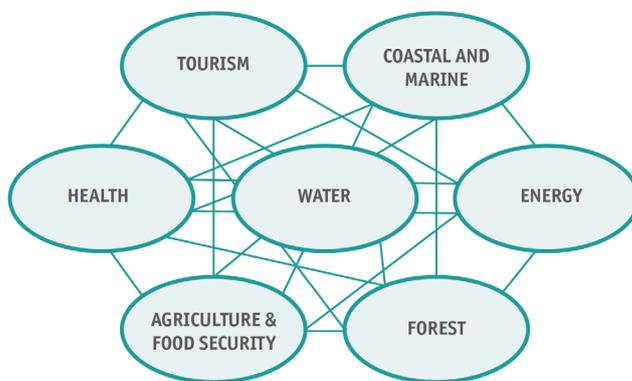
# Summary of the Sourcebook

*The Caribbean Water Sector Sourcebook has been developed to support implementation of the Regional Framework for Achieving Development Resilient to Climate Change and Implementation Plan. It provides tools, methods and approaches to help planners and decision makers identify and implement actions which enhance water security and climate resilience in the region.*

### KEY MESSAGES

- Water is the primary medium through which climate change influences Earth's ecosystem and thus the livelihood and well-being of societies (UN-Water, 2010).
- Water security supports economies, societies and the environment. It contributes to the overall resilience of the Caribbean.
- Climate hazards threaten water security. Climate change could worsen these hazards and present new risks for the region.
- Achieving climate resilience involves managing current climate risks and adapting to future climate changes.
- The Sourcebook supports planners and decision makers to increase the resilience of water resources management and water services.

### Supporting the regional response to climate change



**Figure 1** - Interdependencies between sectors (CCCCC, 2012)

Within each phase it provides methods, tools and approaches to support climate resilient decision making. Further resources are signposted in the Sourcebook for users to access more detailed information and guidance.

The Sourcebook navigator overleaf summarises the overall structure and main content of the Sourcebook.

**Figure 2** - The decision making phases used in the Sourcebook

The Regional Framework and Implementation Plan (CCCCC, 2012) places the water sector at the centre of achieving climate resilient development (see Figure 1).

The Sourcebook offers water sector planners and decision makers a framework for enhancing climate resilience throughout the decision-making cycle, centred on the four key phases shown in Figure 2.



## Understand the problem

The overall purpose of this phase of decision-making is to arrive at a common understanding on the priority existing and future climate risks and their potential impacts on development objectives.

**Outcome:** A strong, evidenced case for investment in climate resilient measures based on an understanding of the climate risks facing different stakeholders.

**Sourcebook content:** Tools, methods and approaches include:

### 1. Assessing existing climate risks

- 1.1 Engaging stakeholders in climate risk assessment
- 1.2 Rapid framing of climate impacts
- 1.3 Mapping the pathways between hazards, vulnerability and impacts
- 1.4 Prioritising impacts to assess levels of risk
- 1.5 Building the evidence base through technical studies

### 2. Assessing future climate risks

- 2.1 Understanding the role of climate change and development scenarios in the Caribbean
- 2.2 Determining the level of complexity for scenarios

- 2.3 Identifying data and information sources to develop scenarios
- 2.4 Building climate and development scenarios
- 2.5 Applying scenarios to assess future climate risk

### 3. Making a strong case for action

- 3.1 Identifying impact metrics to make a strong case
- 3.2 Using economic assessment of the impact of climate variability and change
- 3.3 Aligning the case for action with regional, national and sectoral policies and strategies
- 3.4 Identifying champions as a catalyst for action
- 3.5 Communicating the case for action

## Monitor and move forward

The purpose of this phase of decision-making is to monitor and evaluate the impacts of investments in climate resilient development.

**Outcome:** Enhanced monitoring and evaluation frameworks which track the impact of investments in climate resilience, building on lessons learned.

**Sourcebook content:** Tools, methods and approaches include:

### 10. Benefiting from results based monitoring and evaluation

- 10.1 Results-based monitoring and evaluation
- 10.2 Incorporating climate change in existing monitoring and evaluation systems
- 10.3 Benchmarking and performance measurement

### 11. Learning lessons and communicating findings

- 11.1 Benefiting from learning reviews
- 11.2 Disseminating findings and regional learning



## Identify and appraise options

The overall purpose of this phase of decision-making is to identify and appraise a coherent set of cost effective and feasible climate resilient adaptation options which address urgent and high priority risks.

**Outcome:** A strong, well-articulated and evidenced case for high priority options to build climate resilience.

**Sourcebook content:** Tools, methods and approaches include:

### 4. Understanding the principles of building resilience in water management

- 4.1 No and low regrets options are robust to climate change uncertainty
- 4.2 Enhancing resilience in water brings co-benefits to other sectors
- 4.3 Preparing for long term climate change requires a flexible pathway of actions

### 5. Using CCORAL to identify adaptation options

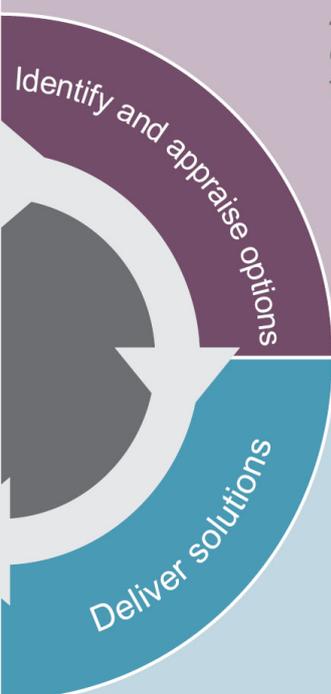
- 5.1 Introducing CCORAL
- 5.2 Applying CCORAL in the context of water management

### 6. Building on existing work to identify adaptation options

- 6.1 Reviewing past plans, policies and risk assessments to identify adaptation options
- 6.2 Building on the lessons from case studies and ongoing initiatives
- 6.3 Reviewing regional and international databases to identify opportunities for resilience

### 7. Prioritising adaptation options for implementation

- 7.1 Selecting appropriate prioritisation techniques
- 7.2 Multi criteria analysis (MCA)
- 7.3 Benefit cost analysis (BCA) and Cost Effectiveness Analysis (CEA)
- 7.4 Specialised decision making techniques



## Deliver solutions

The purpose of this phase of decision-making is to secure finance for bankable projects that will enhance climate resilience.

**Outcome:** A suite of bankable projects, maximising leverage from climate financing sources for taking these forward.

**Sourcebook content:** Tools, methods and approaches include:

### 8. Taking options forward for implementation

- 8.1 Preparing bankable investment projects and programmes
- 8.2 Integrating adaptation options into development planning processes
- 8.3 Mainstreaming climate resilience

### 9. Identifying sources of finance to implement adaptation options

- 9.1 'Traditional' financing sources
- 9.2 Appreciating the growing importance of climate finance
- 9.3 Seeking opportunities to fund climate change related actions
- 9.4 Pragmatic considerations to be aware of when seeking funding

## Sourcebook users

The target audience for the Sourcebook is water resources managers and water service providers who are seeking an understanding of how to manage climate risks. This includes:

- National water resources agencies and utilities
- Regional agencies and development partners
- Water professionals
- Water dependent sector agencies (e.g. agriculture, and tourism)
- Central planning agencies

Application of the tools and techniques are designed to enhance collaboration across sectors.

## Using the Sourcebook

The Sourcebook serves as a reference source which supplements existing guidance with tools, methods and approaches to enhance climate resilience. When using the Sourcebook users should consider the following:

- The Sourcebook is not intended to be followed as a process from cover to cover. Each section of the Sourcebook can be used independently depending on the user's interest and entry point.
- The Sourcebook presents a wide range of tools, methods and approaches, and links to sources of further information.
- The Sourcebook encourages a questioning mode of thinking to help users develop climate resilient solutions relevant to their own countries and contexts.

The Caribbean Community Climate Change Centre coordinates the Caribbean region's response to climate change including the implementation plan for the Regional Framework (CCCC, 2009). Find out more at [www.caribbeanclimate.bz](http://www.caribbeanclimate.bz)

The Global Water Partnership is addressing water security and climate resilience challenges through its Caribbean Water, Climate and Development Programme (WACDEP) which supports the objectives of the Regional Framework (CCCC, 2009). Find out more at [www.gwp.org/en/gwp-caribbean/](http://www.gwp.org/en/gwp-caribbean/)



### References and further reading material

Caribbean Community Climate Change Centre (CCCC). 2009. *Regional Framework for Achieving Development Resilient to Climate Change (2009-2015)*

Caribbean Community Climate Change Centre (CCCC). 2012. *Delivering Transformational Change 2011-21, Implementing the CARICOM Regional Framework for Achieving Development Resilient to Climate Change*

Global Water Partnership Caribbean (GWP-C) and Caribbean Community Climate Change Centre (CCCC). 2014. *Achieving Development Resilient to Climate Change: A Sourcebook for the Caribbean Water Sector*. Global Water Partnership-Caribbean. Available at [www.gwp-caribbean.org](http://www.gwp-caribbean.org)

UN-Water. 2010. *Climate Change Adaptation: The Pivotal Role of Water*. Available at: [www.unwater.org/](http://www.unwater.org/)

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This document is an output from a project funded by the UK Department for International Development (DFID) and the Netherlands Directorate-General for International Cooperation (DGIS) for the benefit of developing countries. However, the views expressed and information contained in it are not necessarily those of or endorsed by DFID, DGIS or the entities managing the delivery of the Climate and Development Knowledge Network\*, which can accept no responsibility or liability for such views, completeness or accuracy of the information or for any reliance placed on them.

\* The Climate and Development Knowledge Network ("CDKN") is funded by the Department for International Development and the Dutch Ministry of Foreign Affairs and is led and administered by PricewaterhouseCoopers LLP. PricewaterhouseCoopers LLP is assisted in the management of CDKN by an alliance of organisations comprising the Overseas Development Institute, Fundacion Futuro Latinoamericano, SouthSouthNorth, LEAD International, and INTRAC.