



SUBMISSION BY THE MUNICH CLIMATE INSURANCE INITIATIVE (MCII)

Frequently Asked Questions about an International Insurance Mechanism for Climate Adaptation

Responses to Party Questions posed to MCII at Poznan COP 14¹, Version 4.0

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PLEASE COMMENT: This submission has benefited from the feedback and ideas of many different experts and delegations. We welcome your comments.

¹ This submission from the Munich Climate Insurance Initiative (MCII) is part of its mission to develop insurance-related solutions to help manage the impacts of climate change. Joanne Linnerooth-Bayer, MCII executive board members Christoph Bals (with input from Sven Harmeling), Peter Hoeppe, Joanne Linnerooth-Bayer, Koko Warner, Ian Burton, Armin Haas, Eugene Gurenko, and Thomas Loster designed this concept. The Munich Re Innovations team contributed their actuarial expertise. We also thank the numerous country delegates who have talked with us about their needs for and questions about adaptation and climate risk insurance. MCII was founded in response to the growing realization that insurance solutions can play a role in adaptation to climate change, as suggested in the Framework Convention and the Kyoto Protocol. With membership on the part of insurers, climate change and adaptation experts, NGOs and policy researchers, MCII provides a forum for insurance-related expertise applied to climate change issues.

Abstract

At COP 14 in Poznan, the adaptation agenda highlighted risk management including insurance-related mechanisms.^{2,3} Parties expressed interest in the potential of insurance, and areas of complementarity emerged in proposals tabled by Parties and MCII, some of which were reflected in the Assembly Text⁴ This submission responds to the questions and comments that Parties posed to MCII at COP 14, highlighting ten of the most frequently asked questions about risk reduction and insurance as tools to help facilitate adaptation to climate change.

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² See, for example, the media article "Climate risk insurance the buzz in Poznan," by the IRIN humanitarian news and analysis, UN Office for the Coordination of Humanitarian Affairs referred <http://www.irinnews.org/Report.aspx?ReportId=81947>.

³ UNFCCC. (2008) Mechanisms to manage financial risks from direct impacts of climate change in developing countries. UNFCCC Technical Paper. FCCC/TP/2008/9. 21 November 2008.

⁴ Numerous proposals have been put forward mentioning insurance, most recently by Barbados and the Cook Islands on behalf of the 40+ countries of the Alliance of Small Island States (AOSIS), Switzerland, Mexico, some countries of the European Union and further ideas from Bangladesh (for the LDCs), China, India, Argentina, the Philippines, Malaysia, Saudi Arabia and other countries, and from Observers the Munich Climate Insurance Initiative (MCII), CAN, and a few others.

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PART ONE

Party Questions about Prevention and Insurance (from COP 14)

In its submission MCII endeavours to respond in detail to questions raised by parties during the *LCA AWG Workshop on risk management and risk reduction strategies, including risk sharing and transfer mechanisms such as insurance* on 4th of Dec. at COP 14 in Poznan, during the MCII-hosted side event on 8th Dec and informal discussion as well as submissions by the parties. We group these responses under 10 most frequently asked question, which can be grouped as follows:

Who will pay and how much will MCII's proposal cost?

1. Who will pay for the proposed MCII climate risk management module?
2. How much will MCII's proposed climate risk management module cost?

How does the proposed mechanism foster adaptation and help the most vulnerable?

3. How does the proposed climate risk management scheme target the most vulnerable?
4. How are prevention and insurance linked in MCII's proposal?
5. How does the proposal contribute to a wider adaptation framework and to sustainable development?

What are the operational details?

6. How will risks be classified and which part of the module will cover the respective risks?
7. Is the necessary data to provide insurance in developing countries available?
8. What entity provides the insurance services?
9. What is the role of the private sector?
10. What is the experience with insurance provision in developing countries?

Who will pay and how much will MCII's proposal cost?

1. Who will pay for the MCII proposed risk management module?

Many Parties in Poznan (COP 14) raised questions regarding the source of funds for the proposed mechanism.⁵

⁵ Bangladesh, Japan, Samoa and Panama during the AWG LCA Risk Management Workshop on Dec 4th at COP 14, henceforth referred to as the LCA Risk Management Workshop.

The climate risk management module is based on the polluter pays principle, and on the principle of common but differentiated responsibilities and respective capabilities. Therefore, MCII proposes that the necessary payment for the Prevention and the Insurance Pillar be based on a formula agreed upon by the negotiating parties -- perhaps based on the Mexican and Norwegian proposals. But in any case **the overwhelming majority of the cost will be borne by developed nations.**

This does not mean that all efforts will have to come solely from industrialized countries. To be eligible for tier 1 of the Insurance pillar, beneficiary governments need to develop appropriate policy frameworks so as to ensure that communities benefit from insurance schemes, and they need to show progress on a full risk management program. Such activities would be funded by the Prevention Pillar of the MCII proposal.⁶

The suggested risk management module includes two pillars to address risks on different levels⁷:

1.1 Who will pay for the Prevention Pillar?

Preventing or minimizing losses is the bedrock of any effective risk management, and will be supported by developed countries. The prevention pillar reflects the principle of common but differentiated responsibilities and respective capabilities by linking risk reduction efforts to carefully designed insurance instruments. Progress in prevention helps countries qualify for participation in the Insurance Pillar.

1.2 Who will pay for the Insurance Pillar?

In spite of best efforts to prevent and reduce risk, countries will face rising medium and high level climate-related risks. MCII proposes an Insurance Pillar with two tiers to deal with these. It is envisioned that funding for the Insurance Pillar will be paid for by developed countries.

Tier 2 for medium level risks: Climate Insurance Assistance Facility (CIAF)

At **medium levels of risk** – e.g a 1 in 50 year event – a *Climate Insurance Assistance Facility*, will incentivize the **private sector** to engage in insurance and support public-private solutions. This will facilitate safety nets, as well as new markets for insurance products including micro-insurance. Regional centers can help build this market capacity.

Tier 1 for high level risks: Climate Insurance Pool (CIP)

Because **major weather catastrophes** will increasingly affect countries, in spite of their best effort to manage and reduce risk, a Climate Insurance Pool

⁶ During the AWG-LCA Risk Management Workshop, Bangladesh also referred to the possibility of using a debt swap mechanism and ODA to help finance the costs of risk reduction and insurance.

⁷ For more details about the MCII proposal, refer to the Executive Summary on page XXX of this document, or visit the UNFCCC website or www.climate-insurance.org for previous MCII submissions to the UNFCCC on climate risk insurance (Accra, Poznan).

will absorb a pre-defined proportion of high-level risks of disaster losses, particularly in vulnerable countries, at no cost to the beneficiary countries.

2. How much will the proposed risk management module cost?

Some parties requested further clarification on the costs for the MCII risk management module and the methodologies used to arrive at these cost estimates⁸.

The costs for the entire package proposed by MCII for a Climate Risk Insurance Module will depend on the negotiations and the guidelines given by an agreed outcome in Copenhagen. For the insurance pillar, MCII estimated, together with insurance industry experts, that the gross cost of the Climate Insurance Pool including capital and administration costs of reinsurance would range between USD 3.2 bn and USD 5.1 bn per annum for the range of the proposed insured limits^{9,10}. These cost estimates should be considered with care, as the estimates could vary considerably depending on the needs of Parties and the outcomes of the negotiations.

The level of funding needed for the Tier 2 *Climate Insurance Assistance Facility* depends on the number of countries involved and the scope of capacity building and technical support activities which participating countries request. If the activities are limited to capacity building, risk assessments, data dissemination, etc., the respective entity could operate on a small budget. Providing support by absorbing layers of the risk and enabling the poor to participate through more direct support would require considerably greater funding. As a first earmark MCII estimates that 2 billion dollars would be needed for the CIAF. However, this could vary substantially depending on the scope and mandate of the CIAF in the agreed outcome.

Progress in prevention helps countries qualify for participation in the Insurance Pillar.¹¹ For this the estimated cost is 3 billion dollars per year. Similar to the CIAF, this figure could be substantially higher depending on the nature of prevention activities, the sectors to be included, and the level of assistance deemed appropriate for facilitating enhanced risk reduction activities in participating countries.

Depending on guidelines given by the negotiated outcome, further elaborated cost estimates can be delivered by an expert group on one or all of the elements proposed in MCII's climate risk management module.

⁸ Japan, the USA, Barbados posed questions regarding cost estimates for MCII's proposal during the LCA Risk Management Workshop, and Panama had a similar question during the MCII side-event on Climate risk insurance held on the 8th of Dec. 2008 henceforth referred to as the MCII side-event

⁹ Cost calculations are based on the assumption that the top 30% of high level risks will be paid out by the CIP. However, the exact percentage is subject to negotiation and ultimately should be linked to the additional climate change related losses

¹⁰ These costs do not explicitly consider the costs associated with good governance, frictional costs, or such "context costs."

¹¹ Sri Lanka and Honduras posed questions regarding links between insurance and prevention in MCII's proposal during the AWG-LCA Risk Management Workshop

How does the proposed mechanism foster adaptation and help the most vulnerable?

3. How does the MCII risk management scheme target the most vulnerable?

Some parties raised the question, whether the most vulnerable would benefit from the proposed risk management scheme.¹²

The MCII risk management module addresses most vulnerable people across its components:

Prevention: The poor and vulnerable benefit from the proposed scheme's Prevention Pillar as communities and government are facilitated in their risk reduction and loss prevention activities. These activities can help reduce or avoid the shocks that contribute to poverty traps. Supporting prevention also complements ongoing development activities that target poverty and vulnerability reduction.¹³ Activities under the prevention pillar should be planned to benefit vulnerable people.

Insurance: Generally, it requires at least a minimum productivity to take part in an insurance risk transfer mechanism. Thus, premiums need to be reduced to affordable levels with the help of outside support to benefit the poorest of the poor. However, there is the danger that subsidizing premiums leads to moral hazard problems, and in the end to maladaptation. By smart design on the other hand it is possible to include the most vulnerable people in a risk management module while ensuring that false incentives are avoided.

Tier 2: The CIAF addresses the poor and vulnerable both directly and indirectly. The CIAF helps facilitate the establishment of locally-appropriate microinsurance programs, social safety nets, public and private risk sharing or transfer solutions where such services do not exist. Furthermore, the CIAF makes it possible that existing insurance mechanisms reach the poor, e.g. through lowering the transaction costs of providing services to low-income households. It is possible for insurance beneficiaries to get access to Tier 2 activities by contributing in-kind premiums in the form of risk reducing prevention activities under the Prevention pillar.

Governments can receive support for middle-layer risks. For example, Mexico has recently made use of reinsurance and a catastrophe bond to provide back-up for its catastrophe fund, which is statutorily obligated to provide relief to the poor. Tier 2 would provide assistance for such sovereign risk-transfer initiatives. Many donor-supported projects targeting the asset-holding poor are already proving their feasibility. Examples include micro-insurance for smallholder farmers in Malawi herders in Mongolia, and slum dwellers in Nepal. The purpose of Tier 2 is to make these programs affordable.

¹² The question was raised by Honduras during the LCA Risk Management Workshop-session and by Sweden during the MCII side-event.

¹³ USA commented on the importance of limiting harm before it occurs, building resilience, and supporting established development priorities (comment during the LCA Risk Management Workshop).

Tier 1: When an extreme catastrophe occurs, the Climate Insurance Pool makes a claim payment to participating governments to help them finance disaster losses. The CIP payment eases the situation for governments and allows them to better address the needs of the most vulnerable. For the poorest of the poor, who generally hold few assets, governments typically provide post-disaster relief.

4. How are prevention and insurance linked in the MCII risk management module?

Many delegates requested further information about how the insurance mechanism would complement prevention¹⁴.

Prevention (disaster risk reduction and management) and Insurance are inseparably linked in the MCII proposal. Prevention can be a cost-effective way of reducing losses, and hence the costs of insurance. For example, the Red Cross has shown that planting mangroves as a form of coastal protection resulted in costs of only one seventh of the avoided losses.¹⁵ Insurance can provide incentives for engaging in effective prevention. The two are also necessary to avoid encouraging mal-adaptive behaviour. For this reason, MCII has couched its ideas in a “climate risk management” perspective. Insurance is a complementary measure (but not the only one) that can help promote adaptation, if it is effectively linked to preventive activities.

The insurance pillar will complement these risk-reducing activities in several ways:

- First, countries are eligible for coverage in the CIP (Tier 1) if they show progress on a risk management strategy that reduces risks and provides insurance cover to their population for remaining middle-layer risks;
- Since the developed world pays for the risk-based premiums for Tier 1, they have an interest in assuring that preventive activities are funded so that developing countries can carry out effective risk reduction measures;
- Tier 2 will insure the previously uninsured, who have relied on post-disaster aid. Paying premiums (even if subsidized) instead of relying on aid, the insured have incentives to reduce risks and, by so doing, reducing their premium payments. For example, the moral hazard of disaster aid could be replaced by index-based insurance systems that have little moral hazard;
- Finally, providing the safety nets necessary for development helps enable the poor to escape disaster-induced poverty traps. Developed societies are far more resilient to disasters.

¹⁴ Party statements querying or commenting on the linkages between the different components of the MCII proposal were expressed by Indonesia, Sri Lanka, Honduras and the USA in the LCA Risk Management Workshop, an Austrian delegate in the MCII side-event as well as New Zealand in its country submission from 27th of Oct. 2008.

¹⁵ A mangrove forest project in Viet Nam cost USD 1.1 million., while saving USD 7.3 million in coastal maintenance costs. See International Federation of Red Cross and Red Crescent Societies (2008): Case study 1: Viet Nam mangrove project: the cost-effectiveness of prevention, accessible via <http://www.caribbeanredcross.org/esp/rcrcday08/casestudies.htm>

5. How does the MCII risk management module contribute to a wider adaptation framework and to sustainable development?

Many delegates wanted to know how insurance and prevention fit into a wider adaptation framework. Moreover, some parties asked what insurance might add to sustainable development and how it can supplement ODA.¹⁶ Ideally, adaptation activities will enhance resilience and facilitate sustainable development. By providing support through the prevention pillar, the MCII proposal contributes to the objectives of the wider adaptation agenda, particularly to the development of a wide range of tools that limit harm before it occurs, and build resilience.

Additionally to interlinkages between insurance and prevention dealt with in the previous question, insurance and prevention have to play a role in sustainable development by lowering “opportunity” costs of donor aid spent on post disaster assistance.

Hoeppel & Gurenko (2006) showed that emergency and distress relief assistance accounted for a 1.6% share of total donor assistance in the time period from 1987-89. In 2003 however, this figure had risen to 8.5%.¹⁷ This means nothing less, that more and more funds are diverted from its intended development purposes such as poverty alleviation, education and health improvements to post disaster reactions.

Prudent risk assessments needed for viable insurance business models can also help guide thinking about adaptation investments and activities, and risk reduction in developing countries. They can be used to facilitate risk-prudent infrastructure planning, zoning of activities in hazardous areas, etc. Thus the structure proposed by MCII could provide an opportunity for the private sector to contribute a valuable service that both creates markets and serves development objectives.

What are the operational details?

6. How will risks be classified and which part of the MCII mechanism will cover the respective risks?

At the LCA workshop one party expressed a desire for further clarification on how risks are assessed and attributed to climate change; which layer of risk is covered in which type of incidence and on what basis risk classification is done.¹⁸

Determining what is meant by high-level risks is country specific and will require risk and vulnerability assessments, carried out across the highly exposed developing

¹⁶ Questions in this regard were posed by Bangladesh, Panama and the USA during the LCA Risk Management Workshop

¹⁷ See Hoeppel, P. & Gurenko, E. (2006), 'Scientific and economic rationales for innovative climate insurance solutions', *Climate Policy* 6, 607- 620.

¹⁸ Indonesia asked during the LCA Risk Management Workshop if all mechanism could be applied to one event and how one event is classified as climate change related.

world. Vulnerability not only depends on risk exposure (e.g., the US has huge assets at high risk to hurricanes) but also on the ability of governments and individuals to respond to damages.

Criteria for participation: Countries can be eligible for coverage in the CIP (Tier 1) by showing progress in adaptation planning and implementation, including activities such as risk management strategies that reduce risks and build resilience.

Criteria for payout: Objective risk-related criteria for participating in the *Climate Insurance Pool* in Tier 1 could include: 1) countries with Annual Economic Losses from weather related events exceeding 1% of GDP and 2) with the projected Probable Maximum Economic Loss of at least 1% of GDP from a 1-in-100 year event. In the future these parameters should be modeled to ensure the optimal composition and number of countries in a pooled international or regional solution. The approach outlined in MCII's proposed climate insurance module, however, is a point of departure for continuing strategic and technical discussions.

The actual risk pricing would be delivered by the private sector either by independent modelling firms or the reinsurance provider itself with the assistance of local experts from developing countries.

Coverage provided under the Tier 1 mechanism might be based on parametric index-based triggers, e.g., a level 5 hurricane affecting County X. This type of insurance mechanism provides for a much greater speed of disbursement and will be less costly to administer than traditional insurance since it does not require the insurer to evaluate losses on an indemnity basis. The determination of intensity of the predefined event will be made by an independent meteorological agency.

The trigger would be limited to meteorological events, the frequency and intensity of which will be magnified by climate change. Loss data from reinsurance companies indicates that such events have increased during the last 50 years in terms of frequency and severity, a trend arguably caused by already changed climatic conditions¹⁹. To precisely define the scope of damages entirely attributable to climate change in a scientifically sound manner to date is not possible. Therefore, the extent to which the CIP covers high level impacts is subject to negotiation. As a preliminary assumption for the cost assessment of the MCII proposal, this was set to 30% of the current global annual weather related natural catastrophe losses.

7. Is the necessary data to provide insurance in developing countries available?

Many parties asked about the role of data availability for providing insurance services in developing countries.²⁰ Malawi noted that insurance systems work, but that the

¹⁹ See Hoeppe, P. & Gurenko, E. (2006), 'Scientific and economic rationales for innovative climate insurance solutions', *Climate Policy* 6, 607- 620.

²⁰ More countries, such as Malawi, Nicaragua , Panama, Togo, pointed out the need of reliable weather data for any insurance activity and asked how this is incorporated in the MCII proposal. Germany posed similar queries in informal discussions.

most critical factor is reliable historic and realtime weather data. In turn, weather data requires reliable weather monitoring systems and infrastructure. Yet many countries struggle with a lack of such data and capacity to generate, maintain, and use this data for climate adaptation approaches like insurance. Some possibilities exist to address these gaps:

For high level risks such as those which will be covered by the CIP, global reinsurers have established worldwide databases, hazard maps, and sufficient information to already provide catastrophe reinsurance. For medium level risks, recent technological advances in earth observation systems and risk modelling helps fill in areas where data is less detailed. Already some insurance products are provided in developing countries where insufficient data previously prevented the calculation of risk premiums.²¹ Tier 2 can help support the generation of necessary data, investment in equipment, and other measures that remove obstacles to risk sharing and risk transfer tools for adaptation. There are synergies between Tier 2 and other activities which rely on weather data, such as agriculture, forestry, etc.

8. What entity provides the insurance services?

One party asked about the providing entity of the CIP and CIAF and the proposed governance structure²².

CIP operations will be managed by a dedicated expert team that will be responsible for risk pricing, loss evaluation and indemnity payments, as well as placing reinsurance. An international entity will be required for administering the Tier 1 Catastrophe Insurance Pool. This could be in the form of a global facility or regional facilities, decided by the Parties. Tier 2 will provide climate insurance assistance and technical support, under a facility at the global or regional level. Risk transfer and insurance services at these medium-levels of risk will continue to be provided by the private sector and public-private partnerships. The governance regime would be decided by the Parties.

9. What is the role of the private sector?

Although none of the parties directly asked the questions, several delegates stressed the importance of including the private sector in an adaptation regime²³.

Private sector involvement can be greatly enhanced by the MCII proposal.

High-level risks are insured by an international entity, which might be viewed as crowding out the private sector. This is not the case, however, since the insurance

²¹ For instance the Millennium Villages Project (Earth Institute Columbia University and UNDP) in partnership with Swiss Re have written contracts for African indexed based insurance on the basis of solely remote sensing data.

²² Specifically, within the LCA Risk Management Workshop Togo asked for the potential entity providing the insurance services and its governance structure.

²³ For instance the USA during the LCA Risk Management Workshop- session on Dec. 4th, or the Bangladeshi delegate on behalf of the LDCs at the MCII side-event

market generally fails for very low-probability events. The reasons are two-fold: First, people and governments are often myopic and do not seek insurance for events that are highly unlikely. Second, because of the ambiguity in risk estimates, insurers are reluctant to provide cover. Tier 1 pools these otherwise uninsured risks, and the private sector will be called upon to provide reinsurance for this pool (through a competitive bidding process). The MCII insurance pillar therefore creates an otherwise absent role for the private sector. Furthermore, the private sector could be responsible to deliver accurate risk pricing. The risk assessments needed to reinsure Tier 1 could be partially conducted by the private sector.

Private sector involvement is also enhanced by Tier 2 since the objective of the Climate Insurance Assistance Facility is to create insurance markets serving the poor. Without this assistance, the market, alone, cannot cover the insurance needs of the poor. Because disaster events affect whole regions at the same time (co-variant risks), insurers charge extra (beyond the expected loss) for holding large capital reserves or reinsuring.

Finally, data collection and risk assessment is a high-cost barrier limiting local insurance providers from entering the market. These costs would be covered by the risk management module.

10. What is the experience with insurance provision in developing countries?

MCII has been approached by delegates to report on experiences in the field of insurance solutions gained in developing country contexts.²⁴

Catastrophe insurance plays an increasingly visible role in developing countries with innovative public private initiatives that demonstrate potential to pool and manage weather variability and climate extremes, as well as transfer risks to the global capital markets. We look at three prominent examples here, many more exist.

Recently, microinsurance tools for weather risks are showing good potential to reduce the vulnerability of the poor to climate risks. In Malawi, smallholder farmers can buy affordable index-based drought insurance. The insurance is linked to loans and improves the credit-worthiness of participating farmers and enables them to increase their farm productivity.

Countries are also using insurance-related mechanisms, such as the World Food Programme-piloted an index-based drought insurance scheme for government relief expenditure in Ethiopia. Future transactions may include a catastrophe bond, which pays an above-market interest rate if rainfall exceeds a specified level, but part of the principal would go to the Ethiopian government if rainfall is below this level.

At the regional level, the Caribbean island states have recently formed the world's first multi-country and index-based catastrophe insurance pool to provide governments with immediate liquidity in the aftermath of hurricanes or earthquakes. The Caribbean Catastrophe Reinsurance Facility (CCRIF) has had almost equal years of paying out and not being triggered— In 2008 it was scheduled to make a

²⁴ The Austrian delegate asked during the MCII-side-event about further information on this matters

payout of about US\$6.3 million to the government of the Turks and Caicos Islands for damage incurred by Hurricane Ike during the 2008 Atlantic Hurricane season.

Disaster insurance – with international support – has great potential for providing security to the poor. Coordinated public private action can help provide the necessary security.

Part Two

Draft Article: Prevention Pillar and Insurance Pillar

§1. Definition

A climate risk management module to facilitate adaptation is one part of a larger adaptation strategy. Two pillars of a climate risk management module are hereby defined:

- (a) A **prevention pillar (PP)** and
- (b) An **insurance pillar (IP)**. The insurance pillar has two parts:
 - i. A *Climate Insurance Pool* (CIP) for high level risks and
 - ii. A *Climate Insurance Assistance Facility* (CIAF) for medium level risk.

§2. Purpose

The purpose of the PP and IP is to assist developing country Parties particularly vulnerable to climate change as defined in [Copenhagen] in adapting to climate change by reducing climate-related risks (in the form of flood, droughts and other weather extremes) and transferring them where necessary through financial mechanisms.

The PP puts reduction of human and economic losses as its top priority. The first tier of the IP is a global *Climate Insurance Pool* (CIP), which absorbs a pre-defined proportion of high-level, climate-related risks. The second tier of the IP is a *Climate Insurance Assistance Facility* (CIAF). The CIAF provides technical support and other forms of assistance to enable regional private and public-private insurance systems for middle layers of climate-related risks.

§3. Benefits of participation

Under the PP and IP

- (a) Parties support and facilitate cooperation in adaptation to the impacts of climate change, especially for the most vulnerable countries.²⁵
- (b) Particular vulnerable developing country Parties benefit from additional prevention and risk reduction activities (PP). They also benefit from agreed-upon coverage for high-level losses through a *Climate Insurance Pool* with premiums paid fully from the financial mechanism of the future climate change

²⁵ UNFCCC, Art. 4.1.e

regime and from assistance for risk-pooling mechanisms that cover residual middle-layer risks (CIAF).

- (c) Parties may use the PP and IP to contribute to compliance with their common but differentiated responsibilities to assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.²⁶ The costs of the two pillars will be borne on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.²⁷

§4. Principles guiding the functioning of the PP and IP

Participation in the climate risk insurance pillar shall be based on the principles set out by UNFCCC and KP for financing and disbursing adaptation funds and including the following eligibility criteria:

- (a) Developing country Parties particularly vulnerable to climate change as defined in [Copenhagen] are eligible to participate in the PP.
- (b) Voluntary participation approved by each Party involved, including a commitment by participating Parties to prevent and reduce risks related to climate change and to secure the proper management of IP funds.
- (c) An plan of action to reduce climate related risks, (for example as part of a National Adaptation Plan according to by COP-agreed guidelines)
- (d) Apply private and public-private insurance solutions that provide reinsurance cover for high-layer climate-related risks and support dissemination of primary insurance cover for middle layers of climate-related risks.

§5. Governance

The overall performance of the IP shall be subject to the authority and guidance of the COP [COP-MOP] and be supervised by an executive board of the PP and IP. The risk pricing is done independently.

§6. Modalities governing activities

The COP/[COPMOP] will establish the modalities and procedures with the objective of ensuring transparency, efficiency and accountability through independent auditing and verification of

- (a) Prevention and climate risk management activities and the support of these activities
- (b) Assistance for middle-layer risk through a *Climate Insurance Assistance Facility*.
- (c) Risk transfer activities through a *Climate Insurance Pool* for high-level risks;

Insurance-related services may be provided by operational entities to be designated by the Conference of the Parties.

²⁶ UNFCCC, Art. 4.4

²⁷ UNFCCC, Art. 3.1

§7. Resources for the mechanism

A funding mechanism based on the principle of common but differentiated responsibilities and respective capabilities shall finance the Prevention Pillar and the global *Climate Insurance Pool* and defined activities of the *Climate Insurance Assistance Facility* within the Insurance Pillar. It must be secured that the financing is sufficient to pay for the agreed activities within the prevention pillar and the insurance pillar for participating Parties. The beneficiary countries will not pay for any of the described activities of the IP and PP. Specifically, for Tier 1 the full premium will be paid by the financial mechanism of the future climate change regime. The activities that vulnerable countries take for prevention and building public private partnerships for the middle layer of risk will be supported by the PP and by tier 2 of the IP, respectively, and this support will be fully financed by an adaptation fund. By this the CIAF enables private financing for insurance and investment in insured activities.

§8. Participation

Participation under PP and IP, including activities mentioned under par. 3, may involve public, public-private and/or private entities. The insurance activities are subject to whatever guidance by the executive board of the IP.

PART THREE

Executive Summary: MCII Proposal for Climate Risk Management including Prevention and Insurance²⁸

Losses from climate-related natural hazards are rising, averaging US\$100 billion per annum in the last decade alone. A suite of financial instruments, including insurance, has emerged as an opportunity for developing countries in their concurrent efforts to reduce poverty and adapt to climate change. Insurance tools provide financial security against droughts, floods, tropical cyclones and other forms of weather variability and extremes. Yet, insurance alone will not address all adaptation challenges that arise with increasing climate risks, like desertification or sea level rise. It can, however, be a strong complementary mechanism in a wider adaptation framework.

The **Bali Action Plan** (BAP) calls for “consideration of risk sharing and transfer mechanisms, such as insurance” to address loss and damage in developing countries particularly vulnerable to climate change. For the **inclusion of insurance instruments in the post-2012 adaptation regime**, the potential role of risk-pooling and risk-transfer systems must be firmly established.

²⁸ The MCII submissions for the Accra and Poznan climate talks can be found at www.climate-insurance.org.

In helping to meet this challenge, the Munich Climate Insurance Initiative (MCII) proposes a climate risk management module that would include insurance instruments for adapting to climate change in a post-2012 agreement.

This module would

- (1) follow the principles set out by the UNFCCC for **financing and disbursing adaptation funds**
- (2) provide **assistance to the most vulnerable**, and
- (3) **include private market** participation.

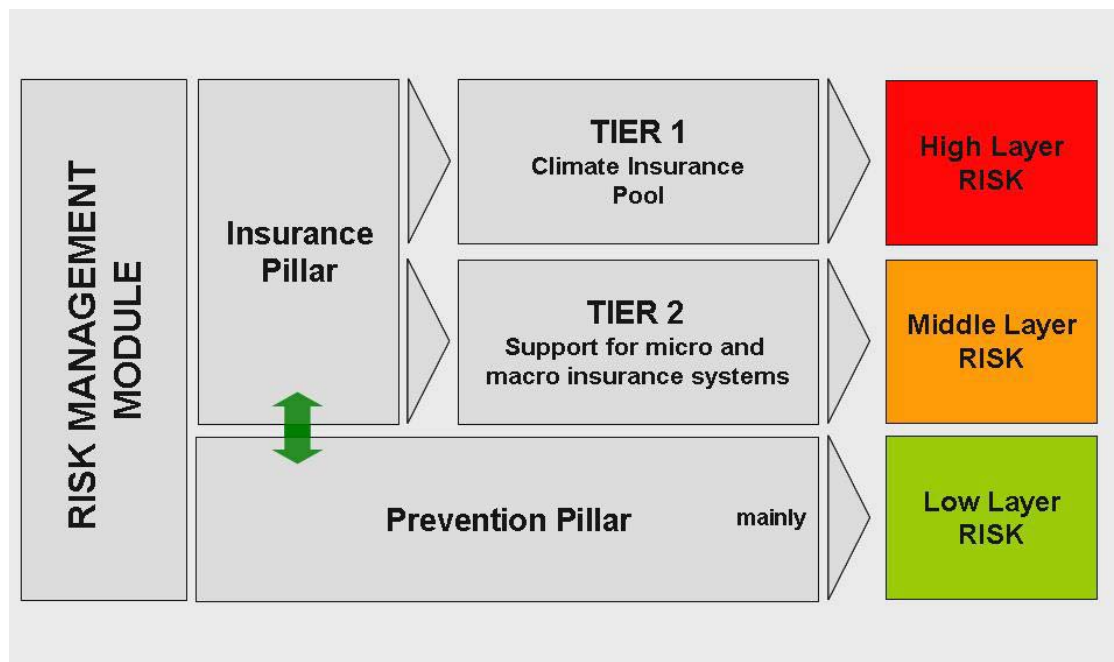
This module can play a part in a wider adaptation strategy to help Parties address the negative effects of climate change.

Climate risk management module within post-2012 adaptation strategy



The figure below illustrates the two proposed pillars of a climate risk management module: a prevention pillar and an insurance pillar.

MCII Proposal: Climate Risk Management Module with two Pillars



In the MCII submission, risk management includes two complementary pillars -- prevention and insurance. Together these two pillars tackle risk at low, medium and high levels.

The first part of the module is a **Prevention Pillar** emphasizing risk reduction. The second part of the module is an **Insurance Pillar** with two tiers. The first tier of the Insurance Pillar takes the form of a *Climate Insurance Pool (CIP)* that would absorb a pre-defined proportion of high-level risks of disaster losses, particularly in vulnerable countries, at no cost to the beneficiary countries. The second tier of the Insurance Pillar, a *Climate Insurance Assistance facility*, would address middle-level risk and facilitate public safety nets and public-private insurance solutions.

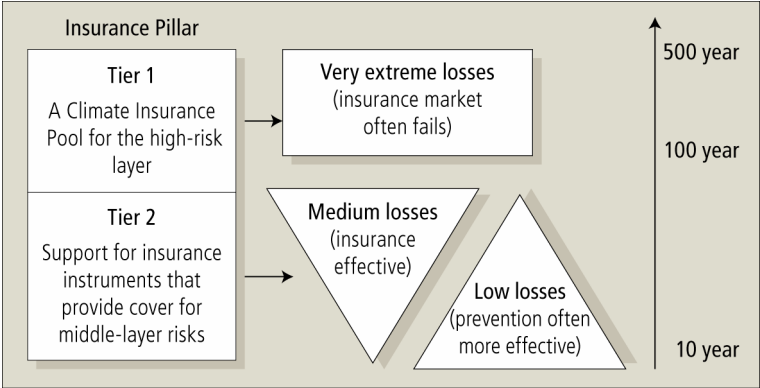
Prevention Pillar

Preventing or minimizing losses is the bedrock of effective risk management. Insurance activities must be viewed as part of a climate risk management strategy that includes, first and foremost, activities that prevent human and economic losses from climate variability and extremes. The proposed Prevention Pillar links carefully designed insurance instruments to risk reduction efforts. Progress in prevention helps countries qualify for participation in the Insurance Pillar. The estimated cost is 3 billion dollars per year, but does depend on the the number of countries involved and the scope of prevention and risk reduction activities.

Insurance Pillar

In spite of best efforts to prevent and reduce risk, countries will face rising medium and high level climate-related risks. MCII proposes an **Insurance Pillar** with two tiers to deal with these. The figure below illustrates the two tiers of the proposed insurance pillar.

A two-tiered insurance pillar as part of a climate risk-management module



Climate Insurance Pool (Tier 1)

Even with the best prevention and risk reduction activities, the increasing number and intensity of major weather catastrophes will affect countries. To address these, a Climate Insurance Pool will absorb a pre-defined proportion of high-level risks of disaster losses, particularly in vulnerable countries, at no cost to the beneficiary countries. The Climate Insurance Pool will be reinsured against extreme loss years in the global reinsurance market. The Climate Insurance Pool would require financial resources of approximately between USD 3.2 billion and USD 5.1 billion, in case of an assumption of a 30% attribution of global warming to weather related losses and depending on annual indemnification limits set at US\$ 10 billion (15 year return period) or US\$ 50 billion (100 year return period). The key features of Tier 1 include:

- **CIP Premium Paying Entities:** The CIP receives a fixed annual allocation from a multilateral adaptation fund based on the expected climate change related losses. This fund will fully cover the premium payments (some recent proposals are based on criteria such as capability (“ability to pay”) and responsibility (“polluter pays”).
- **Beneficiaries of CIP Coverage:** Countries that participate in the insurance program that fall victim to rare but extreme climate-related disasters that go beyond their capacity to respond and recover;
- **Risk Carrier:** CIP operations will be managed by a dedicated professional insurance team that will be responsible for risk pricing, loss evaluation and indemnity payments, as well as placing reinsurance.

Negotiators considering the creation of a Climate Insurance Pool might ask: Why invest adaptation funds in a CIP when we could, instead, allocate these same funds to national adaptation programs that include an insurance module? One answer: Disbursing a portion of climate adaptation funds to the CIP pools the risks of extraordinary losses, costing far less money or requiring far less reinsurance than if each country created its own fund or made individual insurance arrangements.²⁹

Climate Insurance Assistance Facility (Tier 2)

At **medium levels of risk** – events such as a 1 in 50 year event – a *Climate Insurance Assistance Facility*, will incentivise the **private sector** to engage in insurance and public-private solutions. Tier Climate Insurance Assistance Facility addresses middle-layer risks to **enable public/private insurance systems for vulnerable communities**. Many examples of programs for these middle-layer risks exist: micro-insurance for agriculture (like in Malawi), re-insurance for aid agencies (as in Ethiopia), and pooled solutions for countries in certain regions (like the Caribbean). Each of these initiatives was made possible with outside technical and

²⁹ The CIP will utilize market based pricing of its cover and will transfer risk to private risk carriers. This helps avoid distorting private capital markets or catastrophe risk reinsurance markets.

financial support. Tier 2 could directly **enable the poor to participate**, if deemed appropriate, through targeted support and minimally-distorting subsidies that would not crowd out private incentives for wider market segments. Regional centers can help build the market capacity for different kind of safety nets as well as for new markets for climate related insurance including micro-insurance. The estimated cost for a Climate Insurance Assistance Facility is 2 billion dollars per year.