

Toward a New-Generation Risk Governance

Comprehensive framework and roadmap to strengthen anticipatory, inclusive, and sustainable systems

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Executive Summary

Contemporary risks are evolving faster than institutions can manage them. Disasters are now interconnected, cumulative, and systemic—spreading across infrastructure, essential services, ecosystems, economies, and governance itself. These cascading failures amplify impacts and deepen inequality, overwhelming systems that were not designed for the speed, scale, and complexity of today's risk landscape.

Despite advances in legislation, national systems, and global commitments, countries continue to face a persistent implementation gap. Risks are generated by everyday decisions on land use, budgeting, infrastructure, regulation, and service delivery. When these decisions are fragmented, reactive, or detached from evidence and equity, vulnerabilities accumulate and become crisis multipliers.

This white paper proposes a **New-Generation Risk Governance Framework** to help States shift from reactive, sector-based approaches to **anticipatory, inclusive, and sustainable systems**. The framework is built around four strategic blocks:

1. **Coordinated, Reliable, and Learning-Oriented Institutions** with clear mandates, risk appetite defined at State level, and the capacity to learn, adapt, and experiment safely.
2. **Decisions, Policies, and Finance Aligned with Risk**, integrating risk into planning, budgeting, regulation, and investment—supported by sustainable fiscal strategies.
3. **Safe, Functional, and Resilient Cities, Territories, and Infrastructure**, including life-cycle infrastructure management, equitable urban planning, and strategies for informal expansion.
4. **Knowledge Systems, Justice, and Coalitions** that ensure evidence-based decisions, inclusive participation, and transparent communication.

A practical **roadmap** guides implementation across four phases: preparing the ground, anticipating through the Policy Wind Tunnel, operating and coordinating, and

institutionalizing learning. The roadmap emphasizes equity, distributive impacts, political-institutional risk, and “avoided decisions” as indicators of a mature risk culture.

Strengthening risk governance is now a strategic imperative. This framework provides governments, partners, and institutions with a clear, actionable pathway to anticipate crises, reduce vulnerabilities, and build a resilient future grounded in justice, accountability, and long-term sustainability.

1. Introduction

Contemporary risks—interdependent, cumulative, uncertain, and systemic—are growing faster than institutional capacity to anticipate, manage, and reduce them. The most recent global assessments show an unsettling pattern: over the last three decades, large-impact disasters have become more frequent, more costly, and more complex. They no longer behave as isolated events but as manifestations of interconnected risk systems, where failures in one system—whether infrastructure, services, ecosystems, the economy, or governance—spread and amplify impacts in others due to their structural interdependence.

This takes place despite significant regulatory and institutional progress: the creation of national risk-management systems, the strengthening of policies and regulatory frameworks, and the adoption of global commitments focused on understanding risk, strengthening governance, investing in prevention, and improving preparedness. However, these advances have not been enough to change the trajectory of risk, because the capacity of countries to coherently implement these orientations has not grown at the same pace as the complexity of threats and vulnerabilities. These risks do not emerge from isolated factors, but from the interaction of physical, social, economic, and environmental systems.

Recent analyses—including the Sendai Framework Midterm Review and multiple global risk reports—highlight this mismatch. Although they note a sustained reduction in loss of life between 2015 and 2023, they warn of three critical trends:

- Identified but unaddressed risks, acting as contingent liabilities and feeding increasingly complex risk configurations.
- Persistent risks that exceed anticipation and response capacities, even in countries with formally advanced institutional frameworks.
- A simultaneous rise in direct losses and indirect impacts, straining public finances, essential services, and social cohesion.

These findings reflect a stark reality: today’s risks exceed traditional sector-based arrangements. They arise from interactions among interdependent systems—territorial, social, economic, environmental, and technological—that no single actor can manage alone. Risks are generated and amplified by everyday decisions involving planning, budgeting, land management, infrastructure, services, social protection, and regulation, producing vulnerabilities that require integrated coordination.

Well-known systemic failures persist:

- Coordination failures between institutional systems and service-delivery systems.
- Implementation failures within the State's operational systems, where reactivity displaces prevention and planning.
- Operational failures in essential systems such as maintenance, oversight, information, and communication.
- Absence of financing mechanisms for risk management.

These weaknesses do not affect everyone equally. When decisions lack meaningful participation and equity criteria, costs fall disproportionately on vulnerable groups, reinforcing cycles of inequality that worsen with each extreme event. These inequalities persist because social and economic systems also interact with risk systems, amplifying pre-existing vulnerabilities.

In this context, risk governance emerges as the structural component that provides strategic direction, intersectoral coherence, and accountability for risk management. It bridges diagnosis and action; political decision and technical operation; present and future scenarios. Risk governance integrates these interdependent systems, aligning decisions, capacities, and responsibilities to reduce vulnerabilities and anticipate failures. Without governance, management becomes isolated effort; without management, governance remains declarative. Governance is the basis of governability.

Strengthening risk governance requires parallel progress on two fronts: institutional transitions that progressively consolidate capacities, processes, and coordination mechanisms; and structural transformations that fundamentally redefine how the State conceives, decides, and manages risk. The former improves what exists; the latter reconfigures decision-making systems to anticipate possible futures, correct persistent failures, and more justly redistribute responsibilities and benefits. Both are essential for addressing risks that can no longer be handled through traditional sectoral arrangements and demand governance capable of evolving, learning, and adapting to an increasingly dynamic, uncertain, and interdependent environment.

This document proposes a practical roadmap to strengthen State-level risk governance, incorporating foresight and ex-ante evaluation to anticipate scenarios, address structural vulnerabilities, and enhance institutional effectiveness. It proposes the creation of a Policy Wind Tunnel, a space where strategic decisions undergo tests of coherence, resilience, fiscal impacts, and equity prior to approval—strengthening the State's ability to anticipate, act, and learn.

2. Strategic Framework for Strengthening Risk Governance

BLOCK 1 — Coordinated, Reliable, and Learning-Oriented Institutions

Strategic Objective: Consolidate an institutional architecture capable of coordinating, anticipating, and adapting to increasing risks, ensuring coherent decision-making throughout the State.

Main scope:

- Establish an integrated governance structure with clear mandates across national, subnational, and municipal levels, intersectoral coordination mechanisms, and effective conflict-resolution procedures.
- Equip institutions with cross-cutting authority and competencies to incorporate risk into planning, budgeting, regulation, and oversight.
- Define risk appetite and tolerance through a participatory process as a political-technical State decision, grounded in evidence and equity, which sets acceptable risk levels and the conditions that trigger intervention, investment, or policy adjustment.
- Institutionalize adaptive management practices, with ex-ante and ex-post audits, periodic reviews, double-loop learning, and formal mechanisms to correct deviations.
- Promote regulated experimentation (pilots, urban labs, sandboxes) to test approaches, reduce uncertainty, and avoid maladaptive decisions.
- Strengthen integrity, public trust, and operational continuity as pillars of institutional value.

BLOCK 2 — Decisions, Policies, and Finance Aligned with Risk and the Country's Future

Strategic Objective: Integrate risk management into decision-making processes, public investment, and financing, ensuring that policies and resources support resilient, transparent, and fiscally sustainable development.

Main scope:

- Integrate risk analysis throughout the public-policy cycle: design, planning, budgeting, implementation, oversight, and evaluation.
- Incorporate risk criteria into public investment, infrastructure planning, land-use planning, and regulatory impact assessment.
- Ensure that investment and risk-management decisions are aligned with medium-term fiscal strategies, incorporating risk scenarios, expenditure sustainability, recurrent costs, maintenance needs, and future fiscal capacity into budgeting and planning decisions.
- Align public and private financial systems with resilience through instruments such as sovereign insurance, contingency funds, resilience bonds, contingent credit (CAT-DDO), microinsurance, sustainable taxonomies, financial disclosure (TCFD/ISSB), and fiscal incentives.

- Establish macro-fiscal risk-monitoring mechanisms to reduce economic impacts from extreme shocks.
- Promote no-regret investment decisions by prioritizing solutions that are robust under a wide range of climate, social, and economic scenarios.
- Identify and correct policies, regulations, or investments that generate new risks or amplify vulnerability.

BLOCK 3 — Safe, Functional, and Resilient Cities, Territories, and Infrastructure

Strategic Objective: Ensure that human settlements, critical infrastructure, and essential services operate safely, continuously, and inclusively, integrating risk management into daily urban and territorial life.

Main scope:

- Apply a physical life-cycle approach to public and private infrastructure: design, construction, operation, maintenance, and renewal.
- Strengthen technical standards, building codes, and enforcement mechanisms, fairly addressing urban informality and territorial inequalities.
- Integrate risk and climate change into urban planning, land management, and territorial expansion, preventing settlement expansion into high-risk areas.
- Develop a specific strategy for managing informal urban expansion, integrating progressive regularization, risk mitigation and climate adaptation, provision of essential services, investment in critical infrastructure, and mechanisms to control growth in high-risk areas.
- Enhance the continuity and resilience of essential services (water, energy, transport, health, education) against multiple hazards.
- Connect multi-hazard early-warning systems to urban operations and emergency management.
- Promote territorial economic resilience by protecting livelihoods, value chains, and community economies.
- Position cities as innovation laboratories for governance, financing, and technological, community-based, and nature-based solutions with national scalability.

BLOCK 4 — Knowledge Systems, Justice, and Coalitions that Sustain Transformation

Strategic Objective: Build a national ecosystem of knowledge, participation, and collaboration that strengthens decisions, ensures justice, and facilitates sustainable transformations.

Main scope:

- Develop knowledge governance integrating scientific data, technical expertise, local knowledge, and Indigenous practices through interoperability, traceability, open data, and ongoing updating.
- Establish a national knowledge-brokerage ecosystem composed of public institutions, observatories, universities, research centers, technical teams, community

organizations, and private actors that function as formal bridges between evidence and decision-making. This ecosystem must ensure quality, independence, knowledge translation, and equitable access to critical information for planning, regulation, and investment.

- Create and strengthen knowledge-brokerage platforms, as specific mechanisms within the ecosystem, that translate scientific, technical, and local data into clear, timely, and actionable guidance for policy, regulation, planning, and territorial action.
- Guarantee binding participation of communities, private sector, academia, and civil society in planning, regulatory, and evaluation processes.
- Strengthen public risk communication, countering misinformation through evidence-based and transparent strategies.
- Build multi-actor coalitions combining institutional capacities, private investment, and community solutions.
- Institutionalize Monitoring, Evaluation, and Learning (MEL) systems that measure effectiveness, equity, and justice.
- Systematically analyze who benefits, who is left behind, and how to correct structural inequalities in all risk-reduction interventions.

3. Main Characteristics of Modern, Anticipatory, and Just Risk Governance

1. Integrated: It articulates institutional levels across national, subnational, and urban scales, connecting sectors and urban systems, and linking planning, finance, climate action, social protection, and territorial management. It combines scientific evidence, technical expertise, and local and Indigenous knowledge to ensure coherent and contextually relevant decisions.

2. Structured and Systemic: It operates under a formal architecture with clear rules for vertical and horizontal coordination, managing interdependencies between critical systems (water, energy, mobility, health, housing) and reducing the risk of cascading failures or contradictory regulations.

3. Contextual and Adaptive: It adjusts to institutional, social, and territorial realities, recognizing inequalities, urban informality, and asymmetric capacities. It evolves through iterative adjustments rooted in evidence, territorial feedback, and changing conditions.

4. Dynamic and Proactive: It maintains continuous monitoring through strategic foresight and surveillance systems capable of identifying weak signals, emerging risks, and unintended effects. It anticipates distributive impacts and acts preventively to minimize harm before crises materialize.

5. Futures-Oriented and Anticipatory: It uses futures tools and structures (multiple scenarios, stress tests, adaptive pathways, anticipatory audits) as mandatory inputs for planning, budgeting, regulation, and strategic decisions under conditions of deep uncertainty.

6. Evidence-Based: It grounds decisions in interoperable, traceable, and verifiable data, bringing together scientific, technical, operational, community, and Indigenous knowledge through robust data-governance mechanisms and knowledge co-production.

7. Positive Risk Culture: It Promotes visible leadership, institutional trust, and clear incentives to report failures, risks, and adverse events without fear, as the foundation of a safe culture. It fosters integrity, continuous learning, and organizational behaviors that prioritize transparency, shared responsibility, and sustained improvement.

8. Participatory and Inclusive: It involves public institutions, the private sector, communities, academia, Indigenous peoples, migrants and displaced populations, and individuals facing particular vulnerability conditions (children, youth, women, people with disabilities, and older adults) in binding decision-making processes, ensuring procedural justice, shared responsibility, and recognition of multiple forms of knowledge.

9. Transparent and Accountable: It ensures traceability of decisions, public access to information, independent oversight, integrity standards, and effective communication of risk. It strengthens social trust through clear accountability mechanisms.

10. Oriented Toward Continuous Improvement: It executes iterative cycles of evaluation and adjustment that combine feedback from the field with institutional learning, incorporating controlled experimentation and strategic monitoring systems.

4. Structural Elements of Good Risk Governance

Structural elements form the framework that sustains the operation of the risk-governance system and ensures its internal coherence. For them to function, they must rest on a solid contextual foundation built from historical evidence, analysis of past events, persistent vulnerability patterns, and proven good practices. This baseline—institutional, territorial, and operational—makes it possible to identify entry points, critical gaps, and realistic transformation pathways.

1. Clear Institutional Framework

Risk governance requires an institutional architecture that precisely and coherently distributes functions, distinguishing:

- **Nodal functions** (institutions that orchestrate systems)
- **Boundary functions** (interfaces between planning, environment, finance, infrastructure, social protection)
- **Coupling functions** (resolution of contradictions among norms, mandates, and priorities)

Each actor—national, subnational, and local governments; private sector; civil society; communities; academia—must have a verifiable mandate and appropriate competencies, under principles of subsidiarity, layered support, and explicit rules for delegating or returning authority according to available capacity. The architecture is completed through stable

mechanisms for vertical and horizontal coordination, escalation/de-escalation protocols, and tools for managing inter-institutional conflicts. This requires a rigorous diagnosis of capacities, applied regulatory frameworks, existing bodies, and their actual (not formal) level of functioning.

2. Regulatory and Policy Framework

The legal framework must set principles, obligations, and responsibilities—while ensuring dynamic coherence across sectors and government levels. This includes:

- regulations designed to be revised in response to emerging risks
- binding standards for investments, infrastructure, and essential services
- clear rules for oversight and sanctions

A solid framework must shift from reaction to anticipation, integrating foresight, scenario analysis, adaptive pathways, and policies designed for changing contexts.

It must connect risk management with climate action, territorial planning, public investment, corporate regulation, and environmental/social/governance commitments (ESG). Its strength depends on a prior analysis of regulatory gaps, levels of enforcement, and areas of contradiction.

3. Strategic Foresight and Stress Testing

Modern governance must institutionalize a Policy Wind Tunnel as a permanent function for futures thinking and anticipatory coherence. Its tasks include:

- horizon scanning, detection of weak signals, and scenario-building
- policy stress testing, red-teaming, and analysis of systemic failures
- defining action thresholds and designing fail-safe (fault prevention) and fail-soft (controlled degradation) mechanisms for critical services
- ex-ante policy evaluation (regulatory impact assessment with a mandatory risk chapter) and risk monetization

The Wind Tunnel must include a return mechanism: when a policy fails to meet criteria of resilience or systemic coherence, it does not advance. This is the only way to ensure that evidence, risk, and possible futures are embedded in the State's strategic decisions.

4. Coordination and Participation Mechanisms

Risk governance only works if it articulates interconnected systems (critical infrastructure, energy–water–food interfaces, supply chains, social protection). This requires:

- coordination bodies with authority to align sectors
- inter-system stress testing to anticipate cascading failures
- binding public participation mechanisms that include communities, marginalized groups, businesses, and academia
- conflict-management tools for territorial disputes (land use, resettlement, urban expansion)

Participation must be responsible, informed, and operational—not ceremonial. Its effectiveness is measured through impact indicators: losses avoided, lives protected, net benefits generated.

5. Knowledge and Data Management

Evidence-based decision-making requires a national or institutional **risk-data governance policy** ensuring interoperability, traceability, common standards, open licensing, cybersecurity, and sustained updating.

The goal is not “open portals,” but complete knowledge chains: data → information → knowledge → decision → impact.

This requires:

- interconnected open systems across institutions
- guaranteed maintenance
- applied research
- co-production of knowledge among technical experts, scientists, and local and Indigenous knowledge holders
- ethical data governance (bias prevention, privacy, algorithmic transparency)

Recognizing existing progress is important, but so is identifying gaps in use, integration and sustainability.

6. Sustainable Risk Financing

Resilience needs a predictable, countercyclical financial structure. Its pillars include:

- multi-year preventive budgets
- resilience-tagged spending
- contingency funds and risk-transfer mechanisms
- green and sustainable financial instruments (climate bonds, ESG products, results-based financing)
- integration of climate-related fiscal risk into macroeconomic strategies
- incentives and penalties that align public and private decisions

A central principle is to reduce structural dependence on external cooperation, ensuring that risk management has stable, predictable, and permanent national sources of funding within the fiscal cycle.

Prevention must have stable, mandated financing—not temporary political goodwill.

7. Integration of Risk in Planning and Decision-Making

Risk must be a condition for eligibility in public policies, plans, investments, and regulations.

This requires:

- evidence-based multicriteria evaluations
- institutional maturity models to track real progress
- iterative adaptive planning
- “no regret” principles
- alignment between short-term decisions and long-term pathways

This makes risk governance a transversal axis of development, not a technical annex.

8. Transparency and Accountability

Effective governance requires:

- verifiable decision protocols and performance controls
- independent oversight mechanisms
- citizen monitoring and legislative review
- sanctions for non-compliance
- institutional memory systems (crisis records, decisions, lessons learned)
- clear public communication of risks, uncertainty, and responsibilities
- risk reports with predictable schedules, for example annual reports, that enable public follow-up and institutional continuity.

Transparency is not optional—it sustains cooperation and prevents institutional capture.

9. Monitoring, Evaluation, and Continuous Improvement

A permanent system must be in place to evaluate risk governance through:

- external audits
- comparative indexes and inter-institutional evaluations
- periodic reviews of institutional frameworks and capacities
- field operational audits (critical infrastructure, schools, hospitals, neighborhoods)
- assessment of political-institutional risk

The cycle must be mandatory and closed: **evaluate** → **adjust** → **reform**. Results must be public to strengthen credibility and trust.

Taken together, these structural elements constitute a risk-governance model capable of anticipating crises, reducing vulnerability, and transforming the way governments, businesses, and communities make decisions. Its value does not lie solely in managing threats, but in reorganizing how the future is planned, invested in, and built.

5. Steps to Implement Risk Governance (HOW TO OPERATE)

Implementing risk governance requires a dynamic and cyclical sequence of strategic decisions, coordinated actions, and feedback mechanisms. Before beginning, it is essential to establish a robust baseline that combines institutional assessment, risk analysis, and a political reading of the context. Without this starting point, progress becomes fragmented, bureaucratic, or diluted.

PHASE 1. Prepare the Ground

Step 0. Maturity Diagnosis and Context Assessment

The process begins with an in-depth analysis of:

- institutional maturity,
- operational maturity,
- power relations,

- incentives and resistance,
- available resources,
- underlying risk conditions.

This diagnosis establishes the real—not formal—baseline, identifying gaps, opportunities, and strategic entry points to activate the system. Including an assessment of political–institutional risk allows for anticipating blockages and ensuring that the governance design responds to the actual context rather than idealized models.

Step 1. Commitment and Leadership from Senior Management

Risk governance requires an explicit mandate from the highest authority. For this commitment to have real effect, it must be materialized through:

- a foundational symbolic decision (decree, agreement, resolution) aligned from the outset with the national planning and budgeting systems,
- the appointment of a leadership figure with cross-cutting authority,
- a multi-year mandate capable of withstanding changes in administration.

This leadership becomes the anchor point that guarantees continuity, coherence across sectors, and legitimacy to coordinate sensitive decisions.

Step 2. Define Risk Appetite and Tolerance

Before defining tolerances, risk must be characterized: critical scenarios, underlying conditions, accumulated vulnerabilities.

Based on this, the following must be established:

- acceptable levels of risk,
- intervention thresholds,
- safety red lines,
- distributive equity criteria,
- alert levels to trigger resources and decisions.

Risk appetite must be approved at the highest level and explicitly integrated into planning, public investment, regulation, and budget processes.

PHASE 2. Anticipation and Structure

Step 3. Establish the Foresight and Policy Stress Lab

Every high-impact policy must be subjected to a **Policy Wind Tunnel**, an environment where the following are tested:

- coherence,
- resilience,
- distributive effects,
- adaptability under extreme scenarios,
- fiscal consequences,
- systemic and cascading risks.

The laboratory must:

- simulate multisectoral scenarios,
- produce anticipatory intelligence (6–24 months),
- conduct stress tests,
- issue binding recommendations,
- certify the robustness of policies and regulations.

It must have independent scientific counsel and a two-way system with local governments, observatories, technical institutions, and communities. Its role is not to recommend: it is to authorize or return policies before approval, and to prevent decisions that could create future crises.

Step 4. Establish a Clear Governance Structure

Governance architecture is not designed from scratch, but from what already exists: capacities, regulations, bodies, gaps, and duplications.

The structure must include:

- decision-making, coordination, advisory, and participation bodies,
- vertical mechanisms (national–subnational–local) and horizontal mechanisms (sectoral),
- subsidiarity and escalation rules,
- competency matrices to avoid overlaps,
- inter-institutional agreements that formalize authority and continuity.

This ensures governance is realistic, adapted, and functional—not merely normative.

PHASE 3. Operate and Coordinate

Step 5. Develop and Communicate Policies and Procedures

Operations require translating strategic decisions into concrete instruments:

- policies, standards, and regulations,
- protocols, standard operating procedures (SOPs), and guidelines,
- sector-specific instructions.

Communication must be accessible, clear, and practice-oriented. Training must be based on realistic scenarios—not theoretical workshops. Institutional coherence depends on every actor understanding what is done, how it is done, and why.

Step 6. Coordinate the Risk Management Process

Risk governance does not directly manage risks—it coordinates, supervises, demands coherence, and establishes the rules of the game.

Responsible sectors (infrastructure, health, environment, education, finance, etc.) must:

- apply methodologies based on international standards (ISO 31000, OECD, IRGC),
- adapt procedures to their technical and territorial context,
- develop sectoral plans, protocols, and metrics.

Governance sets the strategic direction and oversees compliance; sectors execute.

Step 7. Ensure Effective Communication and Reporting

Communication must be:

- transparent,
- timely,
- bidirectional,
- evidence-based,
- designed to manage uncertainty and counter misinformation.

This includes narrative strategies, public reporting mechanisms, citizen monitoring systems, and digital tools to share risks, alerts, and decisions, ensuring clarity, coherence, and accessibility for all actors.

PHASE 4. Learn and Consolidate

Step 8. Monitor, Review, and Continuously Improve

The governance system requires a permanent cycle of:

- monitoring,
- internal and external evaluation,
- operational field audits,
- peer reviews,
- anticipatory analysis.

Results must trigger consequences: mandatory adjustments, capacity strengthening, regulatory updates, and reforms when necessary. Organizational learning must be institutionalized as a regular practice.

Step 9. Promote and Measure Risk Culture

Risk culture is the foundation of system sustainability. It involves:

- preventive behaviors,
- shared responsibility,
- active participation,
- timely reporting,
- visible leadership,
- evidence-based decisions.

Its progress must be measured with indicators of awareness, compliance, participation, and learning, also including “avoided decisions”: policies, investments, or regulations that do not advance due to lack of quality, evidence, systemic coherence, or equity criteria.

Recognizing and measuring these avoided decisions is essential for a mature risk culture, because it shows that the system not only acts well but also avoids actions that would generate new risks or injustices.

Incentives—recognition, certifications, rewards—help consolidate genuine changes in institutional and social behavior.

Synthesis

Risk governance is implemented as a continuous process of leadership, anticipation, operational coordination, and institutional learning. Each step reinforces system coherence and enables the shift from reactive governance to a next-generation governance model—one based on anticipation, justice, and sustainability.

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