



# **Bridging the Climate Risk Protection Gap: The Role of Public-Private Partnerships**

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## INTRODUCTION

The climate risk protection gap is an increasingly urgent concern worldwide. The widening gap between insured and actual losses from climate-related events has drawn significant attention from civil society, public authorities, regulators and the insurance sector.

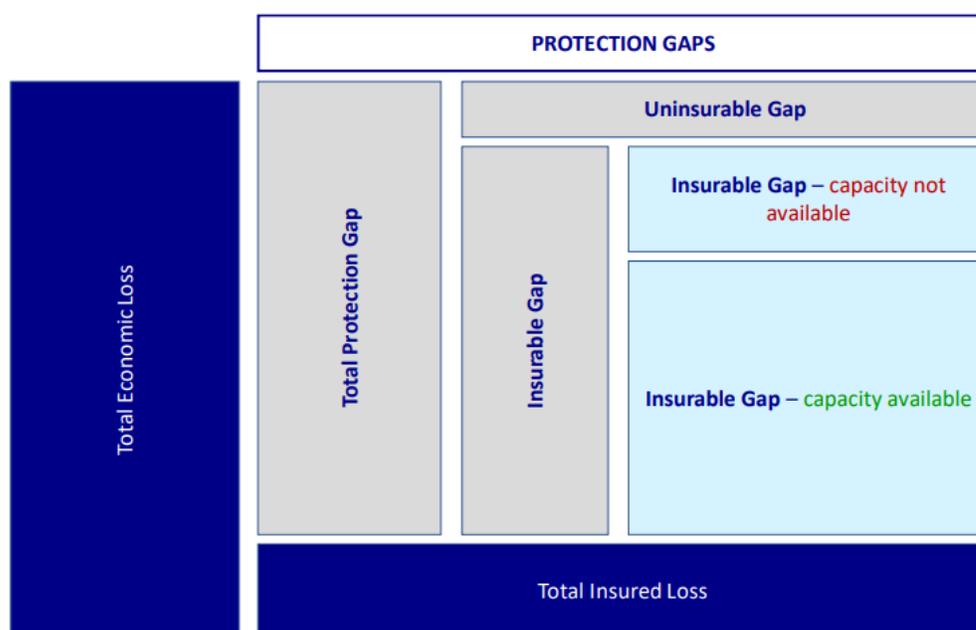
Multistakeholder working groups have been established and continue to operate, reflecting the collective effort to address this pressing issue. These groups, composed of representatives from government, regulatory bodies, the private sector and civil society are essential for fostering collaboration and aligning objectives. Public-Private Partnerships (PPPs) are a natural extension of this multistakeholder approach. By combining the strengths and resources of both the public and private sectors, PPPs can ensure the availability of financial resources and effectively reduce vulnerabilities to climate risks.

This paper delves into the potential of PPPs as a pivotal solution to bridge the climate risk protection gap, demonstrating how collaborative efforts can lead to more resilient and adaptive responses to the growing challenges posed by climate change.

# 1. THE CLIMATE RISK PROTECTION GAP

The protection gap refers to the disparity between economic losses from climate-related events and the extent to which these losses are covered by insurance. This gap represents a share of non-insured economic losses after such events, signifying the need for additional measures to reduce climate-related impacts and as such to increase the resilience of societies.

It is crucial to differentiate between uninsurable risks (which do not meet insurance criteria) and insurable risks, which may be uninsured due to capacity constraints or other factors. Furthermore, to understand the gap, it is important to differentiate available data in respect of hazards being considered.



Source: Global Federation of Insurance Associations (GFIA)

## Rising economic loss

The World Meteorological Organization (WMO) has observed a significant rise in economic losses due to climate risk. Adjusted for inflation, reported losses were \$184 billion in the 1970s.<sup>1</sup> This compares to \$1.5 trillion in the last decade and since 2016, the global economic losses from natural disasters exceed \$200 billion per year.<sup>2</sup>

<sup>1</sup> WMO: [HHRG-118-JU05-20240612-SD010-U10.pdf \(house.gov\)](#)

<sup>2</sup> Munich Re: [Natural disaster risks - Rising trend in losses | Munich Re](#)

With climate change causing hazard intensification, asset accumulation and ever more people living in high-risk areas, impacts from natural catastrophes will only continue to grow. Conservative estimates suggest that 3°C global warming could result in an annual loss multiplying with a factor of at least 140 in Europe.

## Insurance Coverage of Natural Catastrophes

In 2022, global economic losses from natural catastrophes amounted to \$275 billion, but only 45% (\$125 billion) were insured. By 2023, this coverage dropped to 38% of \$280 billion in losses, leaving a significant protection gap for millions of households and businesses.<sup>3</sup>

The factors contributing to the protection gap vary by region and insurance market, influenced by limited risk awareness, local economic conditions and affordability of insurance, insurance distribution constraints and regulatory environments, climate risk exposure and the availability of insurance and reinsurance capacity.

As the risk grows, market failures will be magnified and the protection gaps are growing, leaving society exposed.

## Regional Insights

In the EU, climate-related economic losses average over €12 billion annually.<sup>4</sup> The European Insurance and Occupational Pensions Authority (EIOPA) reports a persistent protection gap in the European Economic Area (EEA), with currently only about 25% of natural catastrophe losses insured. Specifically, in Belgium, of economic losses from 1980 to 2022 (€16.2 billion), only 39% were insured.<sup>5</sup>

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<sup>3</sup> Swiss Re: [Natural catastrophes and inflation in 2022: a perfect storm - Swiss Re sigma | Swiss Re](#)

<sup>4</sup> European Commission (02/2021): [Closing the climate protection gap – Commission Staff Working Document - European Commission \(europa.eu\)](#)

<sup>5</sup> European Environment Agency, 10/2023: [Economic losses from weather- and climate-related extremes in Europe | European Environment Agency's home page \(europa.eu\)](#)

## 2. CONSEQUENCES OF THE CLIMATE RISK PROTECTION GAP

Climate-driven events pose significant risks to private and public assets and economic activities, leading to severe economic disruptions, financial instability and fiscal pressures.<sup>6</sup> These events slow down the economy by reducing production, spending, and investment, which lowers GDP growth, while also straining financial institutions through increased loan defaults and diminished collateral values, and burdening national budgets with higher public spending and increased debt.

### Economic Impact

The financial burden falls heavily on individuals, businesses, and governments. This can lead to severe economic disruptions. For example, uninsured households might struggle to rebuild their homes or replace lost possessions, and businesses might face difficulties restoring operations. Consequently, the economy slows down as not only production, but also spending and investment decrease, leading to lower GDP growth. For example, a large-scale disaster causing over 0.1% of GDP worth of direct losses can reduce GDP growth by around 0.5 percentage points in the quarter of impact if the share of insured losses is low, i.e. below 35% of the total. The adverse effect on GDP growth also persists over the subsequent three quarters. However, if a high share of damages is covered by insurance, the indirect impact on GDP growth may be significantly reduced.<sup>7</sup>

### Financial Stability

This financial strain can prevent people from paying back loans or mortgages, which in turn affects banks and the wider financial system. Physical damage to assets can diminish collateral values and necessitate the repricing of loans and securities, especially for institutions with high exposure to high-risk areas. Disruptions in supply chains due to physical risks can result in substantial losses for both the real economy and financial institutions' balance sheets.

### Fiscal Pressure

Moreover, the protection gap can strain national budgets. When governments have to step in (be it for their explicit or implicit liabilities) to fund reconstruction and provide financial support to those affected, it can lead to higher public spending and lower tax revenues. This additional financial burden can reduce funds available for other essential services, such as healthcare and education. Additionally, the costs of rebuilding and recovery can lead to increased borrowing and higher national debt. Over time, this can put upward pressure on inflation, as more money is spent within the economy without a corresponding increase in goods and services.

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<sup>6</sup> This paper addresses the climate risk protection gap with focus on material and financial losses. While the human aspect, all or not expressed in monetized value, is acknowledged as the most severe consequence, it is intentionally left out of scope.

<sup>7</sup> EM-DAT (the International Disaster Database, Centre for Research on the Epidemiology of Disaster) 2021 – reference by EIOPA and ECB “policy options to reduce the climate insurance protection gap”, 04/2023

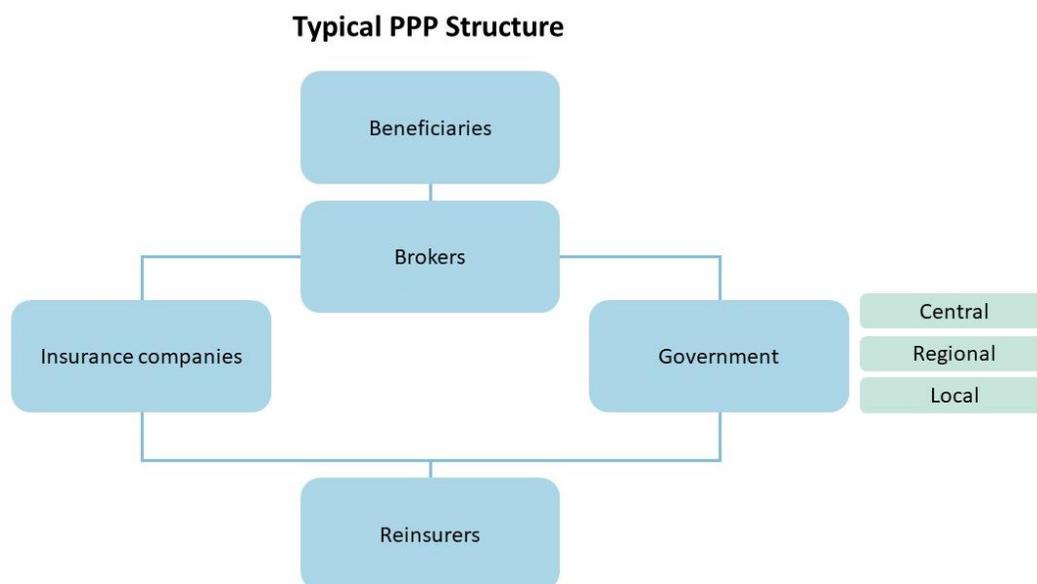
### 3. FOUNDATIONS FOR PUBLIC-PRIVATE PARTNERSHIPS (PPPs)

Given the scale and complexity of these challenges, addressing them effectively necessitates a collaborative effort, with governments playing a crucial role. The financial support from federal and regional governments, combined with interventions from insurance and capital markets, can be effectively managed through a PPP insurance scheme.

An insurance PPP is a contractual agreement between the public sector — represented by a ministry or local authority through a government program — and the private sector, represented by the insurance industry along with its service providers and distribution partners. This partnership merges business objectives with public policy goals in a cost-efficient and effective manner. Public support enables the insurance market to participate, and the financial protection ventilates the government as ‘insurer of last resort’.

PPP schemes involve collaboration to share resources, thereby leveraging the strengths of the involved partners to better understand, mitigate, and finance risks. As a result, climate risks become more insurable, and efforts for adaptation to these risks are enhanced. In other words, PPPs act reactively, providing ex-post compensation, but also incentivize proactive ex-ante measures and encourage behavioral change.

Notably, insurance schemes can hold equalization reserves that grow when not utilized, facilitating increased financial protection in the face of expected growing exposure to climate risks.



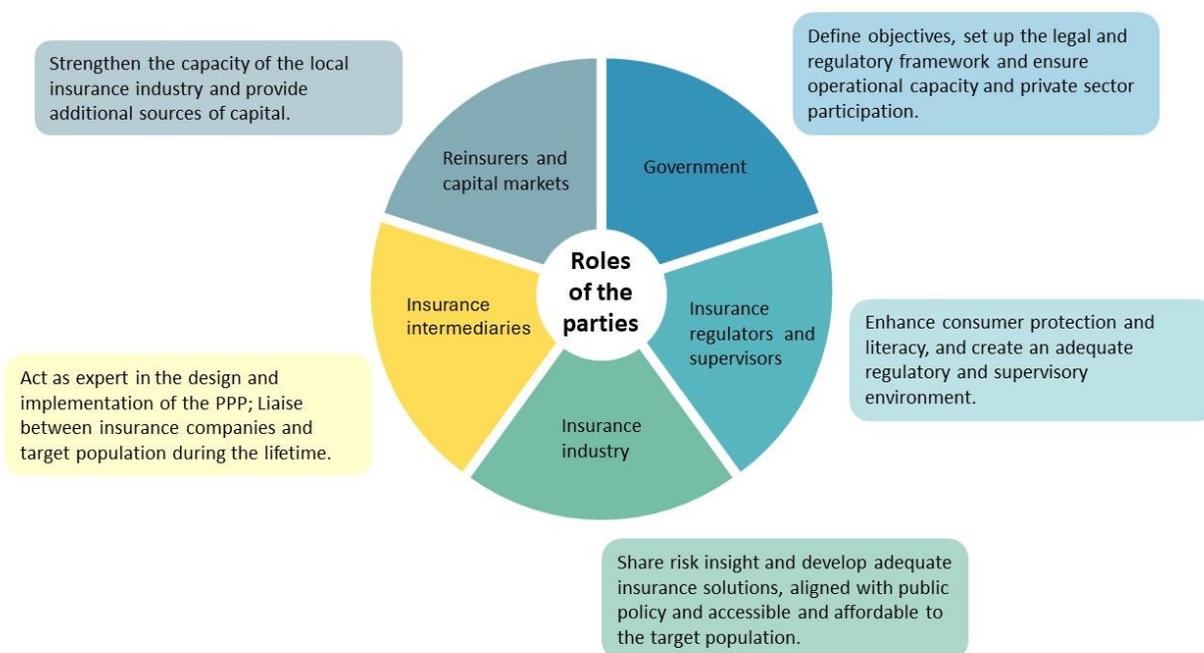
## Prerequisites for a PPP

Before initiating a PPP, several foundational elements must be established to ensure the partnership's success. These prerequisites form the bedrock upon which effective and sustainable PPPs can be built:

- **Clear Objectives and Institutional Structure:** Define the objectives clearly, such as providing budget certainty, increased inclusion, pre-disaster insurance, post-disaster assistance or risk mitigation and adaptation. Establish a transparent institutional structure that delineates responsibilities and accountability mechanisms.
- **Risk Understanding and Modelling:** Utilize historical and granular data and climate projections for accurate future risk modelling. Assess areas and populations that are underinsured or uninsured, and evaluate the financial impact of these gaps on overall disaster recovery.
- **Pro-active Engagement for Risk Prevention and Adaptation:** Promote climate risk defense solutions and ensure preparedness and response through education and appropriate communication channels. Aim to limit the future exposure and the continued ability of the insurance sector to provide coverage (e.g. adequate building codes and land-use planning). Insurance policies can enhance risk improvement through e.g. 'build back better' schemes or defining the variability of deductible or premium.
- **Government and Industry Operational Capacity:** Both the government and the insurance industry must have the necessary operational capacities. The government needs a robust understanding of insurance mechanisms at various levels, while the local insurance industry should have adequate operational and capital capacity. Risk should be distributed among stakeholders, preventing a single entity from bearing disproportionate risk and ensuring a sustainable solution. Risk retention and financing strategy should be thoroughly analyzed.
- **Infrastructure and Data Availability:** Critical infrastructure, like weather stations must be in place. Additionally, reliable data collection and IT systems are essential for efficient operations.
- **Legal and Regulatory Framework:** A well-defined legal and regulatory framework provides certainty to all parties involved. The framework refers to laws and regulations that underpin the PPP program, enable the government to enter into PPPs, and set the rules and boundaries for how PPPs are implemented. This can include PPP-specific legislation, other public financial management laws and regulations, and insurance-specific laws and regulations. It should in any case include transparent tendering processes, dispute resolution mechanisms and consumer protection measures.
- **Sustainable Financing:** Develop a sustainable financing scheme. The ultimate goal is to correct market failures and ensure the affordability of insurance products. Additionally, the program needs to be economically viable for the insurance market, ensuring that insurers can operate sustainably as economic actors. This involves creating a balanced approach where both public support and private sector engagement are optimized to maintain long-term financial stability and effectiveness of the insurance products.

## Roles of the Parties

In a PPP for insurance, the roles and responsibilities of each stakeholder must be clearly defined to ensure smooth operations and achieve the partnership’s objectives. Transparency is as important for success.



- Government:** The government plays a critical role in defining objectives, setting up the legal and regulatory framework (e.g. to mandate provision or purchase of certain insurance), and ensuring the operational capacity to oversee and monitor the partnership. It also provides incentives to encourage private sector participation. Responsibilities of different governmental levels should be clarified. Federal governments may provide overarching regulation and financial support (e.g. under the form of a financial guarantee), while regional authorities handle implementation and enforcement. European bodies can offer guidelines and coordination for cross-border issues.
- Insurance Regulators and Supervisors:** They can create the environment that supports innovation while ensuring that risks to consumers are mitigated and balanced with the sustainability of the PPP, including by applying proportionality to regulatory and supervisory approaches. They can play a role as a bridge, not only between the insurance industry and policymakers, but also towards consumers, by supporting financial literacy and awareness efforts.

- **Insurance Industry:** The insurance industry holds data and tools to make risk information available to the other stakeholders, thereby supporting risk-informed decision-making. Furthermore, insurance companies are responsible for developing and managing the insurance products, underwriting risks, and settling claims. They must work closely with the government to align products with public policy objectives and ensure they are accessible and affordable for the target population.
- **Insurance Intermediaries:** Re-insurance and insurance brokers are indispensable as they play a crucial role in the design, implementation and operational phases of PPP schemes, both in their role as risk and insurance advisor and as distributors. Leveraging their data-analytics and risk expertise, experience and access to (re-)insurance and capital markets, intermediaries contribute significantly to crafting robust frameworks that align business objectives with public policy goals, thereby enhancing overall risk mitigation and financial resilience. Moreover, intermediaries serve as vital connectors between insurance companies and the target population. They facilitate effective communication, raise awareness about available insurance solutions tailored to climate risks, and ensure that beneficiaries grasp the benefits and processes associated with these products. This proactive role not only boosts market penetration and affordability but also promotes widespread understanding and adoption of insurance as a crucial tool for climate adaptation. Furthermore, insurance intermediaries play a pivotal role in managing claims, ensuring smooth and efficient service delivery during critical post-disaster periods. By providing ongoing support and guidance to policyholders throughout the claims process, intermediaries facilitate prompt compensation and expedite recovery efforts, thereby reinforcing community resilience against climate-related disruptions.
- **Reinsurers and Capital Markets:** Reinsurance companies play a pivotal role in bolstering the capacity of the local insurance industry by assuming substantial or high-risk segments. Their support enhances the overall stability and sustainability of the program. Additionally, capital markets, particularly through instruments like catastrophe (cat) bonds, contribute by providing alternative sources of capital that can be mobilized quickly in the event of catastrophic losses, further protecting both the government's and the insurers' balance sheet and thereby strengthening the resilience of the program. These combined efforts ensure robust risk management and financial support against climate-related events.

## Parameters for Customized Design

The design of a PPP in insurance should be tailored to meet the specific needs and context of the target population, political priorities, risk appetite and financial constraints. Steps to define these parameters include:

- **Risk Assessment:** Conduct comprehensive risk assessments to understand the market failure in respect of specific exposures. This involves gathering historical data, demographic and risk maps as well as projecting trends. Each scheme is tailored to address specific climate risks, such as riverine floods, windstorms and/or droughts predominant in the region it serves. Besides frequency and severity, it is important to assess the correlation of hazards to understand the full scope of potential risks.

- **Target Population Segmentation:** Referring to the risk assessment, define and segment the target population based on geographical, demographic, behavioral, or socio-economic parameters. This ensures that the insurance products are tailored to meet the specific needs and conditions of different segments. Consider exposures to specific assets, such as commercial or residential properties, or public infrastructure.
- **Product Design:** Design insurance products that are affordable, accessible, and provide meaningful coverage. Criteria to be considered are:



- Risk transfer mechanisms
  - **Traditional Insurance and Reinsurance:** Standard insurance policies can be utilized, where primary insurers take on the initial risk, and reinsurers provide a secondary layer of coverage. This setup helps spread the risk among multiple parties, reducing the burden on any single insurer.
  - **Catastrophe Bonds:** These financial instruments allow insurers to transfer risks to the capital markets. Catastrophe bonds provide coverage for low-probability, high-severity events and are triggered when a predefined event occurs, such as a natural disaster exceeding certain loss thresholds.
  - **Government-Backed Funds:** Governments can establish special funds to provide coverage for risks that are challenging for the private market to insure. This approach can include offering direct subsidies, guarantees or borrowing conditions to reduce the financial burden on insurers and policyholders.

- **Obligation to Sell and Purchase Insurance**  
 Government mandates can play a significant role in the uptake of insurance products. These mandates may include:
  - **Obligation to Sell:** Requirements for insurers to offer specific insurance products, ensuring availability in the market.
  - **Obligation to Purchase:** Policies can be mandatory all or not for certain groups, such as residents in high-risk zones or those taking out mortgages.
- **Product Type**  
 The insurance product can be designed as:
  - **Standalone:** A separate insurance product that covers specific risks independently.
  - **Bundled:** Combined with other insurance products, such as property insurance, to provide comprehensive coverage.
- **Premium Structure**  
 The pricing of insurance premiums is a critical component, impacting affordability and accessibility. Premiums can be structured in various ways:
  - **Fixed Premiums:** A set percentage of the property value or other base measures.
  - **Risk-Reflective Premiums:** Pricing based on the specific risk profile of the insured property, reflecting factors such as location, historical loss data, and mitigation measures.
- **Capital structure of the PPP**  
 Funding mechanisms for the program could include:
  - **Premium Contributions:** Collected from policyholders, with options for voluntary or mandatory participation.
  - **Taxation:** Levying taxes on premiums or other financial instruments to create a pool for funding payouts.
  - **Government Guarantees:** Providing financial backing to insurers or reinsurers, reducing the overall risk exposure.
- **Policy Limits and Claim Processing**  
 Defining policy limits and the process for handling claims is essential for managing expectations and ensuring timely payouts:
  - **Policy Limits:** Establishing maximum payouts to manage the program's financial exposure.
  - **Claims Processing:** Standardized procedures for assessing damages and determining payouts. This includes defining payout triggers, which may be event-based (e.g. a statement on the catastrophic nature of the occurrence) and/or damage-based (assessment of loss).

- **Additional Risk Mitigation Strategies**

To enhance the program's effectiveness, additional risk mitigation strategies can be implemented, such as:

- **Public Awareness Campaigns:** Educating the public on risk reduction and the importance of insurance coverage.
- **Incentives for Risk Reduction:** Offering premium discounts or other incentives, such as lower deductible for implementing risk mitigation measures, like building reinforcements or adopting resilient infrastructure practices. Alternatively, policies could include additional compensation for improvements when rebuilding after a loss.

- **Evaluating Trade-offs**

Designing a PPP insurance product and defining the criteria thereof involves balancing various trade-offs. It is key, to remain guided by the objectives and priorities, such as:

- **Market Failure Addressal:** Ensuring the product addresses gaps in the private insurance market, such as underinsurance or lack of coverage for certain perils.
- **Insurer Participation:** Creating conditions that encourage insurer participation, such as adequate risk pooling and government support.
- **Financial Sustainability:** Developing funding mechanisms that ensure long-term sustainability without overburdening public finances or taxpayers.

- **Communication and Education:** Implement robust communication and education strategies to raise awareness about the insurance products and their benefits. This includes promoting the value of insurance, explaining coverage details, and building trust among beneficiaries.
- **Technology Integration:** Leverage technology to improve the efficiency and reach of insurance programs. This can include mobile platforms for premium collection and claim processing, as well as data analytics for risk assessment and product design.
- **Long-Term View:** Design the program with a long-term perspective, focusing on sustainable risk financing and continuous adaptation to changing risk landscapes. This implies performance assessments, but equally reevaluation of the design through regular updated risk assessments, insurance products, and regulatory frameworks to reflect new data and evolving risks. Success indicators promote accountability and track progress. Nevertheless anticipate termination of the PPP with baseline studies and independent analysis. Termination management should ensure smooth transitions, addressing challenges like maintaining continuity and finding new partners to adapt to evolving needs.
- **Monitoring and Evaluation:** Establish clear indicators and protocols for monitoring and evaluating the program's performance. Regular assessments help identify areas for improvement and ensure that the objectives are being met effectively.

## 4. CONCLUSION

Bridging the climate risk protection gap is critical for building resilient communities and sustainable economies. Through innovative PPPs and comprehensive risk management strategies, stakeholders can collectively mitigate the impacts of climate change and ensure a safer future. A PPP brings forward three key categories of solutions: risk reduction via prevention, mitigation and adaptation; increasing insurance penetration; and a range of risk financing approaches to reduce protection gaps.

As different stakeholders have different motivations, it is essential to have a well-understood connection between a protection gap estimate and a policy objective. Through the involvement of risk advisors and insurance brokers, understanding the diverse views and motivations of stakeholders can support consensus building, meaningful change and progress. Illustration of various existing schemes and criteria used in their design and more importantly lessons learned through their set-up are extremely valuable to develop a next PPP even more efficiently.

The expertise of BVVM-UPCA's members can be instrumental in bridging the protection gap. Relying on their data, modelling techniques, market access and actual experience with various PPP, their value serves both the private insurance market, as the government in the various phases of the PPP lifecycle, from diagnosing the issue, to outlining options and designing the solution, to implementation and ongoing operation thereof.

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V.Z.W. opgericht volgens de wet van 27 juni 1921, per onderhandse akte van 15 maart 1990  
A.S.B.L. constituée suivant la Loi du 27 juin 1921, par acte sous seing privé du 15 mars 1990