

WORKING PAPER

ADDRESSING CLIMATE and DISASTER RISK through INCLUSIVE and PARTICIPATORY MECHANISMS

Developed by SLYCAN Trust

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KEY TAKEAWAYS

- **Climate and disaster risk** emerges from the interaction of hazards, exposure, vulnerabilities, and lack of coping and adaptive capacities.
- To address this, a **comprehensive risk management strategy** includes different elements such as risk prevention, risk reduction, risk transfer, and risk retention.
- Key considerations on risk management also include the **roles and responsibilities of stakeholders** from various levels and sectors as well as **cross-cutting issues** including social protection, gender, youth, just recovery, just transition, and others.
- **Development of inclusive and participatory risk transfer mechanisms** needs to take into account policies and the enabling environment, access to information and technology, private sector, community engagement, and local knowledge.
- **Risk transfer is not a stand-alone solution** and has weak points, but it can be part of a risk management framework on the micro, meso, or macro-level.
- Key functions of inclusive and participatory risk transfer mechanisms revolve around **scope, functionality, benefits to communities, and additional co-benefits** such as financial access, risk reduction, development, coordination, data availability, and multi-stakeholder cooperation.

The impacts of climate change increasingly undermine efforts of sustainable development and the reduction of poverty. Climate and disaster risk finance and transfer mechanisms are key components of any comprehensive risk management framework to address these issues. If they are designed appropriately to cater to the needs of the most vulnerable communities, they can enhance the implementation of climate action, enable more resilient and sustainable economic development, and protect lives, livelihoods, businesses, public finances, and infrastructure.

Inclusive and participatory risk transfer mechanisms support climate action and adaptation measures, but they are also critical tools in addressing unavoidable losses and damages. In both cases, the nature of risk must first be understood and evaluated to identify effective, evidence-based approaches that can be scaled up and institutionalized through policies, legislations, processes, and mechanisms such as the Nationally Determined Contributions (NDCs), the National Adaptation Plan (NAP) process, the Warsaw International Mechanism for Loss and Damage (WIM), or the Sendai Framework.

Developing countries in particular require financial, technical, and capacity support to address loss and damage, enhance implementation of actions, integrate focus areas of the WIM into their national mechanisms, and update NDCs with comprehensive climate risk management frameworks that take into account climate-induced loss and damage. It is vital for developing countries to manage climate and disaster risk proactively and efficiently to not compromise the implementation of development plans and achievement of SDGs, protect vulnerable populations, and access finance, technology, expertise, and capacities.

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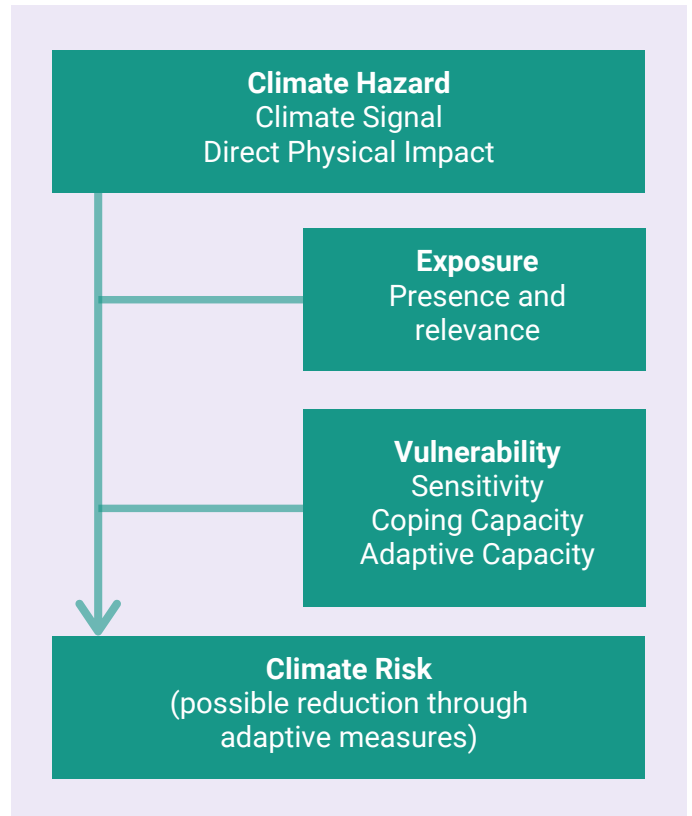
The IMPACTS of CLIMATE CHANGE

Climate-Related Hazards and Impacts

Hazards can be **classified into clusters based on their type**, such as biological hazards, hydro-meteorological hazards, technological hazards, geohazards, chemical hazards, environmental hazards, extraterrestrial hazards, and societal hazards. The most common climate-related hazards include **sudden-onset weather events** such as floods, prolonged droughts, high winds, storms, or tropical cyclones as well as **slow-onset processes** such as sea level rise, soil degradation, salinization, or loss of ecosystem services. These climate extremes interact with factors such as population, exposure, poverty, urbanization, education, resources, access, inclusion, and social protection to present different kinds of risks.

Climate and disaster risk results from the exposure of vulnerable populations or assets to hazards that have the potential to adversely impact them. Direct physical impacts lead to intermediate economic and non-economic impacts, forming causal chains between the hazards and their short- and long-term effects. Hazards can occur simultaneously, in cascades, or cumulatively over time, and have interrelated effects that exacerbate and multiply impacts on human populations or the environment.

The rising frequency and severity of climate-related hazards is increasing vulnerabilities and risks



across the world. The destruction of infrastructure and assets as well as shocks to crop and livestock markets are causing serious damages to the world's economies, particularly to resource- and weather-dependent developing countries. It is more difficult to quantify and put a value on loss of lives, loss of livelihoods, and indirect cultural and societal impacts such as climate-induced migration, displacement, loss of social cohesion, loss of territory, loss of indigenous and traditional knowledge, loss of cultural heritage, loss of biodiversity, and degradation of ecosystems and habitats: but these impacts are nonetheless substantial and need to be addressed.



Key Stakeholders and Vulnerabilities

Climate and disaster risk affects economies, societies, and ecosystems on different scales. **Key stakeholders include policy-makers and government officials, private sector, practitioners, civil society organizations, community-based organizations, academia and research entities, local communities, media, youth, and women.** Sectors such as agriculture, livestock, fisheries, water resources, health, and human settlements are highly vulnerable to climate impacts, as are different actors along the supply and value chains.

In the **agriculture sector**, for example, key stakeholders include the relevant government departments, extension services, and farmers, but also other supply chain actors from input providers to farm labourers, millers, transporters, storage facilities, agrobusinesses, wholesalers, retailers, and MSMEs. In addition, climate risk is also a factor that affects supporting institutions such as banks, insurance providers, or weather services, and community ecosystems that include the families of farmers and youth in farming communities.

Hazards and needs change based on the level of vulnerabilities and exposure of geographical areas and economic sectors. In the agriculture sector, factors related to soil degradation and management, water availability, irrigation, crop varieties and livestock breeds, farming practices, cultivation strategies, mechanization, gender, age, education, other demographic characteristics, access to information, financial literacy and inclusion, and social security need to be considered when assessing risk. Climate action, resilience-building, and risk management should be responsive to demographic issues, language barriers, availability of resources, and the needs and capacities of farmers on the ground.

On the one hand, smallholder farmers, fishing communities, MSMEs, female entrepreneurs and small business owners, the tourism industry, migrant and informal workers, day labourers, small industries, shopkeepers, and the transport sector are **among those highly vulnerable to the impacts of climate change**. On the other hand, they are **drivers of socioeconomic growth and contribute a**



percentage of GDP and employment in most developing countries. Enhancing their resilience and managing risk in these sectors is imperative to achieving the goals of the Paris Agreement and the Agenda 2030 for Sustainable Development.

Despite growing awareness and international efforts, **adequate financial protection through climate insurance and other risk transfer mechanisms is still lacking in many local contexts**, making it hard for farmers and small businesses to recover after extreme events and disasters.

YOUTH and CLIMATE RISK

Children and youth have differential and heightened vulnerabilities to climate-related hazards and long-term processes. Due to their development needs, immature physiological defense systems, and dependence on adult support, they lack the coping and adaptive capacities that would allow them to manage climate risk.

Climate change can affect nutrition and lead to wasting, stunting, and other nutritional deficiencies; it can cause injuries, illnesses, premature deaths, anxiety, depression, stress, sleep disorders, cognitive deficiencies and learning problems, feelings of helplessness and hopelessness, and a range of other physical and mental health issues; it can reduce children's ability to attend school and pursue their education, limit employment opportunities for youth, and destabilize their livelihoods; it can be an underlying driver of migration and deteriorate social cohesion; and it contributes to the degradation of ecosystems and the natural environment, material and immaterial heritage, traditions, cultural bonds, and ways of life.

ADDRESSING CLIMATE and DISASTER RISK

Comprehensive Risk Management

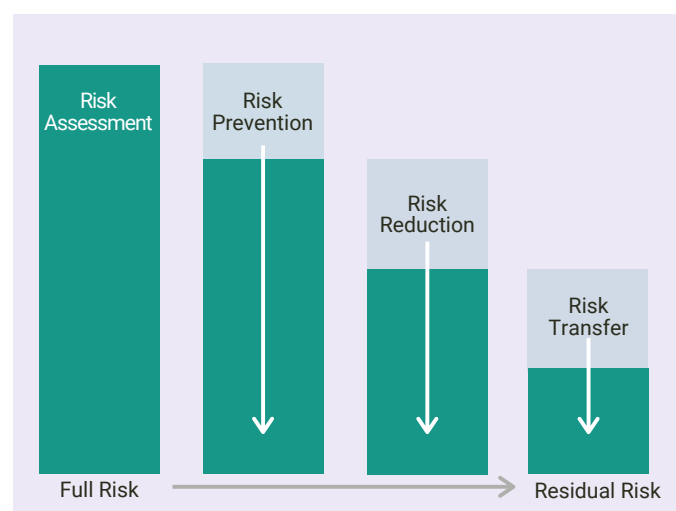
Climate and disaster risk emerges from the interaction of **hazards, exposure, vulnerabilities, and lack of coping and adaptive capacities**. If risk is not properly managed, ad-hoc coping strategies often lead to loss of vital assets, employment, and livelihoods, create poverty traps, and put additional pressure on public resources. A comprehensive risk management framework addresses the different elements of risk through measures related to:

- **Risk awareness** (e.g. assessments, analytics)
- **Risk prevention** (e.g. policy and regulations, land use planning, reducing exposure)
- **Risk reduction** (e.g. technical measures, forecasting, preparedness)
- **Risk transfer** (e.g. [re]insurance, cat bonds, weather derivatives)
- **Risk retention** (e.g. contingency reserves or loans, calamity funds, budget reallocation)

This enables communities, sectors, and societies to understand and reliably manage the inherent uncertainty of climate-related risk and minimize losses and damages.

National risk management frameworks can adopt best practices and learn from experiences around the globe to optimize mainstreaming climate and disaster risk into laws, policies, actions, and development plans. However, they also need to be localized and adapted to local circumstances. Beyond merely addressing hazards, holistic risk management frameworks should acknowledge and **address vulnerabilities and sensitivities in a participatory and inclusive manner**.

These mechanisms should focus not only on current but also on future risks as well as on the interactions between different kinds of risks, including those related to market factors or shocks such as the COVID-19 pandemic.



Recommendations for comprehensive risk management include the following:

<u>Governance, institutions, and policy</u>	<u>Finance and technology</u>	<u>Implementation</u>
<ul style="list-style-type: none"> • Mainstreaming risk management into policies and processes, including the NDCs, NAPs, and development plans • Streamlining risk management and scaling across different levels, from individual communities to national governments • Revitalizing risk management strategies into dynamic and multisectoral socio-economic development interventions • Exploring inter- and transdisciplinary approaches across different sectors • Covering formal economic sectors but also informal, undocumented, or unregistered workers, day labourers, migrants, unemployed family members, and communities • Improving or supporting adaptation to climate change 	<ul style="list-style-type: none"> • Bundling resources to address climate risk and development in a coherent way • Investing in technological advancements and capacity-building • Utilizing new and frontier technology such as remote sensing, digital and mobile platforms, distributed ledger technology, blockchain, machine learning, artificial intelligence, internet of things, or big data • Supporting existing local practices and providing finance directly to communities to strengthen actions on the ground level • Reducing overhead costs and strengthen implementation on the ground level 	<ul style="list-style-type: none"> • Managing risk along supply and value chains and reducing inefficiencies and wastage • Identifying and involving local actors and community champions • Utilizing local-level tools and interventions such as land use regulations, building codes, and environmental management • Including non-structural measures such as using information, training, and assessments • Incorporating local and indigenous knowledge • Addressing covariate shocks and risks and allowing for flexible horizontal expansion of beneficiaries of risk transfer schemes • Strengthening the incorporation of agro-meteorological advisory and climate risk information into decision-making processes at local level, for example seasonal farmer meetings

Stakeholder Roles and Responsibilities

Different stakeholders have **unique capacities and mandates** with regard to climate and disaster risk management. However, they also share a responsibility and commitment to holistic risk management, risk transfer, and risk pooling. Shocks to sectors such as agriculture have the potential to ripple through the entire economy and cause collective and compound losses on a societal level, not only to individual farmers.

Collaboration and coordination of governments and other actors is necessary to achieve global and national agendas in terms of risk preparedness and awareness creation, climate change mitigation, adaptation action, and addressing loss and damage. Multi-actor partnerships can address institutional limitations with regard to capacity and expertise, lack of foundational understanding of certain topics, lack of risk knowledge, effective early warning services, and limited capacities of dissemination and response.



Government entities provide enabling conditions and frameworks for other actors to work in and have a large institutional reach. However, there could be a need for enhanced specialized technical knowledge, sophisticated risk modelling, access to technology, knowledge base, or trained personnel. Multi-actor partnerships could contribute to addressing these needs through contributions made by other stakeholders such as the private sector, CSOs, research entities, and other relevant actors for data collection, monitoring, evaluation, and implementation of actions and plans. Governments could establish central coordination structures to address risk in a holistic way, look at successful models, and apply them to local contexts. These could provide local community actors with data and forecasts and help build a better understanding of climate risks and climate-induced loss and damage. In addition, governments can provide institutional support to lower insurance premiums and generate more accurate climate and crop data.

Civil society, CSOs, and NGOs are able to contribute to evidence-based policies and the development of risk transfer mechanisms which are based on grassroot-level vulnerabilities. They could contribute to enhancing the contribution of evidence from local communities to national processes, financial literacy and education, as well as climate and disaster risk management including risk transfer. The interactions with communities during ground-level work as well as research and knowledge management activities of CSOs and similar actors could contribute to scaling up the availability of information and data and assist in including local-level information into decision-making processes. Such activities could support the quantification of losses and damages incurred, and facilitate integrating of these components to National Adaptation Plans, Nationally Determined Contributions, and other relevant processes.

The private sector could contribute technical expertise and finance for risk assessments and risk management. Financial institutions can develop a competitive advantage by identifying and acting where they have significant impact, but they might need assistance in scaling up technology and distribution and address the needs of vulnerable communities without a clear business case.

MULTI-STAKEHOLDER ENGAGEMENT and MULTI-ACTOR PARTNERSHIPS

Creating sustained **multi-actor partnerships** can be a key element of developing and implementing climate and disaster risk transfer and finance. Multi-actor partnerships are a formalized way to establish a structure of cooperation, coordination, knowledge-sharing, pooling resources, and avoiding duplication of efforts. Through collaborative processes, the vast complexities and interrelations of climate risk can be addressed in a holistic manner that takes into account the full range of issues and aspects.

Following are some of the **key elements of multi-actor partnerships**:

- Opening and enhancing communication channels and dialogue forums
- Creating collaborative and adaptive management structures and iterative planning cycles
- Ensuring transparency and accountability and establishing monitoring & evaluation frameworks
- Establishing learning and knowledge-sharing mechanisms
- Mapping value propositions of the partnership

Local community-level actors, including vulnerable communities, youth, and women, are often the most exposed, act as first responders in case of disasters, and have the ability to collect data on a community- or household-level. They have access to traditional or indigenous knowledge and can create awareness and trust among communities to support the implementation of risk management.

Academia, think tanks, and research institutions are providers of knowledge and training with a potential role in data collection, capacity-building, awareness creation, and outreach. Similar to CSOs, they could contribute technical expertise to the development of evidence-based policies and mechanisms, conduct risk assessments, and contribute through participatory processes to the development of risk management solutions.

For any mechanism to address climate risk in a comprehensive way to **include and facilitate the active participation** of all stakeholders. Institutional arrangements, mechanisms, and platforms for discussion between different actors are key to ensuring participation and inclusion of all actors.

LOSS and DAMAGE in the CONTEXT of CLIMATE RISK MANAGEMENT

Risk transfer instruments such as climate insurance hold the potential to address climate-related losses and damages and shift risk away from vulnerable communities. To facilitate this, **issues of loss and damage can be incorporated into NDCs and mainstreamed into national policies**, but there seems to be limited guidance on how to do so. Many countries only have a limited understanding of loss and damage and struggle to quantify the economic and non-economic losses and damages that they experience. There is a lack of tools and methods to analyse losses and damages in depth as well as a lack of financial support to develop such tools and methods.

UNFCCC COP decision 3/CP.18 includes financial provisions for loss and damage, decision 2/CP.19 promotes enhanced actions supporting finance under the WIM, and decision 4/CP.22 demands for the UNFCCC Secretariat to develop a technical paper on sources of finance for loss and damage. Furthermore, there are provisions for loss and damage in the Paris Agreement. At the **Suva Expert Dialogue in 2018**, the need for involving local communities, understanding their experience of loss and damage, and integrating it into the risk assessment process was also recognized. Furthermore, the **Standing Committee on Finance** identified a combination of tools and instruments that are crucial to address climate-related losses and damages.



ADAPTATION and LOSS and DAMAGE

Adaptation measures are adjustments in ecological, social, or economic systems in response to the actual or anticipated impacts of climate change. It includes changes in processes, practices, and structures across various sectors and levels, and involves multiple stakeholders to reduce potential losses and damages or benefit from opportunities associated with climate change.

Conversely, **“loss and damage”** refers to the manifestation of economic and non-economic impacts related to climate change in developing countries that negatively affect human and natural systems. Loss refers to the complete and permanent loss of something while damage refers to something that can be repaired or recovered. In the context of climate change, loss and damage means the impacts of climate change exceeding the adaptive capacity of countries, communities, and ecosystems, as well as associated issues of liability and compensation.

The WARSAW INTERNATIONAL MECHANISM for LOSS and DAMAGE

The **Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts** was established along with its Executive Committee at the 19th Meeting of the Conference of Parties to the UNFCCC (COP19) in 2013. The WIM's main role includes addressing gaps in the implementation of comprehensive risk management approaches and enhancing actions and support to enable countries to implement comprehensive risk management to address loss and damages. **Article 8 of the Paris Agreement outlines potential areas** of cooperation and facilitation to enhance understanding, action, and support: Early warning systems; emergency preparedness; slow-onset events; events that may involve irreversible and permanent loss and damage; comprehensive risk assessment and management; risk insurance facilities, climate risk pooling, and other insurance solutions; non-economic losses; and resilience of communities, livelihoods, ecosystems.

The WIM **rolling five-year plan** has five strategic workstreams that address slow-onset events, non-economic losses and damages, comprehensive risk management approaches, human mobility, and action and support including finance, technology, and capacity-building. In 2019, a technical expert group on comprehensive risk management (TEG-CRM) was established to assist the WIM Executive Committee in facilitating stakeholder engagement and building capacities.



CROSS-CUTTING CHALLENGES in ADDRESSING RISK

Vulnerable communities, social inclusion, gender, just transition and recovery, youth

INTEGRATION and INCLUSION of VULNERABLE COMMUNITIES

Two important aspects of risk management are **inclusiveness and specificity**. Risk management and transfer mechanisms should address the vulnerabilities of all members of society and be tailored to their specific needs based on local data and circumstances, accounting for sociocultural factors and the existence of traditional risk-sharing mechanisms such as borrowing, loaning, pawning, livelihood diversification, community risk pools, community planning, information exchange, seasonal migration, asset accumulation, or working as labourers in off-seasons.

Vulnerable communities, indigenous communities, women, youth, the elderly, those with special needs, informal workers, migrant workers, women-led households, non-landowning farmers, and marginalized groups need to be included in the identification of gaps and needs, the assessment of risks, and the design of risk management interventions. There are several ways to **enhance support for community-led and community-owned risk management**:

- Strengthening community awareness and understanding of climate risk and risk transfer
- Strengthening community-based organizations and engaging them in plans and interventions
- Identifying community champions and representatives and including them into policy development, insurance product development, and other decision-making processes
- Creating synergies between risk transfer mechanisms, social protection systems, development interventions, and traditional risk-sharing
- Incorporating communities and community-based organizations into data collection mechanisms

- Addressing indirect impacts, ripple effects, and long-term effects to families, communities, supply chain actors, and marginalized groups
- Ensuring that the needs of vulnerable individuals and communities are considered when it comes to covariate shocks and risks that affect large numbers of people or areas at once

GENDER IMPLICATIONS and GENDER-RESPONSIVE RISK MANAGEMENT

The impacts of climate change can affect men and women in different ways. In addition, women often face barriers to access basic requirements for financial inclusion and economic participation. In many cases, they are also affected by unequal laws and regulations, traditional norms, and a lack of dedicated policies and infrastructure.

Gender dynamics, gender roles, and gender-specific vulnerabilities need to be considered when addressing climate and disaster risk. This includes:

- Removing access barriers for financial inclusion and economic participation
- Conducting gender assessments to identify differential impacts and needs
- Understanding gender-based differences in access to technology, land ownership, household relationships, utilization of finance, compensation payments, and inclusion in decision-making processes
- Collecting gender-disaggregated data
- Empowering women to engage in different aspects of risk management
- Adjusting payment structures and recipients of insurance mechanisms
- Engaging with women and communities in informal ways
- Enabling transparent, diverse, relevant, and up-to-date working groups

JUST TRANSITION and a JUST COVID-19 RECOVERY

Climate risk increasingly affects livelihoods, companies, labour markets, and economies, necessitating a shift away from fossil fuels towards sustainability and resilience. For this transition to be fair and equitable, it must address climate risk in a holistic way, include the most vulnerable and exposed sections of society, ensure their access to green jobs, and make sure that no one gets left behind. This can be achieved through measures such as **institutional arrangements and policy coherence, social dialogues, skills development, occupational health and safety, and social protection systems**.

Similarly, climate risk management should be integral to a **green and resilient recovery from COVID-19 and other non-climate related shocks**. Economies around the world have been severely impacted by the pandemic and need to provide economic stimuli for recovery and building back better. This provides an opportunity to align the recovery process with enhanced climate ambitions and SDGs, as well as to enhance policy coherence and better integrate risk management, social protection, and healthcare into plans and processes. It also allows for innovation and improvement, for example through digital service delivery, digital financing, and climate-integrated national planning. However, assessing transition risks and future impacts is challenging due to limited data availability and lack of quantitative models.

SOCIAL INCLUSION and PROTECTION

Social inclusion and protection are **key cross-cutting elements** of a just transition and a just recovery. Social protection systems consist of a wide set of public and private policies, programmes, and instruments that address economic and social vulnerabilities, volatilities, and deprivation.

To achieve this, contributory and non-contributory protection schemes can include elements such as income security, unemployment insurance or benefits, maternity protection, healthcare including workplace injury and sickness benefits, child and family benefits, old-age and disability benefits, pensions, survivors' benefits, social assistance, in-kind and cash transfers, skills training, retraining, and upgrading, workforce redeployment, enterprise support, productive safety nets, asset accumulation programmes, public works programmes, integrated cash+ programmes, compensation for temporary income losses, job guarantees, wage and benefit parity guarantees, payment for environmental services, disaster risk financing and insurance to respond to extreme events, and climate risk insurance for contingency financing.

With respect to risk transfer and risk finance, the private sector has the capacity to **support and contribute to sharing the costs of certain risks**. Mechanisms such as green bonds, catastrophe bonds, weather derivatives, or climate prosperity plans can enable vulnerable regions to build back better through strategic investment and public-private partnerships.





DEVELOPING INCLUSIVE and PARTICIPATORY RISK TRANSFER

Policy landscape, enabling environment, private sector, community engagement

Climate and disaster risk finance and insurance mechanisms can strengthen the resilience of individuals and communities by closing gaps in financial liquidity and preventing them from falling into poverty after a shock. Climate insurance is increasingly becoming part of national risk management strategies, and there is a growing dialogue on the global stage with several initiatives, such as the InsuResilience Global Partnership and the Insurance Development Forum, aiming to enhance the development and implementation of insurance-based solutions to climate risk.

As a key mechanism for risk transfer, **climate insurance schemes** can and have been implemented in different sectors and different forms around the world, including indemnity- and index-based schemes, agricultural insurance, livestock insurance, and disaster insurance. While insurance holds great potential to increase resilience, it must be **affordable, accessible, inclusive, and participatory** to reach vulnerable communities and address their specific needs.

POLICY LANDSCAPE and ENABLING ENVIRONMENT

To be effective and scalable, risk transfer mechanisms must **align with national policies and international processes**. When incorporating risk transfer mechanisms into government policies, they should be practical and hold the potential to be updated and upgraded periodically based on available risk analytics and other data and information.

Integrating climate change adaptation and disaster risk reduction into policies and plans can help to address climate impacts in a comprehensive way and minimize losses and damages. In addition, loss and damage can be anchored in NDCs and climate-related plans by defining loss and damage in the national context, describing current and potential losses and damages, highlighting the ongoing response to loss and damage, and including specific contributions on loss and damage.

There are benefits to integrating risk finance instruments into NDCs beyond immediate considerations related to loss and damage, for example by providing better access to decision-making tools and information to model resilience

baselines, deal with uncertainty, and set investment targets.

The **enabling environment for risk transfer and finance** plays an important role for the introduction and operationalisation of different instruments and mechanisms, including parametric insurance, microinsurance, forecast-based finance, and innovative financial instruments.



ACCESS to INFORMATION and TECHNOLOGY

A key challenge in addressing climate risk is the **availability of and access to information, data, and technology**. This includes weather and climate information, scientific projections, forecasts, and early warning systems, but also market and risk information to develop financial products and match demand and supply.

Data collection on a local level based on geographical areas is vital to build robust systems that focus on providing specific and timely information. If climate information services are available in advance to stakeholders on the ground, climate action and risk finance can shift from ex-post damage control and reconstruction to preparedness, forecast-based finance, insurance schemes, and other ex-ante mechanisms. Furthermore, there is a need for countries to invest in evidence-based research, training, and capacity-building as well as robust monitoring and evaluation systems.

Possible actions to be taken in this area include:

- Enhancing technical capacity to identify and monitor risks
- Collecting verified baseline data
- Conducting holistic assessments of protection gap and losses and damages
- Developing comprehensive weather forecasts, seasonal climate forecasts, and early warning systems
- Facilitating investment in national forecasting systems
- Enhancing links between ground data and remote sensing information
- Enhancing reliability, accuracy, and granularity of data
- Increasing accessibility of data to all stakeholders in end-to-end risk information systems
- Strengthening the science-policy interface
- Developing data-sharing and dissemination protocols and mechanisms
- Closing gaps in calculation and assessment of changes and increases in risk



- Overcoming reluctance of scientists to share scenario-based climate data due to uncertainty
- Supporting decision-makers in estimating the relative importance of adaptation in the context of development planning
- Improving ability of key stakeholders to process and manage data and climate information
- Establishing robust monitoring and evaluation systems
- Finding innovative ways to monitor smaller hazards and impacts
- Conducting impact assessments based on evidence and indicators
- Translating climate predictions into usable financial metrics
- Providing synthetic data to simulate events that have not happened before
- Enhancing risk communication and dissemination of risk information on all levels
- Strengthening community response capacities

Governments and other stakeholders can build on the **existing body of data, information, and knowledge** that has already been generated and managed by different actors. It is important to ensure that available information is taken into account to the greatest extent possible for planning and implementation, and that existing good practices are highlighted to replicate and upscale, including those of traditional and indigenous practices of affected communities.

RISK MANAGEMENT and the PRIVATE SECTOR

The private sector is increasingly conscious of the need for comprehensive climate and disaster risk assessments, enterprise risk management, and risk finance. In addition, risk also constitutes a fundamental consideration for investments, and all future investments need to be aware of worst-case scenarios in terms of climate-related human and economic losses. Similarly, governments must find ways to address infrastructure damages and build resilient economies that include all members of society. The shared need for risk information, risk assessments, and risk finance solutions opens entry points for cooperation between governments and the private sector.

The public sector can enable and incentivize the private sector to offer a range of climate insurance products and create an enabling environment for the private sector to implement market-based solutions, potentially using subsidies and tax breaks. This includes regulations that take into account prudential risks, market conduct risks, and consumer protection, but allow for the development and introduction of innovative climate insurance schemes, fast product approval times, regulatory sandboxes, and innovation hubs.

Conversely, **institutional investors can play a key role in the economy, and private sector institutions can offer products** that contribute to integrated risk management and support the development of risk financing tools. Financial institutions can share risk models with public entities, provide specialist knowledge, and build capacities among policymakers and public insurers.

Public-private partnerships allow for more **effective, complementary action of public and private entities**, improved data collection and distribution, better access to vulnerable populations, and improved product design for both sides. They can address different segments of the population and different risks to be mutually beneficial, mobilize more resources, and allow for a better distribution than either the public or private sector on their own.

ENHANCING PUBLIC-PRIVATE PARTNERSHIPS

Among the challenges and obstacles for private sector engagement and public-private partnerships are the following:

- Legal and regulatory risk connected to a lack of predictability, transparency, and reliability of laws and regulations
- Lack of access to climate information and data-sharing mechanisms
- Restrictions to insurance transactions, distribution channels, access to reinsurers, and use of technology
- Limited understanding of importance of climate risk insurance among key actors
- Need for comprehensive, up-to-date, and accessible risk assessments for all relevant sectors
- Need for comprehensive and integrated risk management plans across sectors and levels
- Need for coordinated policies that address risk transfer and provide clear focal points for private sector engagement
- Lack of institutional coordination mechanisms between public and private sector
- Limited premium volumes for insurance solutions for smallholder farmers
- Lack of specific legal and regulatory frameworks for index insurance and other innovative financial products; unknown legal status and taxation



COMMUNITY ENGAGEMENT and LOCAL KNOWLEDGE

Local communities bear the brunt of climate change impacts and are often the most vulnerable.

Effective climate action and risk management needs to be locally led and actively involve actors on the ground to understand not only their specific needs and challenges, but also their capacities and knowledge. For this reason, risk transfer mechanisms need to be institutionalized on a community level by providing **sustainability, ownership, inclusion, affordability, permanence, adaptiveness, and effectiveness.**

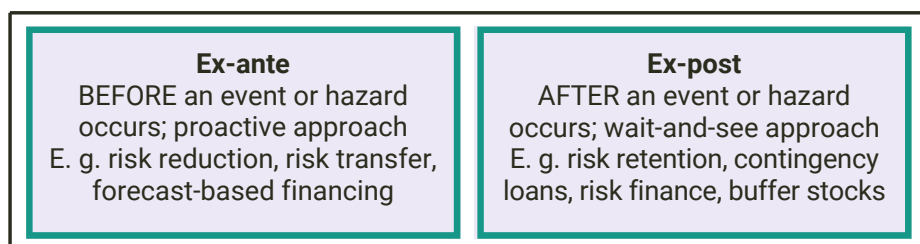
Communities should play an integral part in data collection and product design, validation of data, creation of risk profiles, and policy development.

Building their capacities and providing core funding and an enabling environment allows communities to build trust and ownership of risk transfer mechanisms while engaging community organizations such as farmer associations, women's groups, and village funds is pivotal to scaling up interventions. Extension officers, education systems, and informal engagement with vulnerable communities that considers gender and socioeconomic characteristics have proven successful in building awareness and trust as well as financial literacy and inclusion.

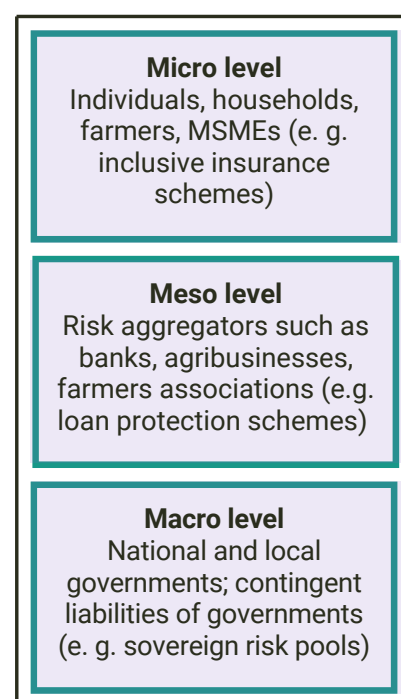
The SCOPE of INSURANCE MECHANISMS

Insurance schemes are common **risk transfer instruments that come in a variety of forms and different functionalities.** They can be indemnity- or index-based and address the micro, meso, or macro level, including sovereign risk pools; they can offer holistic livelihood protection or come as specialized schemes focused on certain hazards and income sources. Further considerations for any risk finance and risk transfer mechanism include areas related to risk information, risk ownership, risk layering, timeliness, cost, and disbursement mechanisms, as well as to insured areas and assets, contract windows, and triggers.

Traditional risk management often focuses on addressing events and impacts as they happen by providing **ex-post relief, recovery, and reconstruction finance.** However, **ex-ante risk management and finance** enable governments, businesses, and individuals to space out investments and funding needs over longer periods of time before an event, for example by transferring and pooling risk across different stakeholders and paying regular premiums for an insurance scheme. **Different mechanisms can complement each other through data sharing, sequencing, or targeting.**



Temporal dimensions of risk management & finance



Scales of risk management & finance

A well-designed, inclusive, and participatory insurance mechanism **fulfils several important functions and works in tandem with risk reduction, adaptation, and sustainable development**, concentrating on providing liquidity in the case of losses and damages beyond the limits of adaptation. This includes:

Scope	Functionality	Additional benefits
<ul style="list-style-type: none"> Addressing a variety of climate and non-climate related risks Complementing other risk management mechanisms Merging different elements of risk transfer and finance, for example early action finance, index-based insurance as a first responder, indemnity-based insurance for recovery, and long-term reconstruction finance Sustaining engagement with communities throughout insurance lifecycles and integrating risk transfer mechanisms into community structures Providing opportunities for cooperation between different stakeholders, for example public-private partnerships or ground-source systems 	<ul style="list-style-type: none"> Being cost-effective, affordable, transparent, and predictable Acting as a safety net for vulnerable individuals and communities and providing immediate liquidity after shocks for quick recovery and continued development Providing finance when it is needed the most to address different impacts and timelines Supporting household resilience, business resilience, enterprise development, and sustainable development Utilizing technology in appropriate and effective ways, for example by using drones, remote sensing, or participatory data collection such as picture-based crop insurance for accurate and low-cost data processing 	<ul style="list-style-type: none"> Incentivizing risk prevention and reduction over response Serving as a tool for financial access, including to loans and disaster finance Reducing the fiscal burden on governments Linking with policies, development plans, and climate-related processes Allowing for cooperation between different stakeholders and synergies with social protection systems, safety nets, and traditional or informal risk-sharing mechanisms Enhancing access to relevant information and decision-making tools and support the modelling of resilience baselines

Risk transfer tools, techniques, and services should be **monitored through an institutionalized process** to ensure that the targeted individuals and communities benefit from them. This process should involve different actors including from the government side, the private sector, civil society, and communities to assess the quality of data, develop indicators, and monitor concrete impacts on the ground.

In addition to insurance schemes, **other tools and funding approaches** can be part of a wider risk transfer framework, for example social protection mechanisms, savings accounts, pension funds, life insurance, risk-based planning, and promote access of developing countries to private sector expertise and capital as well as support for addressing loss and damage under the UNFCCC.

CHALLENGES and LIMITS of INSURANCE SCHEMES

Insurance mechanisms are **not stand-alone solutions for addressing climate and disaster risk**. To realize their full potential, they must be embedded into a holistic risk management framework as outlined in this paper.

It is important to note that there are limits to what insurance schemes can achieve. Depending on the nature of risks and the resources of affected communities, insurance products may face challenges such as high residual risks; inefficiencies owing to adverse selection and moral hazard; poor availability of data to assess risks for effective product design; high level of microclimatic variations; economic, cultural and perceptual issues with both people at risk and policy-makers; high operational and premium costs; delayed and undervalued indemnity payments; lack of awareness of formal insurance mechanisms among customers; lack of trust in insurance providers; regulatory challenges and risks; limited ability of consumers to pay premiums; and poorly developed insurance markets and re-insurance industry.

The WAY FORWARD

The impacts of climate change are increasingly felt across the globe and threaten human lives, well-being, livelihoods, and economies. Different climate-related hazards interact with existing vulnerabilities and sensitivities to create climate risks and cause economic and non-economic losses and damages.

Inclusive and participatory risk transfer mechanisms increase the predictability of climate-

related losses and damages and allow for better planning. As part of a **holistic risk management framework**, they can act as a safety net for vulnerable populations and even as a precondition for sustainable development. Integrating multiple actors from the government side, the private sector, and civil society in all aspects of development and distribution will enable risk transfer to reach the most vulnerable segments of society and build awareness, capacities, and trust in the process.

BACKGROUND & REFERENCES

This working paper was compiled and drafted by SLYCAN Trust's Research & Knowledge Management Division led by Dennis Mombauer. The information contained in this working paper is assembled from desk research conducted by SLYCAN Trust and the valuable contributions of the panellists, speakers, experts, and key stakeholders who participated in SLYCAN Trust's **virtual workshop series on Climate and Disaster Risk Management, Risk Transfer, and Related Laws and Policies held from January 18th to 21st, 2021**. The workshop series comprised four sessions with panel discussions, Q&As, and breakout groups to further discuss thematic aspects in-depth.

Contributing experts and panelists: Dr. Sunimal Jayathunga (Additional Secretary, Ministry of Environment of Sri Lanka), Ms. Vositha Wijenayake (Executive Director, SLYCAN Trust), Mr. Hafijul Khan (Negotiator, LDC Group), Dr. George Wamukoya (Team Leader, African Group of Negotiators Experts Support), Mr. Sandeep Chamling Rai (Senior Advisor – Global Climate Adaptation Policy, WWF International Climate and Energy Practice), Mr. Sunil Acharya (Regional Advisor for Climate & Resilience, Practical Action), Ms. Viktoria Seifert (Associate Project Manager, Munich Climate Insurance Initiative), Mr. Saber Mahmoud Osman (Head of GEMESA – Global Environmental Management and Economic Sustainability Advancement Sector, AHDO Co.), Mr. Arivudai Nambi Appadurai (Director – Climate Resilience Practice, WRI India), Ms. Anoja Seneviratne (Director, Disaster Management Center of Sri Lanka), Dr. Nafesa Ismail (Programme Officer – Knowledge Management, Science and Institutional Affairs, APN), Ms. Linda Siegele (PhD Candidate, University College London, Faculty of Laws), Mr. Sani Ayoub (Founder and Executive Director, Young Volunteers for the Environment Niger), Ms. Sara Jane Ahmed (Finance Advisor, V20), Mr. Prakash Bista (Technical Expert on National Adaptation Plans – Nature, Climate and Energy Team, UNDP), Dr. Khamarrul Azahari Razak (Director – Disaster Preparedness and Prevention Center, Malaysia-Japan International Institute of Technology, Universiti Teknologi Malaysia), Mr. Kairos Dela Cruz (Deputy Executive Director, Institute for Climate and Sustainable Cities), Dr. Jennifer Cissé (Senior Research Manager – Climate Risk Finance and Resilience, Munich Climate Insurance Initiative), Dr. SVRK Prabhakar (Research Manager & Senior Policy Researcher (Adaptation – NRE Group, Institute for Global Environmental Strategies), Mr. Lukas Schönach (Senior Business Developer, Descartes Underwriting), Dr. Ranjith Punyawardena (Senior Technical Advisor, SLYCAN Trust), Dennis Mombauer (Director: Research & Knowledge Management, SLYCAN Trust).

The draft version was **shared with a wider group of relevant individuals and organizations**, and feedback from the following expert was incorporated as well: Mr. Azhar Qureshi (Eco-Conservation Initiatives).

