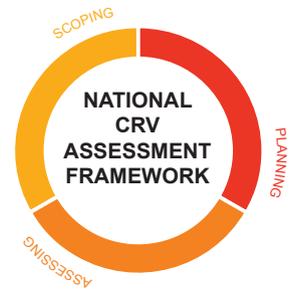


# National Climate Risk and Vulnerability (CRV) Assessment Framework



Climate variability and climate change impacts are not experienced equally, even where the same climate event or climate pattern occurs. To design and implement effective interventions that reduce climate risk it is necessary to assess where, to what extent and by whom various climate impacts have been experienced, why the patterns are as they are, and how this might change into the future.

There are mounting demands on public, private and non-governmental organisations to undertake climate risk and vulnerability (CRV) assessments for policy, planning, funding, insurance and compliance reasons. Existing assessments have tended to be patchy in their coverage and have used a variety of different approaches, methods and data. These inconsistencies have proved problematic for evaluating assessments and aggregating assessment findings to inform planning and decision making at larger scales and higher levels of governance.

South Africa's national government, led by the Department of Environment, Forestry and Fisheries (DEFF), has undertaken to establish a common framework to guide the development and review of CRV assessments to enable a more integrated approach to climate adaptation. The framework is intended to provide guidance on how to undertake CRV assessments in order to enable alignment, comparison and aggregation across them and thereby underpin an integrated, effective climate adaptation response across scales.

The framework promotes the use of a standard set of concepts as the basis for each assessment, as shown in this figure and described in detail in the full document.

## INTRODUCING THE CRV FRAMEWORK

Aimed at any actor in South Africa wanting to assess CRV.

Defines risk and vulnerability as per the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5), aligning it with global thinking and encouraging conceptual consistency amongst assessments (🔍 see Chapter 2).

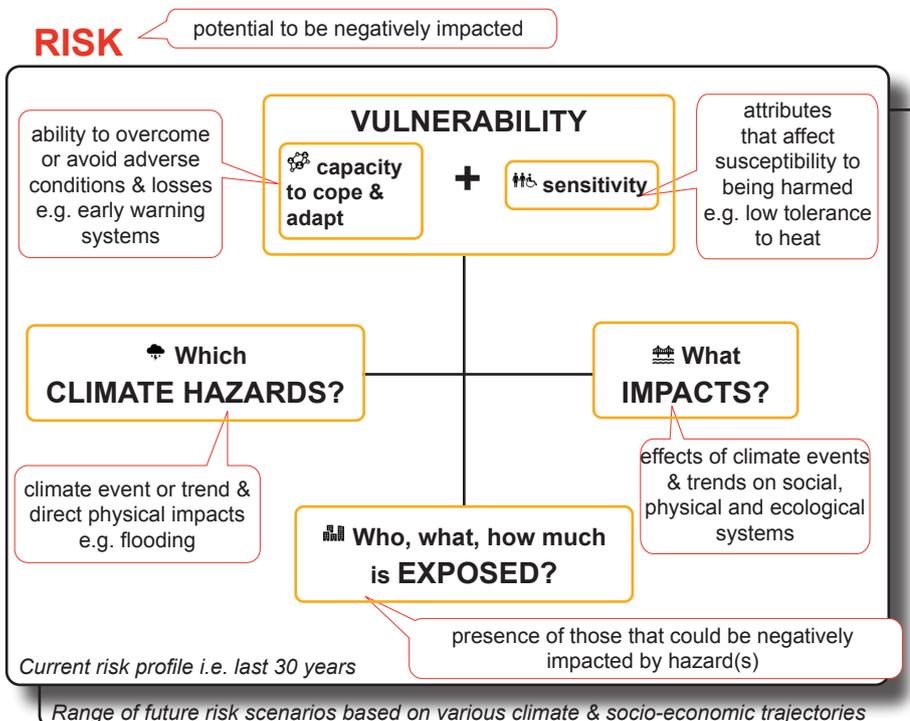
Recognizes the very different context and scales at which CRV assessments may be undertaken, providing a flexible yet structured sequence of three interlinked steps in the assessment process: 1) Planning, 2) Scoping, 3) Assessing (🔍 see Chapter 3).

Provides the choice of three assessment depths, depending on decision-context, resourcing and extent of pre-existing data and information.

Encourages the integration of participatory and indicator-based methods through an impact chain approach (🔍 see Chapter 4), profiling more than thirty freely available tools and resources (🔍 see Appendix One).

Touches on the use of CRV Assessments for monitoring and evaluating climate action (🔍 see Chapter 5).

The full report on the National Climate Risk and Vulnerability Assessment Framework contains detailed guidelines for how to carry out a CRV assessment. The 🔍 icon in this summary shows you where to find specific details in the full Framework.



# 1

## Scope

### DEVELOP A TARGETED BRIEF THAT UNPACKS THE PURPOSE AND CONTEXT

Establishing the scope of an assessment requires clarity on why specifically a CRV assessment is needed and the context in which the assessment will be undertaken and used.

8 questions are presented to achieve this clarity, and enable the writing of a detailed assessment brief.

- 1** **What is the reason for doing the CRV assessment?** Be clear about why you need to build this understanding.
- 2** **Which regulatory/legislative process is this assessment a requirement for?** Contextualise the assessment in the climate change governance landscape and establish where the output needs to feed into.
- 3** **Who will be using the assessment and what will it be used for?** Identify who will use the results of the assessment.
- 4** **To what degree are there established relationships and trust with relevant actors?** Trust is needed for data/knowledge contributions - existing networks and forums will support the process.
- 5** **What modes of communication and types of information will be most effective with those needing to use the assessment?** Think about what types of information and communication modes people best engage with.
- 6** **What system or exposure units are being assessed?** Clarify the boundaries of assessment - both spatial scales and system components of focus - in order to choose the correct methodology.
- 7** **What currently exists in terms of relevant CRV information and knowledge?** Map out existing information, data and knowledge.
- 8** **Are there any methodological requirements?** Establish what resources might be needed and which type of approach is most suitable.

# 2

## Plan

### DECIDING ON DEPTH OF ASSESSMENT

Existing CRV knowledge and understanding, assessment focus, capacities and data availability guides the choice of assessment depth.

more focus on systemic interactions and range of future scenarios, more data and analytical requirements, deeper engagements

Depth of assessment

**Initial CRV screening** consolidates existing knowledge, builds engagement and awareness, focus on current risks

**Mid-range CRV assessment** identifies priorities for intervention considering range of medium-term future risks

**In-depth CRV assessment** provides a basis for targeting and designing detailed interventions to be robust against a range of scenarios

See Table 1, Chapter 3 for details.

*Iterative* assessments of increasing depth are encouraged to explore the full range of hazards and differential impacts, including systemic interactions between them, over a range of possible future scenarios. This builds a strong evidence base and a deepening set of engagements and shared understanding between relevant stakeholders, upon which to act.



# Assess

## UNDERTAKE AN ASSESSMENT THAT EVALUATES DIFFERENT COMPONENTS OF CLIMATE RISK

Guides user through unpacking main components of climate vulnerability and risk for current period (i.e. last 30 years) and various future scenarios (i.e. 30 year periods in mid and late century).

### MAIN COMPONENTS OF CLIMATE RISK AND VULNERABILITY ASSESSMENT

	SCREENING	MID-RANGE	IN-DEPTH
Hazards ☁	Consider all for system of concern	Combinations; mid-range scenario; sub-systems	Full range of projections; target decision
Exposure 🏠	Descriptive - areas, sectors, groups	Specify factors and timeframes	Select indicators for range of scenarios
Sensitivity 📊	Descriptive - focus on most impacted	Specify factors and timeframes	Select indicators for range of scenarios
Impacts 🏗	List historical and expected, based on available information	Establish causal linkages	Quantify costs and damages
Capacity 🔄	Capacity to prepare for, endure, recover and improve after being impacted	Specify factors and timeframes	Disaggregate and verify - select indicators
Integrate ✨	Pull together in a story	Depict impact chains	Normalize, weight, index and map

🔍 See the Assessing sub-chapter of Chapter 3 for details.

## GUIDANCE ON METHODS & TOOLS

The framework presents a variety of data and information portals, guidelines, methods and tools used to gather and analyse data and information, and to visualize and communicate results. Integrating participatory and qualitative methods with quantitative methods helps to draw together different types of data and insights into a rich understanding of the drivers and patterns of climate risk and vulnerability, as a basis for adapting. Developing impact chains enables this integration.

### IMPACT CHAINS

An approach to systematically understanding the factors that drive climate risk and vulnerability in the system under assessment, based on analysing the linkages between climate hazards, direct and secondary impacts, and the social, economic and biophysical factors that play a role in generating or reducing these impacts (see GIZ's Risk Supplement to the Vulnerability Sourcebook, pp26-41).

### CLIMATE RISK AND VULNERABILITY INDICES

Climate risk and vulnerability indices primarily have a quantitative data-driven approach that requires identifying and selecting indicators that are normalised, weighted and aggregated.

### PARTICIPATORY CLIMATE RISK AND VULNERABILITY ASSESSMENTS

Qualitative participatory methods are well suited to capture the lived reality of people and capacity they have to respond to climate change and variability.

## DATA INFORMATION AND PLATFORMS

This is not a representation of the best resources. It is aimed at giving a glimpse of the range of resources available. For a longer list of resources available, see Appendix One 🔍.

ASSESSMENT ELEMENT	RESOURCES
Specify system of concern	<b>The E-GIS portal</b> Provides a variety of environmental geospatial data that can show the biophysical aspects of the system of concern (noting that access is largely limited to those making use of geospatial (GIS) software)
Identify past (last 30 years) hazards and impacts	<b>NDMC GIS-portal</b> Disaster Atlas, provides historical records of events declared as disasters, to a metro and District Municipality scale (does currently not include impact numbers – people, infrastructure, livestock etc affected)
Establish baseline risk and vulnerability	<b>CARE Climate Vulnerability and Capacity Analysis Handbook</b> Field guide 1 details hazard mapping, a participatory process for identifying areas, livelihoods and resources exposed to climate hazards <b>The NCCIS</b> Provides generic sensitivities for national sectors, based on information collated for the Third National Communication (2018) (with sensitivity defined as 'stressors to the system') <b>StatsSA Digital Census Atlas</b> Provides census data, for which a number of variables speaks to adaptive capacity (mapping function requires downloading the Silverlight software, and raw data accessible on request) <b>The South African Green Book</b> Municipal Risk Tool – Climate component, provides spatial maps of historical average temperatures and rainfall
Assess future climate risks and vulnerabilities	<b>The Frederick S. Pardee Center for International Futures</b> is the home of the International Futures (IF) model, provides direct access to long-term forecasting and global and trend analysis relating to social, political and economic dynamics

## USING CRV ASSESSMENT FOR MONITORING AND EVALUATION (M&E)

**Monitoring** - systematically collecting information to track change and progress (or lack thereof), collation of observations  
**Evaluation** - determining impact, effectiveness, relevance, efficiency and sustainability of interventions, assesses meaning of observations

CRV assessments can be used to monitor and evaluate adaptation efforts, and repeat CRV assessments can track how risks and vulnerabilities change through time.

🔍 See Chapter 5 for details on M&E and how it links to the National Climate Change Information System.

## ACKNOWLEDGEMENTS

Framework development led by Waagsaether, K. L., Taylor, A. and Ziervogel, G. from the Climate System Analysis Group (CSAG) at the University of Cape Town, and funded by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) on behalf of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). Initial thoughts on the project were discussed at well attended stakeholder meetings. Feedback helped to strengthen the framework and a near final version was presented for comment. It is hoped that CRV assessments based on this framework can add to the work of various government departments and their long-term planning, and also inform adaptation interventions.

**SUGGESTED CITATION:** Department of Environment, Forestry and Fisheries, 2020. National Climate Risk and Vulnerability (CRV) Assessment Framework summary document, Pretoria: South Africa.

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