



Scaling Uptake of Insurance in the Municipal Climate Resilience Toolkit

Discussion Paper

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AUTHORS

John Michael LaSalle, Hamza Abdullah and Shreya Bansal

ABOUT THE CITIES CLIMATE FINANCE LEADERSHIP ALLIANCE

The Cities Climate Finance Leadership Alliance is a coalition of leaders committed to deploying finance for city-level climate action at scale by 2030. Trillions of dollars will be required to help cities build the low-emissions, resilient infrastructure necessary to combat and react to climate change. The Cities Climate Finance Leadership Alliance is the only multilevel and multistakeholder coalition aimed at closing the investment gap for urban subnational climate projects and infrastructure worldwide.

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CONTACT

CCFLASecretariat@cpiglobal.org

MEDIA CONTACT

Angel Jacob

Angel.Jacob@cpiglobal.org

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1. INTRODUCTION

Insurance is a key risk transfer tool that can strengthen municipal financial resilience to climate change as part of a broader risk management strategy. It can provide municipalities with crucial post-disaster liquidity, helping them respond to and recover from climate-related disasters without severely disrupting public finances, essential services, and development priorities. By doing so, it reduces the need for reactive municipal budgetary allocations and emergency borrowing following disasters. Despite this potential and municipalities' roles in disaster response and recovery, less than 10% of climate-related losses in emerging markets and developing economies (EMDEs) are insured.

Several interconnected barriers hinder the uptake of municipal climate risk insurance in EMDEs. First, many municipalities lack the fiscal space to afford insurance premiums. Meanwhile, insurance markets for municipalities are often financially unviable for insurers due to fragmented demand and limited scale. Further, municipalities often have limited capacity for risk layering and integrating insurance into their risk management strategies. Additionally, policy and regulatory frameworks in many EMDEs do not adequately support municipal risk insurance markets, leading to higher premiums and greater uncertainty for both cities and insurers (see Annex 2 for details on these barriers). Building on CCFLA's previous work, this paper examines climate risk insurance for municipalities, covering insurance products that protect municipalities against physical climate-related hazards such as floods, storms, heatwaves, and droughts (CCFLA 2021).

Specifically, the research and consultations underpinning this paper identified parametric insurance as an entry point for addressing the barriers in EMDE city contexts. Parametric insurance is a risk transfer arrangement that provides pre-agreed payouts when a specific hazard threshold, such as rainfall intensity, wind speed, or temperature, is reached (CPI 2026, 2025). It enables faster payouts, simpler product structures, and coverage tailored to municipal financial capacities rather than underlying asset values. Compared to traditional indemnity products, parametric insurance generally requires simpler claims assessment processes and can be implemented in contexts where data and regulatory environments are still developing.

Beyond risk transfer products, the insurance industry can provide risk data and underwriting expertise that help cities assess and reduce climate risks, build long-term resilience, and facilitate investment. While recognizing these broader roles, this paper focuses on how to scale risk transfer with parametric insurance and strengthen financial resilience for cities that currently lack access to insurance. CCFLA's previous research examines the insurance industry's wider roles as risk experts and institutional investors (CCFLA 2021).

This discussion paper aims to advance concrete actions and implementation pathways that enhance the financial viability and affordability of parametric insurance and accelerate its uptake in cities worldwide. It begins by examining the role of insurance in strengthening municipal climate resilience. It then maps the existing ecosystem of actors supporting municipal climate risk insurance uptake and analyzes key barriers and enablers shaping municipal climate risk insurance markets to identify collaboration gaps. Building on these analyses, the paper outlines three priority actions for insurers and municipalities to promote the affordability and financial viability of municipal parametric climate insurance, as well as the consultative research process used to identify these activities.

Table 1. Priority Actions

Action	Objective
Supporting Affordable Premiums	Increase support for mechanisms to make parametric insurance affordable for municipalities.
Strengthening Risk-layering Capacity	Strengthen municipal capacity to layer and transfer risk cost-effectively.
Improving Enabling Environments	Improve enabling policy and regulatory environments to facilitate the efficient development of parametric insurance products and markets.

Multiple actors will need to contribute to each priority action, including cities, city networks, insurers and reinsurers, national governments as donors and policymakers, development finance institutions, and intermediaries such as brokers and risk modelers. [Section 5](#) identifies the specific roles of each actor across the priority actions.

2. MUNICIPAL CLIMATE RISK AND THE ROLE OF INSURANCE

Climate change is increasing physical risks in cities, where the concentration of population, infrastructure, and economic activities amplifies losses. One in five people in cities, or more than 800 million people in total, are exposed to extreme flood risk, with exposure heavily concentrated in Asia and smaller island states (Geneva Association 2020). More than 60% of the 1,005 cities, states, and regions surveyed by CDP-ICLEI in 2025 reported facing significant climate-related hazards (CDP 2026). CDP disclosures further reinforced that the severity and costs of climate-related risks are growing.

Globally, most economic losses due to climate-related disasters remain uninsured, with the insurance protection gap particularly pronounced in EMDEs. Global figures illustrate the scale of the challenge. In 2024, 57% of economic losses from natural disaster events globally were uninsured (SwissRe 2025b). In EMDEs, uninsured losses exceeded 90%, a level that has changed little over the decades (Munich RE 2025). For instance, insurance covered only 21% of disaster losses in Mexico and 9% in India, while in Peru, 92% of public assets lack insurance coverage (IAIS and World Bank 2025; SwissRe 2025a). While systematic data on municipal climate risk insurance coverage remains scarce, our research and consultations identified premium affordability, limited municipal risk transfer expertise, and unsupportive regulatory environments as drivers of the municipal protection gap.

Governments, including at the local level, are often the first responders to climate-related disasters. They are responsible for building long-term resilience, but rising physical risks weaken their ability to execute this mandate. When climate hazards strike, they can trigger fiscal shocks in the form of increased recovery costs, diminished local tax bases, and losses in property tax revenues (Shi and Varuzzo 2020; Wei Guo et al. 2025; CCFLA 2021). For example, sea level rise can affect municipalities' revenues by diminishing property taxes and, on the expenditure side, through added operation and maintenance costs for public infrastructure (Shi and Varuzzo 2020). These fiscal shocks can cause broader financial challenges, such as loss of creditworthiness and increased cost of capital. For example, following severe water scarcity and resulting revenue losses, South African local and regional governments suffered additional credit downgrades that diminished their capacity to absorb future disaster-related shocks (Moody's 2021).

Without the safety net of insurance payouts, fiscal shocks can exacerbate liquidity crises and compel subnational governments to fund recovery reactively, reallocating funds away from long-term development and resilience priorities. For instance, catastrophic floods in Kerala, India, in 2018 put enormous pressure on the budgets of the state and local governments due to 95% of the estimated USD 4.4 billion economic losses being uninsured (UNDP 2018; Singh 2018). While the national disaster management fund covered some of this post-disaster liquidity gap, statutory limits restricted its disbursement to immediate relief instead of long-term reconstruction. This compelled the state to consider introducing new taxes, reprioritizing budget allocations, and cutting down on economic development initiatives to fund the reconstruction and recovery measures (Singh 2018).

Insurance is a key tool for both insurers and municipalities to help manage climate-related disaster risks, presenting a shared opportunity to align cities' risk management priorities with insurers' commercial interests. For cities, it can enhance municipal fiscal space and preserve their creditworthiness by transferring risks to insurers and spreading the cost of climate-related disasters through predictable premium payments, which limit fiscal shocks. In regulatory environments where municipalities are legally restricted from issuing debt, insurance can serve as an alternative mechanism to secure post-disaster liquidity (CCFLA stakeholder interviews 2026). Insurance can also increase risk awareness, bolster economic development that reduces vulnerability, and encourage risk reduction (CCFLA 2021).

At the same time, expanding municipal climate risk insurance markets could create an opportunity for insurers to grow their portfolios by engaging with concentrated risk pools and leveraging established municipal service delivery systems. Urban areas in EMDEs accumulate large and growing risk pools by concentrating people, infrastructure, and economic activity (Geneva Association 2020a). In many EMDEs, local or subnational governments have established institutional systems for planning, budgeting, and service delivery. These systems can provide entry points for insurers to expand coverage across public assets, using existing legal and regulatory frameworks to implement insurance programs and aggregate demand to enable broader coverage across urban communities (CCFLA stakeholder interviews 2026; IDF 2020; World Bank 2021). This can also include city-led mechanisms that extend social protection to more vulnerable segments.

However, insurance is one instrument in a larger toolbox of solutions a city needs to address climate risks, intended to serve as a backstop for any residual risks that cannot otherwise be reduced (CCFLA 2021). It must be paired with physical risk mitigation and prevention activities to reduce, rather than solely transfer, the costs of climate-related disasters and ensure long-term resilience. In addition to providing risk transfer products, the insurance industry can help enable investment in urban resilience by offering data, modelling, underwriting, and risk engineering expertise that help cities and investors reduce risk and finance resilience measures, particularly when insurers are engaged early in project design (GIF and Aon 2026).

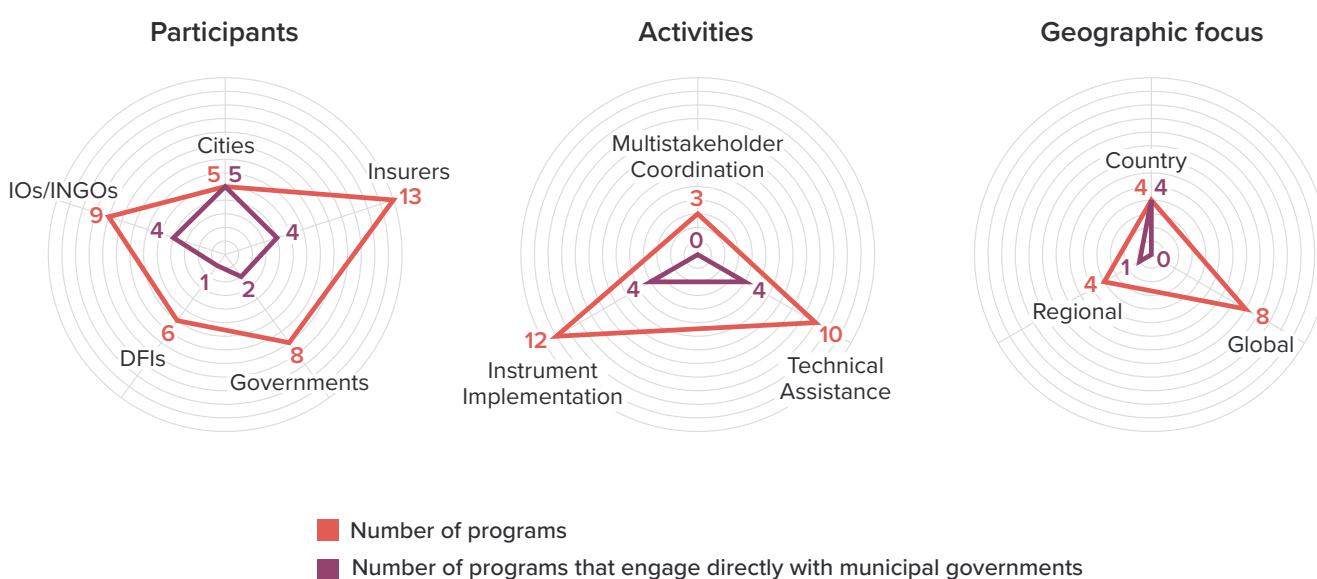
Engaging municipalities and insurers together is necessary to address the barriers blocking insurance and to strengthen the enablers necessary to close the protection gap. Insurance-based solutions to transfer and ultimately reduce risks are most effective when undertaken through coordinated efforts by multiple stakeholders (IAIS and World Bank 2025). Municipal governments can enhance the policy space to account for more mandatory prevention norms and building standards, while insurers can incentivize the uptake of climate disaster protection under this conducive policy environment (IAIS and World Bank 2025).

3. MAPPING THE EXISTING MUNICIPAL-INSURANCE ECOSYSTEM

Despite the importance of collaboration between the insurance industry and municipalities to scale climate risk insurance, the ecosystem mapping reveals a structural gap in support for sustained collaboration between municipalities and insurers. We mapped 16 programs supporting climate risk insurance uptake in EMDEs that are either focused on or inclusive of cities, complemented by interviews with representatives from the insurance sector and city networks. Each program was classified based on the types of stakeholders participating, its primary activities, and the geographic level at which it operates. The mapping provides a view of how current efforts in the municipal climate risk insurance ecosystem are structured, where support is concentrated, and where critical gaps remain. Its purpose is to identify gaps and opportunities to build on, informing future actions that do not duplicate existing efforts.

The mapping focuses on programs that promote climate risk insurance in both general and city-specific contexts, including those involving insurers, city networks, insurer coalitions, and multilateral development banks. It excludes insurance companies that offer insurance to municipalities as part of their general commercial operations but do not specifically focus on climate risk insurance or participate in initiatives that promote it. It also excludes programs that target specific non-municipal actors, such as the agrifood sector or small and medium enterprises (MSMEs) or whose geographic scope excludes EMDEs. [Annex 1](#) lists the mapped programs.

Figure 1. Ecosystem mapping summary



The key findings from our analysis are:

- **There is limited city-level participation across the ecosystem**, with only 5 of 16 mapped programs engaging directly with municipal governments.
- **Multistakeholder collaboration is rare**, with only 3 programs focused on multistakeholder coordination, none of which directly includes municipalities.
- **Most programs focus on implementation or technical assistance**, with 10 supporting insurance implementation (product delivery) and 9 providing city-specific technical assistance.
- **Parametric insurance is the dominant focus of programs implementing insurance instruments**. Two-thirds of the programs focusing on implementation are involved in designing or deploying parametric insurance.
- **Programs with direct municipal engagement are predominantly country-specific**, while regional and global initiatives are less likely to involve cities directly.

Interviewees reinforced these findings, noting that municipalities and insurers often operate with different technical, financial, and institutional frameworks and capacities, making it difficult to align municipal risk management needs with insurers' requirements.

Several interviewees emphasized the importance of intermediaries. For example, brokers interface between cities and insurance companies, and city networks or other technical assistance providers help cities with capacity building and broader climate risk management strategies. Interviewees also saw intermediaries as important for supporting coordination, risk modeling, and engagement across fragmented stakeholders.

These findings from the mapping and interviews reflect a wider collaboration gap across the ecosystem that hinders the uptake of insurance. The ecosystem remains poorly aligned with the needs and constraints of cities. The low number of initiatives involving municipal involvement and multistakeholder coordination suggests a disconnect between the growing supply of parametric insurance solutions and the municipal-level collaboration needed to make those solutions affordable, financially viable, and effective for EMDE cities. This collaboration gap underpins key barriers, including how risk is understood and communicated, how insurance solutions are structured, and how governance and regulatory frameworks shape the underwriting and procurement of insurance.

4. ACTION AREA IDENTIFICATION

Alongside the ecosystem mapping, desk research and interviews with insurers, brokers, city networks, and other intermediary organizations helped identify the barriers to municipal climate risk insurance uptake, as well as enablers to overcome them. Closing the collaboration gap highlighted in the ecosystem mapping through joint actions that reduce barriers and strengthen enablers will lead to greater uptake of municipal climate risk insurance and strengthen cities' financial resilience to climate change.

We identified four thematic action areas to address this gap:

1. **Data, Risk Modeling, and Planning:** Poor data quality, limited risk information exchange, and modeling uncertainty constrain the use of insurance for urban risk management. These barriers can be addressed by strengthening data systems, establishing structured city–insurer data-sharing protocols, and embedding risk analytics into planning, investment prioritization, and underwriting.
2. **Financial Viability and Affordability:** Premium affordability constraints, fragmented municipal demand, and limited underwriting scale reduce the financial viability of municipal climate risk insurance solutions. These barriers can be addressed by removing legal, regulatory, and policy cost drivers, increasing capacity to cost-effectively layer risk, and providing premium support for cities that cannot afford the cost of risk mitigation.
3. **Governance and Regulations:** Institutional fragmentation, rigid procurement rules, and misaligned regulatory frameworks limit cities' ability to structure and access risk transfer solutions. These barriers can be addressed by clarifying institutional mandates, adapting procurement processes, and strengthening enabling policy and regulatory conditions for municipal climate risk insurance markets.
4. **Capacities and Product-Market Fit:** Low municipal climate risk insurance literacy, limited technical capacity, and weak product–market fit undermine uptake and effective use of insurance. These barriers can be addressed through targeted technical assistance, capacity building, and co-development of insurance products that reflect municipal risk profiles, budget constraints, and operational needs.

For a detailed analysis of barriers and enablers under each action area, see [Annex 2](#).

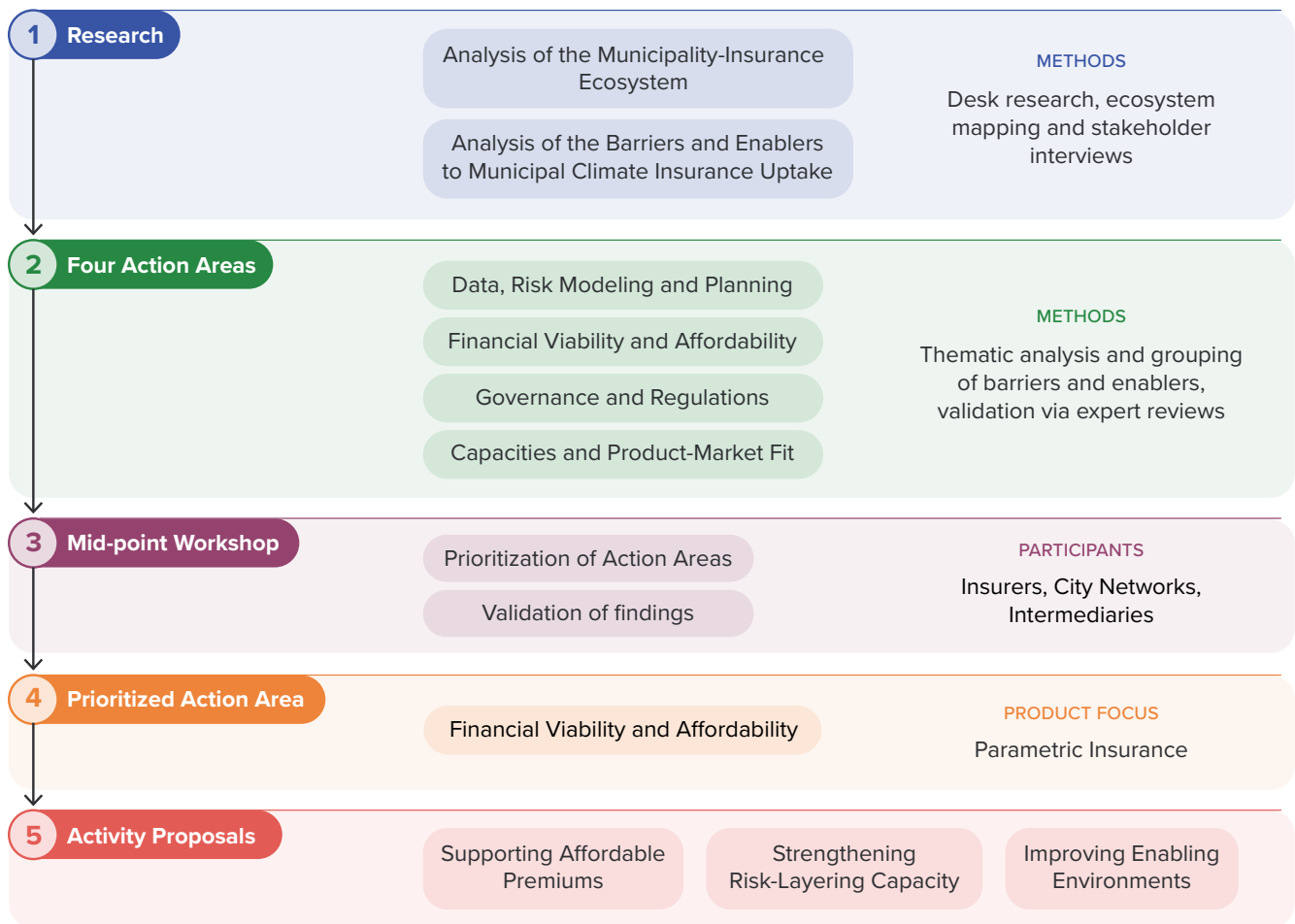
These action areas were validated and refined through a multistakeholder workshop convened by CCFLA in April 2026 with insurers, city networks, and intermediary organizations. The workshop discussion helped identify the most important barriers for and areas most suitable for near-term collaborative action. Financial Viability and Affordability emerged as the priority action area where collaboration can advance municipal climate risk insurance, as discussed in the following section.

5. PRIORITY ACTION AREA: FINANCIAL VIABILITY AND AFFORDABILITY FOR PARAMETRIC INSURANCE

Stakeholders emphasized that municipalities in EMDEs are often unable to afford insurance premiums sustainably, even when data, supportive governance, and capacity are present. Fiscal constraints mean many cities cannot sustainably afford premiums without external support, which in turn limits insurers' willingness to offer municipal products. At the same time, stakeholders emphasized that progress in this action area depends on strengthening municipal capacities for risk layering and improving the enabling environment to make municipal climate risk insurance more affordable for cities and financially viable for insurers. Increasing municipal risk-layering capacity will enable cities to structure insurance that delivers value for money and builds financial resilience; while clear, supportive legal, regulatory and policy frameworks reduce uncertainty and lower costs for both cities and insurers.

CCFLA's research and workshop discussions also identified parametric insurance as a key entry point in EMDE city contexts. Two-thirds of the initiatives mapped as implementing municipal climate risk insurance are focused on parametric products. Stakeholder interviews also consistently reinforced the importance of parametric insurance to minimize data and affordability challenges. Parametric insurance's unique potential to work well in EMDE cities stems from its ability to provide rapid post-disaster liquidity, simpler product structures, and payouts tailored to municipal financial capacities rather than being tied to underlying asset values. By contrast, traditional indemnity insurance typically involves slower claims processes, extensive requirements for reforms in data ecosystems and regulatory frameworks, and limited benefit to cities unless they can afford to insure the full replacement value of their assets.

Figure 2. Priority Action Development Process



Addressing the barriers to improving the affordability and financial viability of parametric climate risk insurance in EMDE municipalities requires multistakeholder collaboration across three priority areas to directly address unaffordable premiums as well as municipal capacity and enabling environment cost drivers:

1. **Support Affordable Premiums:** Build support among governments, international donors, and development finance institutions (DFIs) for premium support mechanisms to make parametric insurance affordable for municipalities.
2. **Strengthen Risk-layering Capacity:** Build municipal capacity to layer and transfer risk cost-effectively.
3. **Improve Enabling Environments:** Improve enabling policy and regulatory environments to facilitate efficient parametric insurance products and markets.

These actions would improve the affordability and viability of municipal parametric insurance markets.

5.A THREE PRIORITY ACTIONS

Each priority action promotes the uptake of affordable, financially viable parametric insurance along a separate but complementary pathway. Each action uses multistakeholder collaboration to advance the goal of greater municipal financial resilience to climate change through the more effective and widespread use of parametric climate insurance.

5.A.1 SUPPORTING AFFORDABLE PREMIUMS

Table 2. Overview of Priority Action on Supporting Affordable Premiums

Outcome	Increased support from national governments, donors, and DFIs for mechanisms that make parametric climate insurance affordable for municipalities.
Outputs	1. Policy briefs presenting evidence on the cost-effectiveness and resilience impacts of municipal premium support. 2. Case studies documenting premium support instruments, institutional arrangements, and implementation lessons. 3. Targeted events and convenings to inform and mobilize key decision-makers.
Activities	1. Build evidence on the fiscal, economic, and resilience case for municipal premium support. 2. Identify and develop case studies of effective premium support mechanisms. 3. Conduct power mapping to identify champions and influence pathways. 4. Convene governments, donors, DFIs, insurers, and municipal stakeholders to disseminate findings and build support for action.
Key Actors	• Cities: Communicate insurance needs and affordability barriers and demonstrate demand for insurance products • City Networks: Aggregate city demand and advocate for premium support mechanisms • Insurers & Reinsurers: Advise on affordable, fit-for-purpose products and document city feedback & experiences • National Government (as donors): Provide or mobilize premium co-financing support • National Government (as policymakers): Supportive institutional structures, policies, and regulations • Development Finance Institutions: Provide grants and concessional finance for premium support • Intermediaries (brokers, modelers, etc.): Support product structuring and risk modeling

Challenge: Many cities in EMDEs struggle to afford risk-based premiums due to limited fiscal space and competing priorities for service delivery and infrastructure investment. Input from insurers and evidence from city-focused initiatives show that premium support from national governments, donors, or DFIs is necessary to enable municipal uptake of climate risk insurance.

Action: Develop policy briefs and case studies to equip national governments, donors, and DFIs with the evidence and implementation options needed to make parametric climate insurance more affordable for municipalities and mobilize a coalition of city and insurance industry stakeholders to advocate for action. This action would assess the cost-effectiveness and resilience benefits of premium support, demonstrate why municipalities are an important level of government for targeted support, and develop case studies on practical instruments to reduce premium costs. These instruments may include premium subsidies, concessional financing, pooled procurement, and other innovative premium financing mechanisms.

Theory of change: Increasing evidence, practical knowledge, and engagement around municipal premium support would support national governments, donors, and DFIs in adopting mechanisms that make parametric climate insurance affordable for municipalities. More municipalities will be able to use parametric climate insurance if premium costs for material coverage levels are within their fiscal capacity. National governments, donors, and DFIs can reduce this affordability barrier through premium support, but many lack clear evidence on value for money, resilience impacts, and implementation options.

A stronger understanding among national governments, international donors, and DFIs of the rationale for supporting municipal climate risk insurance and the mechanisms available to do so would better position them to allocate funding, design premium support programs, or incorporate premium support into broader climate resilience finance strategies. Increased premium support would allow more municipalities to purchase coverage, improving their access to rapid post-disaster liquidity and strengthening financial resilience to climate shocks.

Risks: This action faces three main risks. First, tight public budgets and competing priorities may limit the willingness of governments, donors, and DFIs to fund premium support, even where the economic case is strong. Second, mistrust or misaligned incentives among municipalities, national governments, and insurers could weaken coordination and reduce the credibility of the proposed mechanisms. Third, the evidence base may be insufficient to demonstrate cost-effectiveness across different countries, hazards, and municipal finance contexts.

5.A.2 STRENGTHENING RISK-LAYERING CAPACITY

Table 3. Overview of Priority Action on Strengthening Risk-layering Capacity

Outcome	Strengthened municipal capacity to design risk-layering strategies and use parametric insurance cost-effectively within broader disaster risk financing frameworks.
Outputs	1. Training curriculum for municipal officials on risk layering, risk retention, risk transfer, and the role of parametric insurance. 2. Practical tools or templates to help cities assess which risks to retain, finance, or transfer. 3. Case studies of cost-effective municipal risk-layering strategies.

Activities	1. Develop training content tailored to municipal finance, resilience, and disaster risk management officials. 2. Deliver trainings through city networks, technical assistance providers, municipal associations, and qualified insurance intermediaries. 3. Develop case studies showing how cities or subnational governments have layered risk financing instruments. 4. Promote case studies and tools through peer-learning events, communities of practice, and targeted outreach.
Key Actors	• Cities: Participate in training on risk layering/financing • City Networks: Deliver training to cities and disseminate good practices • Insurers & Reinsurers: Contribute technical expertise on risk layering • National Government (as policymakers): Integrate risk-layering training into multilevel DRM/urban development programs • Development Finance Institutions: Support training delivery to cities • Intermediaries (brokers, modelers, etc.): Brokers deliver training to cities and risk modelers contribute technical expertise to course development

Challenge: Cost-effective use of parametric climate insurance depends on municipalities' ability to determine which risks to retain and which to transfer. Many municipalities in EMDEs lack the technical and institutional capacity to design risk-layering strategies that align with their hazard exposure, fiscal constraints, and post-disaster liquidity needs. As a result, cities may underuse insurance for risks that can be efficiently transferred while failing to realize the benefits from the insurance cover they have purchased.

Stakeholders consulted noted that many cities struggle to design risk-layering strategies that maximize their protection and minimize costs. Intermediaries such as brokers and city networks are needed for capacity building and advisory support to cities in overcoming this gap.

Action: Develop and deliver training for municipal officials on risk-layering strategies and the cost-effective use of parametric insurance. The primary audience would include city finance officers, resilience officers, disaster risk management officials, and other staff responsible for climate risk finance and budget planning.

The training would help municipalities assess which risks to retain, which risks to transfer, and which instruments are appropriate for different layers of risk. It would cover the role of parametric insurance within a broader disaster risk financing strategy, including how to evaluate product suitability, affordability, basis risk, payout triggers, and alignment with municipal contingency plans. The training could be delivered through intermediaries that already work with municipal governments, including city networks, technical assistance providers, and insurance brokers.

Theory of change: Strengthening municipal capacity to assess risk layers and evaluate risk financing options would help cities use parametric insurance more cost-effectively within broader risk-layering frameworks. Many cities lack the technical capacity, data, and institutional processes to evaluate when risk retention or risk transfer can provide the most cost-effective protection.

This action would address that capacity gap by providing practical training and case studies tailored to municipal decision-makers. Better-informed officials would be better able to assess risk financing options, engage with insurers, evaluate product design, and align insurance coverage with budgetary and contingency planning processes. In turn, this would reduce the risk of poorly designed coverage, unmet expectations, or negative experiences with insurance products.

If municipalities can identify the risk layers for which parametric insurance is appropriate, they are more likely to procure coverage that fits their fiscal capacity and resilience objectives. This would increase the effectiveness of insurance as a disaster risk financing tool and strengthen municipal financial preparedness for climate shocks.

Risks: This action faces three main risks. First, generic training materials will not be relevant across diverse municipal contexts, hazard profiles, legal mandates, and fiscal systems and will require tailoring to specific contexts to be effective. Second, sustained delivery will depend on buy-in, capacity, and funding from delivery partners to ensure training materials deliver capacity improvements for cities. Third, municipalities may struggle to absorb and apply training because of limited staff time, weak data systems, high turnover, political changes, or competing priorities.

5.A.3 IMPROVING ENABLING ENVIRONMENTS

Table 4. Overview of Priority Action on Improving Enabling Environments

Outcome	Improved legal, policy, and regulatory conditions for efficient, transparent, and affordable municipal parametric insurance markets.
Outputs	1. Country-specific diagnostic of legal, policy, regulatory, fiscal, and procurement barriers that increase costs for insurers or limit municipal access to parametric climate insurance. 2. Reform recommendations with implementation pathways, responsible institutions, and sequencing. 3. Stakeholder engagement process with regulators, finance ministries, municipalities, insurers, brokers, and development partners. 4. Government and regulator relationships to support reform uptake.
Activities	1. Conduct national enabling-environment assessment integrating municipal and insurance industry perspectives. 2. Review international experience and relevant regulatory models. 3. Map institutional mandates, approval processes, procurement rules, tax treatment, and municipal legal authority. 4. Develop and validate policy, legal, and regulatory reform recommendations. 5. Engage government and regulatory stakeholders to support implementation.

Key Actors	• Cities: Communicate city challenges and needs to policymakers and insurers • City Networks: Represent city perspectives in dialogues with insurers, regulators, and policymakers • Insurers & Reinsurers: Advise on supply-side reforms needed for viable municipal climate risk insurance markets • National Government (as policymakers): Develop enabling legal / policy frameworks, building on insurers' advice and cities' needs • Insurance Regulators: Develop enabling regulatory frameworks for insurers • Development Finance Institutions: Support enabling environment reforms through policy-based financing mechanisms • Intermediaries (brokers, modelers, etc.): Provide technical input for policy and regulatory reforms
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Challenge: Unclear or restrictive legal, policy, and regulatory frameworks can limit municipal access to parametric climate insurance. These barriers may raise transaction costs, delay product approval, reduce insurer participation, or create uncertainty about whether municipalities can procure insurance, enter multi-year contracts, pay premiums, or use payouts effectively.

Key constraints imposed by unsupportive enabling frameworks include tax treatment, regulatory treatment of parametric insurance products, capital and solvency requirements, public procurement rules, and unclear municipal legal authority. These constraints can reduce the financial attractiveness of municipal climate risk insurance for both cities and insurers, particularly where municipal demand is still emerging and transaction volumes are low.

Action: Develop a shared, evidence-based reform agenda integrating city and insurance industry perspectives to enable national governments and regulators to address the legal, policy, and regulatory barriers that currently limit municipal access to parametric climate insurance. The evidence base will then support national governments, regulators, municipalities, insurers, and intermediaries in developing country-specific reform options and implementation pathways that represent the needs of both insurers and municipalities.

Since insurance regulation and market supervision primarily operate at the national level, this process could initially focus on one or more priority countries. Country selection should reflect stakeholder demand, municipal climate risk insurance market potential, regulatory relevance, and government interest in enabling municipal parametric insurance. The analysis should draw on international experience while tailoring recommendations to national legal systems, insurance market conditions, fiscal rules, and municipal mandates.

A structured stakeholder engagement process would be critical to diagnose barriers and test reform options with key actors, including municipalities, national governments, insurance regulators, finance ministries, insurers, brokers, and development partners.

Theory of change: Municipal parametric insurance markets will be more financially viable where legal, policy, and regulatory frameworks provide clarity and minimize costs for both municipalities and insurers. In many countries, uncertainty around municipal authority,

product approval, procurement rules, tax treatment, or regulatory classification can increase transaction costs and discourage market participation.

A structured process involving all relevant stakeholders—incorporating perspectives from regulators, policymakers, municipalities, insurers, and intermediaries—would identify the barriers increasing the cost of and limiting access to municipal climate risk insurance. It would also build momentum for reform by building relationships between stakeholders, clarifying shared interests and identifying practical changes that are administratively and politically feasible.

If governments and regulators adopt supportive reforms, municipalities will have clear procurement pathways, lower administrative burdens, and greater legal certainty. Insurers will face lower compliance uncertainty, clearer product approval processes, and stronger incentives to serve municipal clients. These changes should improve product availability, reduce transaction costs, and, where regulatory or fiscal costs are material, lower the effective cost of coverage for municipalities.

Risks: This action faces three main risks. First, stakeholders may have misaligned incentives, which increases the difficulty in diagnosing barriers and finding consensus on reforms: municipalities may prioritize affordability and flexibility; regulators may prioritize consumer protection and solvency; and insurers may prioritize commercial viability and regulatory certainty. Second, legal or regulatory reforms may require politically sensitive trade-offs that depend on national political dynamics beyond the influence of this action. Third, the affordability impact will be limited if premiums in focus countries are already driven primarily by underlying climate risk, data quality, market size, or reinsurance costs, rather than policy and regulatory barriers.

6. CONCLUSION AND NEXT STEPS

Insurance is an important tool for municipalities to manage climate-related financial risks, but uptake in emerging markets is low. Supporting greater uptake will require collaborative efforts to overcome barriers and strengthen enablers. This discussion paper presents the consultative process used to identify three priority actions to support greater uptake of parametric climate insurance by municipalities in EMDEs. It integrates the perspectives of CCFLA members who work with cities on insurance and climate resilience and insurance industry actors at the forefront of urban climate risk.

Our research identified financial viability and affordability as the priority action area with the greatest potential to support municipal climate risk insurance uptake. It also identified a focus on parametric insurance in the municipal climate risk insurance ecosystem. The three priority actions respond to these findings to improve financial viability and affordability by strengthening premium support, building city risk-layering capacity, and improving enabling environments.

This paper aims to invite further discussion between city and insurance industry stakeholders on how to strengthen the uptake of municipal climate risk insurance. This discussion can clarify opportunities to expand the use of parametric climate insurance by cities in emerging markets, strengthening their financial resilience to climate shocks. Deeper engagement between cities and the insurance industry can also support broader improvements in how the sector serves municipalities, including through data sharing, more accurate risk pricing and underwriting, and increased investment in urban climate resilience.

The issues raised and three priority actions presented above will require further development and discussion with CCFLA members, key stakeholders in the climate insurance field, and funders interested in supporting this work.

ANNEX 1: ECOSYSTEM MAPPING

Name	Geographic Scope		Participants				Activities		
		Cities	Insurers	Governments	DFIs	NGO or IO	Multistakeholder Collaboration	Technical Assistance	Instrument Implementation
Advancing Climate Risk Insurance for Cities in China (ACRI+)	Country	High	High	High	None	None		Yes	Yes
Africa Climate Risk Insurance Facility for Adaptation (ACRIFA)	Regional	None	High	High	High	Low			Yes
Disaster Risk Financing and Insurance Program (DRFIP)	Global	None	Low	High	High	None		Yes	
Global Risk and Resilience Fellowship	Country	High	High	Low	None	Moderate		Yes	Yes
Inclusive Insurtech Investment Fund	Regional	None	High	Low	None	High		Yes	Yes
Insurance Development Forum (IDF)	Global	None	High	High	High	Moderate	Yes	Yes	Yes
InsuResilience Global Partnership	Global	None	High	High	Low	High		Yes	Yes
Munich Climate Insurance Initiative (MCII)	Global	None	High	Low	None	High			Yes
Philippine City Disaster Insurance Pool	Country	High	Low	High	High	Moderate			Yes
Risk Financing and Insurance Solutions	Regional	Low	High	High	High	None		Yes	Yes
Sustainable Markets Initiative Insurance Task Force	Global	None	High	Low	None	Low	Yes		
The Geneva Association	Global	None	High	None	None	Low	Yes		
Tripartite Agreement Programme	Global	None	High	Low	High	Moderate		Yes	Yes
UNDP Insurance and Risk Finance Facility (IRFF)	Global	None	Low	High	Low	Low			Yes
Urban Climate Resilience Program	Country	High	High	Low	None	High		Yes	
Urban Infrastructure Insurance Facility (UIIF)	Regional	High	High	Low	None	High		Yes	Yes

ANNEX 2: DETAILED BARRIER AND ENABLER ANALYSIS

A. DATA, RISK MODELING AND PLANNING

A.1 BARRIERS CONTRIBUTING TO THE GAP

Reliable risk information is a foundational requirement for cities to understand the risks that should be insured and for insurers to underwrite risk. However, in many EMDE cities, rapid urbanization, and informal development have outpaced the availability of high-quality climate-related risk data—impeding risk-informed planning (Geneva Association 2020b; IIED 2021). This may include data on buildings, infrastructure, and population distribution, which may be incomplete or unavailable, leaving substantial portions of urban climate risk unmeasured. As a result, risk-blind planning can lead to higher insurance costs and further reinforce climate risks by allowing development in flood-prone areas or the proliferation of slums with inadequate access to water supply and cooling infrastructures (Jarzabkowski et al. 2025; JLL 2025; Munich RE 2026).

For insurers, the absence of reliable and standardized risk data increases uncertainty in modeling and pricing urban climate risks. Climate risks are difficult to model in cities due to the changing nature of hazards and the concentration of population (Lloyd's 2020; Lau et al. 2022). On one hand, climate change is altering the frequency and intensity of hazards such as extreme heat and flooding, making backward-looking catastrophe models less accurate (Ingels et al. 2024). On the other hand, cities concentrate economic activity and infrastructure, increasing the potential magnitude of losses (Geneva Association 2020a). Both challenges are more pronounced in cities in EMDEs, where additional data barriers increase uncertainty in catastrophe models, making underwriting difficult.

A.2 KEY ENABLERS TO ADDRESS THE GAP

Enhancing risk transparency and making quality climate risk data available are key enablers for cities to improve their insurability. This includes developing asset registries and exposure databases, conducting climate risk and vulnerability assessments, integrating climate risk information into urban planning decisions, and sharing relevant risk information with insurers to support modeling and pricing (World Bank 2021). Insurers can also contribute by sharing non-proprietary risk insights and hazard information with municipal authorities to help them plan their risk management and city planning strategies (Lloyd's 2020).

B. FINANCIAL VIABILITY AND AFFORDABILITY

B.1 BARRIERS CONTRIBUTING TO THE GAP

Financial and fiscal constraints limit municipalities' ability to purchase insurance. In many EMDE cities, limited fiscal space means that insurance premiums must compete with immediate operational priorities, such as infrastructure maintenance, service delivery and disaster response (CCFLA 2021). Weak municipal finances and credit profiles also increase the perceived high risks for insurers (Peterson 2000, 20; Glemarec et al. 2025; Insurance Institute of Kentucky 2025). Additionally, individual municipalities often have small demand volumes due to low total assets under management, which reduces their negotiating power, potentially increasing premiums due to a lack of scale (CCFLA 2024; World Bank 2021).

On the insurer side, fragmented municipal demand and the limited fiscal capacities of EMDE cities reduce the attractiveness of these markets to insurers. Insurers require sufficiently large, diversified, and predictable portfolios to underwrite risk efficiently. However, risk fragmentation and municipal fiscal constraints create demand uncertainty, increase transaction costs, and expose insurers to lower-value deals and higher-frequency losses relative to premium volumes (InsuResilience 2023; World Bank 2021). These challenges are compounded by constraints on insurers' access to long-term affordable capital (Glemarec et al. 2025) and, in some cases, currency mismatches where premiums are denominated in local currencies while reinsurance contracts are priced in hard currencies (CCFLA 2023; Bassett 2024). As a result, insurers have limited incentives to participate in municipal markets, thereby constraining the supply of coverage and reducing affordability and uptake. Tax treatment of premium payments can also increase premium costs or incentivize suboptimal risk sharing between local insurers and international reinsurers (CCFLA stakeholder interviews 2026).

B.2 ENABLERS TO ADDRESS THE GAP

In this context, cities can strengthen their engagement with insurance markets by expanding fiscal space and improving financial management. Measures such as increasing own-source revenues through property taxes, user fees, or land value capture mechanisms can improve creditworthiness and the affordability of premiums. Another key enabler for cities is to adopt a risk-layering approach, i.e., formulate careful risk retention and transfer strategies to obtain cost-effective insurance coverage (World Bank 2010; Glemarec et al. 2025).

Cities can also pool risks across multiple municipalities to increase coverage volumes, reduce transaction costs, and enhance their negotiating power, leveraging economies of scale (IDF 2025; World Bank 2021). For example, the Urban Infrastructure Insurance Facility is developing tailored insurance products to transfer the cumulative risks into an insurance risk pool for up to 10 municipalities in Latin America and the Caribbean that leverage economies of scale and allow risk sharing between insurers and reinsurers to ultimately reduce cities' premium costs (ICLEI, n.d.).

Financial mechanisms involving partnerships with cities, national governments, and DFIs present a key enabler for insurers to improve the affordability and uptake of insurance.

Since private insurance is often too expensive for cities to afford on their own, broader public-private approaches, including risk-sharing and premium subsidies, help improve the availability, affordability, and uptake of coverage. In these models, national governments, DFIs, and insurers jointly structure markets through mechanisms. These can include national catastrophe pools, like the Philippine City Disaster Insurance Pool; blended finance facilities, such as the donor-backed Natural Disaster Fund; and public reinsurance backstops, like the French Caisse Centrale de Réassurance, which provides a state guarantee for natural catastrophes (NDF, n.d.; CCR 2026; ADB 2018). In many cases, targeted premium subsidies or co-financing arrangements at national or international levels, such as the G7 and V20's Global Shield against Climate Risks, are used to bridge remaining affordability gaps, especially targeting the most vulnerable populations (V20 2022).

Additional financing mechanisms can further expand market capacity and increase the quantum of risk insurers can underwrite. These include credit guarantees in local currencies to reduce credit and foreign-exchange risks for insurers, and insurance-linked securities, such as catastrophe bonds, to transfer extreme tail risks to global capital markets (IDF 2025; PIDG 2025; Reitmeier 2024). Further, to improve cities' insurability, insurers can also adopt impact underwriting approaches that incorporate city-level adaptation efforts into premium pricing, thereby lowering premium costs (Ingels et al. 2024; Eurofi 2025; IDF 2025).

C. GOVERNANCE AND REGULATIONS

C.1 BARRIERS CONTRIBUTING TO THE GAP

Governance structures and regulatory frameworks play a crucial role in shaping cities' access to insurance markets. In many EMDE cities, fragmented institutional responsibilities across planning, finance, infrastructure, and disaster risk management make it difficult to develop integrated risk management strategies or coordinate insurance procurement (Geneva Association 2020b; CCFLA 2021). At the same time, short political cycles and competing near-term priorities discourage investment in insurance, as premiums represent upfront costs for uncertain future benefits (CCFLA 2021). Procurement regulations may further limit cities' ability to enter into long-term contracts or aggregate demand, while reliance on ex-post disaster relief funding can create perverse incentives for cities, limiting the adoption of insurance as an ex-ante risk management tool (Lloyd's 2020; CCFLA 2021). Together, these factors constrain municipalities' ability to engage with insurance markets in a consistent and credible manner.

Capital adequacy frameworks and other insurance market regulations can limit insurers' willingness to hold risks that are poorly modeled or highly concentrated, which is often the case for climate risks in EMDE cities (Geneva Association 2020b; Lloyd's 2020; Chaplin and Adams 2024). In such contexts, legal and regulatory uncertainty around public-sector insurance arrangements may also restrict private insurers from directly offering coverage to municipalities, particularly where existing frameworks are not designed to accommodate municipal risk transfer (Noordhoek et al. 2022; World Bank 2021).

C.2 ENABLERS TO ADDRESS THE GAP

Cities need sustained political commitment at the subnational and national levels, allowing a whole-of-government approach to interface with the insurance market efficiently. This includes coordinating across planning, finance, and disaster risk management functions, establishing clear institutional roles and governance structures for risk management, and integrating insurance within budgets and risk management strategies (World Bank 2021). Regulatory reforms that enable municipal risk pooling and flexible, long-term procurement can also help create an enabling environment for municipal climate risk insurance. Such a whole-of-government approach can reduce regulatory uncertainty for insurers, enable long-term funding for premiums, and integrate insurance into multilevel disaster risk financing frameworks.

Insurers can engage with national and local regulators to develop institutional structures that overcome regulatory and market barriers to municipal climate risk insurance. These may include fronting arrangements that allow municipal governments to access insurance markets through licensed intermediaries (e.g., in the Philippine City Disaster Insurance Pool); insurer consortia to jointly underwrite large or concentrated risks, and binder facilities where municipalities and insurers pre-agree on preferential coverage terms to allow faster and standardized policy issuance (ADB 2018; World Bank 2021).

D. CAPACITY AND PRODUCT-MARKET FIT

D.1 BARRIERS CONTRIBUTING TO THE GAP

Municipalities often face challenges in understanding both the physical and financial dimensions of climate risks, including the broader socioeconomic consequences of inadequate risk management. This includes limited knowledge of climate risks and vulnerabilities, contingent liabilities, and the role of insurance, such as available products, pricing, coverage structures, and market dynamics (Lloyd's 2020; CCFLA 2021). These challenges may reduce municipalities' willingness to adopt insurance. Institutional factors, such as limited agency for disaster management and a culture of reliance on grants or fiscal transfers for ex-post disaster response, may further discourage municipalities from transferring risks associated with frequent extreme events (Lloyd's 2020). Even when municipalities recognize the risks, limited staffing capacity, technical expertise, and weak accountability mechanisms can reduce the ability of cities to act on this information and engage effectively with insurance markets (Surminski et al. 2019).

For global insurers, developing insurance products for markets in EMDE cities can be challenging due to limited local expertise, small and fragmented market demand, and high product development costs (World Bank 2025b). Additionally, existing insurance instruments may not be well tailored to municipal risk contexts. For example, premiums could be costly, and the availability of multi-hazard products may be limited (Ingels et al. 2024; Glemarec et al. 2025). Furthermore, parametric products involve basis risk, where payouts do not fully match actual losses, while traditional indemnity insurance may involve delays in claims assessment and disbursement, undermining trust and reducing uptake among municipalities (Viergutz 2024; World Bank 2025a; Schernberg 2026). Overall, these

barriers may reduce insurers' ability and incentives to enter EMDE markets with affordable products for cities.

D.2 ENABLERS TO ADDRESS THE GAP

Strengthening institutional capacity can enable cities to act as more informed and credible counterparts to insurers. Capacity-building initiatives and technical assistance can help municipal officials strengthen their understanding of climate risks, financial risk management, and insurance markets. This includes building capacities to assess risk, evaluate insurance options, and integrate risk transfer into fiscal planning and resilience strategies, as well as supporting the use of insurance in project-level and infrastructure financing decisions.

Insurers can improve product-market fit by working with cities to co-design insurance solutions tailored to urban risk contexts and the needs of vulnerable communities. This includes enhancing transparency around coverage terms, pricing, and payout mechanisms, and adapting products to better reflect municipal risk profiles and time horizons (Lloyd's 2020; Viergutz 2024). In many cases, insurers can improve product-market fit by introducing differentiated pricing structures or solidarity pricing to expand access to insurance among underserved and high-risk populations (Schernberg 2026). Overall, greater engagement with cities can reduce information asymmetries, build trust, and support the development of more accessible and inclusive insurance solutions.

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