Resilience Rating System

SUMMARY BRIEF

Public and private actors are increasingly developing climate risk screening and resilience metrics to assess climate risks, implement resilience measures, and mobilize public and private capital toward resilient investments. In this context, the World Bank Group developed the Resilience Rating System (RRS) to guide investment decisions and improve climate resilience in project design and outcomes. The RRS methodology was developed over a two-year, multisectoral consultative process that involved close collaboration with internal and external actors.

The RRS evaluates and measures a project's resilience attributes along two complementary dimensions, according to a set of criteria:

- *Resilience of* a project's design, which rates the confidence that expected development objectives and investment outcomes will be achieved, based on whether a project has considered climate and disaster risks in its design; and
- *Resilience through* a project's outcomes, which rates its contribution to effectively increasing climate resilience among beneficiaries and in the broader community, sector and systems, and to driving transformational adaptation.

The RRS is both a methodology to support better project design, and a rating or label to monitor and track the quality of adaptation and resilience considerations in a project and aggregate and report the overall resilience performance of portfolios. It can be used both internally in World Bank operations and externally by investors, decision-makers and interested stakeholders to:

- Inform the resilience of projects and investments, translating complex project design details into simple ratings that non experts can use;
- Create incentives for more widespread and effective climate adaptation through enhanced transparency and simpler disclosure;
- Guide project developers on ways to manage risk and improve project quality, while allowing flexibility for different sectors and countries; and
- Identify best practices to allow proven lessons on resilience to be scaled up across sectors and countries.

Economic and financial analysis (EFA) remains a key tool for determining a project's economical and financial viability and desirability. To help projects achieve an **A** rating in the *resilience of* dimension, the RRS team developed the open-source Risk Stress Test (RiST) tool, which incorporates stress testing on project returns (or net present value) in an EFA against current and future climate and disaster risk scenarios.

This summary brief captures lessons from piloting the World Bank Group's Resilience Rating System in investment projects financed under the 19th Replenishment of International Development Association (IDA19) operations. It synthesizes key learnings and strategic insights that can be useful to support the mainstreaming of climate resilience in project development and investment decisions of public and private entities. The lessons are derived from projects in 21 countries with a total investment of $2.92 billion, and reflect diversity in sectoral focus, geographic settings, and climate vulnerabilities.

Scan the QR Code for more information on the RRS.

WORLD BANK GROUP
Climate Change

SUMMARY OF LESSONS LEARNED FROM PILOTING THE RRS

1. Capturing resilience impacts is a valuable complement to input metrics.

RRS pilots make it clear resilience outcomes are not proportionate to the amount of climate finance invested. A broader definition of what constitutes climate adaptation and resilience allows project teams to tell more comprehensive stories about resilience building and helps development projects operations strive for more and better impacts from its investments and interventions.

2. Timing, flexibility, and good communication are crucial for successful RRS applications.

Applying the RRS methodology early in the project design and development stage increases success in RRS pilots, drives project teams to obtain the highest rating possible, and embeds adaptation and resilience considerations into the project design and monitoring and evaluation (M&E) plan, allowing teams to track results.

3. A generalized methodology is required, with sector-specific spin-offs.

While the RRS and RiST tool provide the overall and consistent framework for evaluating and tracking projects' resilience performance, more detailed sector-specific guidance and activity-level information are required to increase the useability and consistency of RRS application.

4. Climate expertise is necessary for embedding climate adaptation into project design.

The RRS team facilitated access to climate change specialists, scientists and economists, which helped pilot projects embed climate and disaster resilience considerations into project preparation, enabling them to get the highest possible rating.

5. Project decision-making requires robust climate and disaster risk data and analytical tools that can manage and communicate uncertainty.

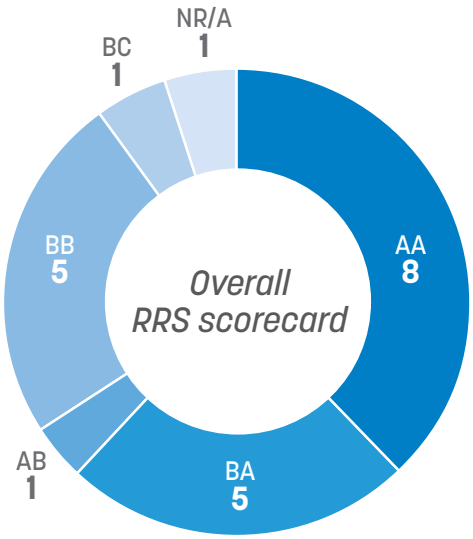
Applying the RiST tool ensures a project's cost-benefit analysis identifies plausible climate and disaster risks and impacts, considers potential adaptation and resilience measures to address these risks, and ensures the project is viable and can deliver its intended development goals in the face of climate change and uncertainty of its impacts.

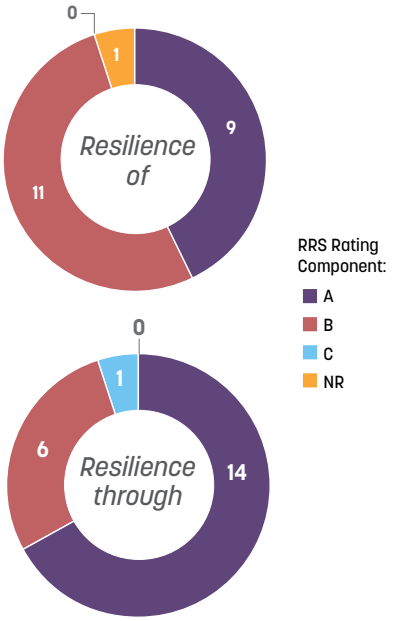
6. Robust climate risk stress testing needs a quality baseline economic analysis.

It is important to: improve the EFA baseline quality, develop some standardization across sector and activity types where appropriate, and ensure that EFAs are prepared upfront and in an integrated manner with technical experts, to influence and optimize project design conditions.

RRS RESULTS FROM IDA19 PILOTS

7 regions
21 countries
21 projects
8 sectors
$2.92 billion investments





Note: the numbers in the figures represent the count of projects receiving a certain rating.

KEY FINDINGS

1 Capturing resilience impacts is a valuable complement to input metrics

The RRS complements climate finance tracking, which measures the quantity of adaptation finance, by offering a method to measure a project's quality and expected impacts from an adaptation or resilience perspective.

The RRS pilots make it clear that resilience outcomes are not proportionate to the amount of climate finance invested. For example, World Bank investment operations often comprise physical and soft infrastructure development. And because the costs of the latter are often minimal when compared to overall project financing, they are not always captured as an integral element of a project development objective. But the pilots show that these activities—especially those that address and build systemwide resilience through institutional systems—can make significant contributions toward building resilience beyond direct outputs and timescales, resulting in an **A** rating for *resilience through*. For example, 10 percent of the investment in a World Bank water supply project in Dili, Timor Leste is for institutional strengthening and preparing a disaster risk management program. But these components will contribute to system resilience impacts beyond the project's immediate boundaries, as it mainstreams disaster risk management and climate change adaptation considerations into strategic, operational, and investment plans.

The pilots show that the RRS captures a project's broader climate resilience contributions, which are not always captured by climate finance methodologies. Having a broader definition of what constitutes climate adaptation and resilience allows project teams to tell more comprehensive stories about resilience building and helps development projects operations strive for more and better impacts from its investments. The RRS also incentivizes the use of climate indicators, which will help projects monitor and track their detailed climate results by measuring adaptation intervention outputs or outcomes.

2 Timing, flexibility, and good communication are crucial for successful RRS applications

One of the most significant impacts of applying the RRS methodology is that it encourages project teams to consider alternative adaptation options early in project design, when they identify climate risks.

Evaluating climate risks in the earliest stages of project development and incorporating appropriate adaptation and resilience options in the project design phase leads to the most cost-effective resilience measures that typically only marginally increase project investment costs. Ensuring climate risks and adaptation considerations are part of the early stages of project development and appraisal allows project teams to consider alternatives and select the best and most cost-effective option.

By responding to real-time demand for support from project teams during project preparation, the RRS team added significant value by integrating climate and disaster risk information and embedding climate resilience into their project appraisals and designs. With inputs from the RRS team, a productive social safety nets and youth employment project in Sierra Leone integrated climate resilience measures in public works and undertook a detailed analysis to highlight both poor households' exposure to climate risks and interlinkages between climate change and food security.

Applying the RRS methodology early in project design, when project teams are screening for climate risk, drives teams to obtain the highest possible rating, and embeds adaptation and resilience considerations into the project design and M&E plan, allowing them to track results.

3 Having a generalized methodology, with sector-specific spin-offs, ensures consistency and easy tracking

The generic RRS methodology allows for consistency, aggregation within portfolios, and easy tracking of operations' resilience performance.

A major advantage of the RRS is the ability to compare and aggregate resilience performance across projects, activities, and portfolios, despite their varying nature, sector, scale and objectives, to evaluate overall quality and performance and track them over time. While the RRS provides the overall framework, more detailed sector-specific data and guidance are required to make the RRS easier to use.

Because of the multidimensional nature of resilience, refinements of the RRS and RiST methodologies and applications have taken stock of lessons learned from the pilot phase to incorporate different approaches for climate risk stress testing and resilience measurements in various sectors. For pilots in the agriculture sector, there was strong collaboration between the World Bank's agriculture and food team, the RRS team, and the Food and Agriculture Organization of the United Nations (FAO), focused on sharing data and knowledge to assess the impacts of climate change and extreme events on agricultural production and prices. The collaboration between FAO and RRS team economists led to a rapid application of climate risk stress testing. Based on the pilot experience, FAO also developed a best practice guidance note to improve RRS and RiST tool application in agricultural projects.

Although both dimensions of the RRS–*resilience of* and *resilience through* a project–are important for telling the resilience stories of different projects, the pilots show that some projects operate largely in one dimension. For example, in the case of human development projects that do not involve physical assets, teams expressed concerns that the RRS rating for *resilience of* a project can be arbitrary and unfair and could bias resilience ratings toward infrastructure-heavy projects. At the same time, not all projects aim to build *resilience through* their activities, as would be the case for projects that address emergency needs in a pandemic or conflict situation. The RSS methodology has therefore been expanded to explicitly include a not applicable (**NA**) rating for projects where the scope is limited to one single dimension. Projects may also be labeled not rated (**NR**) for the *resilience of* dimension, if it could be exposed to climate change and disaster risks,

but information, data, or tools are not available or sufficient to assess these risks. These categories allow flexibility to evaluate the contributions of projects that may operate within one dimension of RRS.

4 Climate expertise is necessary for systematically embedding climate adaptation into project design

The RRS pilot projects have highlighted that expertise in climate science, impacts, adaptation and resilience, and climate economics are all necessary for effective project development upport, allowing teams to embed climate adaptation within project design, rather than treat it as an "add-on".

During piloting, the RRS team helped curate climate data, conduct or deepen climate risk identification and assessments, and think through adaptation options, while also supporting a focus on climate M&E through indicators to ensure regular monitoring and tracking of progress. The team also supported some projects to stress-test climate risks in the economic analysis to achieve an **A** rating in the *resilience of* dimension.

The RRS team facilitated access to climate data, specialists, scientists, and economists, thus helping to enhance project team capacity, enabling more effective implementation of the RRS methodology and climate risk stress testing. An integrated urban development and resilience project in selected municipalities in Niger had a development objective that focused on addressing flood risks in the project design. But the country climate risk and vulnerability overview developed by the RRS team showed that Niger's urban areas are also highly vulnerable to extreme heat, with potential risks to the project components. As a result, the project team included extreme heat as another key climate hazard during the detailed design of the flood protection works and considered extreme heat risk when designing subsequent urban projects in West Africa. The RRS team's ability to communicate and build trust enabled constructive discussions and helped project teams get the best possible ratings and improve their project assessments and outcomes.

5 Project decision-making requires robust climate and disaster risk data and analytical tools that communicate uncertainty

Given the uncertain nature of future climate change and its impacts, the requirement to explicitly consider uncertainty is an important feature in both the RRS rating criteria and climate risk stress testing.

Applying the RiST tool ensures a project's cost-benefit analysis identifies plausible climate and disaster risks and impacts, considers potential adaptation and resilience measures to address these risks, and ensures that the project is economically viable and can deliver its intended development goals in the face of uncertainty. The criteria for *resilience of* a project requires the assessment of alternative climate scenarios. A key feature of the RiST tool is incorporating a range of climate futures and potential impacts, using a simplified approach of decision-making under deep uncertainty to help consider climate uncertainty.

Climate data, impact science, and analytics have played a central role in RRS ratings and in supporting teams to evaluate climate and disaster risks and incorporate climate resilience considerations in projects. From the start of pilot, the RRS team developed and shared climate risk overviews using the best available climate data and projections for countries or project areas, such as from the Climate Change Knowledge Portal and ThinkHazard!,[1] as well as information on physical and economic impacts. This information supported project teams to expand their consideration of climate risk factors in project development and design. It is crucial for informing not only the engineering design of infrastructure projects, but also projects that aim to enhance agriculture production, natural resource management, and human and social development.

[1] Climate Change Knowledge Portal: https://climateknowledgeportal.worldbank.org/; ThinkHazard! https://www.thinkhazard.org/en/.

6 Robust climate risk stress testing requires a quality baseline economic analysis

In an increasingly complex decision-making environment with competing needs for limited resources, where climate risk-informed project investment decisions must consider the quality of their EFA and the role of economic analysis in decision-making, the RiST methodology provides a relatively simple, yet novel, approach for connecting project economic analysis with climate and disaster information, climate and disaster impact estimates, and uncertainty considerations.

An EFA helps inform decisions about project selection and design by: (i) identifying where scarce resources can have the most impact; (ii) ensuring appropriate fiscal impact and financial viability; and (ii) ensuring benefits are accessible by the poor or other targeted beneficiaries. All World Bank investment operations require an EFA, which also inform client decision-making.

Early results of the piloting showed that incorporating a climate and disaster risk stress test in a project's EFA—and thus achieving an **A** rating for the *resilience of* dimension—requires significant effort in terms of both time and technical capacity. The RiST tool provides a step-by-step approach for this, but requires transparent and disaggregated information on project costs and benefits, and the vulnerability of these costs and benefits to climate shocks. A lack of empirical information on climate impacts prevented some projects from achieving an **A** rating for the *resilience of* dimension, highlighting the challenges of conducting such analyses in data-poor environments.

The RRS piloting found that EFAs vary widely in underlying approach and overall quality, both within and across sectors, creating challenges in applying the RiST tool. Applying a climate risk stress test also reveals opportunities for further strengthening EFAs and incorporating climate and disaster risk considerations to ensure that projects are robust and achieve the best development benefits in the face of climate change. For an **AA**-rated regional transport and trade connectivity project in Nepal, climate risk stress testing of the project economic analysis illustrated how strategic resilience measures that increase investments by 3 percent yield significant benefits in avoided damages from flooding and landslides while supporting trade, economic development and resilience building through access to resilient all-weather transportation.

MOVING FORWARD

The RRS was developed as a rating system that could be used both within the World Bank Group and by governments, private sector actors, development partners, credit rating agencies, and other actors to evaluate investments and development projects. To meet the World Bank Group's commitment to develop new climate results metrics that better capture the impacts and outcomes of our operations, we will continue to develop and refine metrics, data, and tools, and apply RRS to World Bank operations, including those in IDA countries. The goal is to strengthen operational project teams capacity to systematically integrate adaptation and resilience in project development and implementation.

To meet the growing demand for more resilience and to increase private sector investments in climate change adaptation, the World Bank Group will also continue to work with external partners to advance the development of resilience metrics and standards to drive public and private investments toward climate resilience.

AN OVERVIEW OF RRS METHODOLOGY

Resilience *of* a project

C Project developers report identified threats based on a qualitative estimate of climate/disaster risk. The main goal is for project developers to understand the project's short and long-term exposure to climate change and disasters, as well as the potential impacts of this exposure, and to prioritize which risks need to be addressed through the project's design.

B The project addresses its vulnerabilities to climate/disaster risks by including appropriate adaptation measures to make the project more resilient and reduce its residual risk, such that it can still achieve its main development objectives.

A The project incorporates a climate and disaster risk stress test that considers a range of climate and disaster impacts (for example, in its EFA or other project appraisal analysis) and ensures that, after risk reduction measures are included, residual risks do not make the project economically or financially unviable or unable to achieve its intended development outcomes for any likely or probable climate scenarios. The project also monitors and tracks the progress of activities building *resilience of* the project via at least one climate adaptation indicator.

+ The project conducts a more systematic exploration of the risks to the project and undertakes contingent planning in case of unexpected situations that were not considered in the project design. Projects can be rated A+ or B+ if they include the appropriate criteria for contingency planning.

NR The project is possibly exposed to climate change and disaster risks, but no information is available, or the risks are unmanageable and threaten the project's economic viability.

NA The project is not exposed to climate change risks in a material way, or a resilience rating is not relevant, based on the nature of project activities or types of outcome.

Resilience *through* a project

C In most circumstances, resilience to climate change is enhanced by good development, with higher and more stable incomes, lower poverty, better access to infrastructure and financial services, and stronger social protection and health care systems. Projects with development benefits are assigned a **C** rating.

B The project addresses vulnerabilities posed by climate/disaster risks to the surrounding system/beneficiaries/assets by including appropriate adaptation measures that build resilience through the project.

A The project influences adaptation and resilience beyond its immediate boundaries, outputs and timescale by removing or significantly reducing the underlying causes of vulnerability, barriers for adaptation and resilience, and building resilience. It also monitors and tracks the progress of activities building *resilience through* the project via at least one climate adaptation indicator.

+ The project sets the wider system on a resilient development pathway by fundamentally altering the current system and having a transformational impact.

NR The project does not report on its contribution to development, growth, poverty reduction, or resilience.