



Centre for
Climate Change
Economics and Policy



Grantham Research Institute on
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the Environment

Submission by the
Grantham Research Institute on Climate Change and the Environment
&
The Centre for Climate Change Economics and Policy

SBI WORK PROGRAMME ON LOSS AND DAMAGE:
VIEWS AND INFORMATION ON WHAT ELEMENTS SHOULD BE INCLUDED IN THE WORK
PROGRAMME TO CONSIDER APPROACHES TO ADDRESS LOSS AND DAMAGE

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TO CONSIDER APPROACHES TO ADDRESS LOSS AND DAMAGE**

The Grantham Research Institute (GRI) on Climate Change and the Environment and the Centre for Climate Change Economics and Policy (CCCEP) welcome the opportunity to provide input on discussions under the Ad Hoc Working Group on Long-Term Cooperative Action (AWG-LCA) under the UNFCCC. The GRI and CCCEP are academic research institutes hosted by the London School of Economics and Political Science and the University of Leeds, conducting independent research on the economics of climate change to support decision making in the public and private sectors¹.

This submission responds to the call for views and information from Parties and relevant organizations on what elements should be included in the work programme to consider approaches to address loss and damage.

ABSTRACT

Disaster risk reduction, risk sharing and risk transfer play a major role in an effective adaptation framework. A range of well-tested tools are available to manage risks from current natural disasters. A key goal of the SBI work programme on loss and damage should therefore be to draw on this existing information, experience and expertise to inform the development of viable and practical plans for the implementation of adaptation measures to reduce loss and damage associated with the adverse impacts of climate change in the most vulnerable countries. We suggest that the work programme focus on specific, high priority open questions related to the

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design, implementation and governance of a loss and damage mechanism. Defining these priority questions should be the first task of the programme. Examples of open questions are given and suggestions are made on their priority. A valuable outcome of the work programme would be a menu of possible packages of options (alongside high-level estimates of their costs) and practical implementation plans that can be made available for consideration by the SBI at its thirty-first session in June 2011, with a view to making recommendations on loss and damage to the Conference of the Parties for its consideration at its eighteenth session (COP18) in late 2012. A secondary outcome would be to identify any unresolved questions important for implementation and propose a plan of action to tackle these ahead of COP18.

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I. INTRODUCTION

The Cancun Adaptation Framework (contained in /CP.16²) recognises the need to strengthen international cooperation and expertise to understand and reduce loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events². It decided to establish a work programme in order to consider approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change and requests the Subsidiary Body for Implementation (SBI) to agree on the activities to be undertaken under this work programme.

Parties and relevant organisations are invited to submit views and information on what elements should be included in the work programme, specifically related to:

- a) Possible development of a climate risk insurance facility to address impacts associated with severe weather events;
- b) Options for risk management and risk reduction; risk sharing and transfer mechanisms such as insurance, including options for micro-insurance; and resilience building, including economic diversification;
- c) Approaches for addressing rehabilitation associated with slow onset events;
- d) Engagement of stakeholders with relevant specialized expertise;

These views will be synthesised into a report to be made available for consideration by the SBI at its thirty-first session in June 2011, and with a view to making recommendations on loss and damage to the Conference of the Parties for its consideration at its eighteenth session in late 2012.

This submission aims to provide input on the important gaps in current understanding that could be filled by an SBI work programme on loss and damage to operationalize options related to parts (a) and (b) of paragraph 28 (listed above). These two elements are those within the expertise and research strategy of the GRI and CCCEP. This submission is structured as follows: section 2 provides a high-level review of the risks from extreme events, the range of tools available to manage these risks and outlines some principles for their use within an adaptation framework that are relevant to

² UNFCCC/AWGLCA/2010/L.7, paragraphs 25-29,
http://unfccc.int/files/meetings/cop_16/application/pdf/cop16_lca.pdf

designing a loss and damage work programme; section 3 suggests high-level goals for the programme; sections 4 and 5 highlight key priority areas for the work programme.

II. EXISTING EVIDENCE TO INFORM THE DESIGN OF A LOSS AND DAMAGE PROGRAMME

An important foundation to designing a loss and damage work programme is to build an understanding of the nature of the problems and solutions; specifically, the risks associated with climate change to the most vulnerable, the array of tools available to manage these risks, and the principles of how these tools should work together to reduce risk while also supporting development and poverty reductions goals.

This is an area where there is substantial existing information. A significant amount can be learnt from approaches to manage extremes today and there already exists a deep knowledge and experience to build on. This section discusses some of these lessons at a high-level and suggests resulting principles that might inform the design of a loss and damage work programme.

Natural disasters from extreme weather events, such as droughts, floods and tropical cyclones, cause devastating loss of lives and livelihoods across the world. The effects of disasters are felt particularly strongly in developing countries. Between 1991 and 2005, more than 3 billion people in developing and least developed countries are reported to have been affected by flooding, droughts and storms³.

Climate change is likely to affect the frequency, intensity and geographical distribution of extreme weather events. Extreme weather events, today and in the future, represent the earliest and in places, most significant, climate-driven threat to the most vulnerable populations⁴. For this reason, the reduction and management of the risks from extreme weather events must play a major part in the adaptation strategies and financing.

Tools of disaster risk management

A range of well-tested tools are available to avoid or limit the adverse effects of extreme weather events. These can be divided into ex-ante and ex-post categories. *Ex-ante* measures are implemented before a disaster occurs. These include: tackling the

³ Source: EM-DAT. The OFDA/CRED International Disaster Database - www.emdat.net - Universite catholique de Louvain - Brussels - Belgium.

⁴ Stern Review (2007)

underlying social drivers of risk (i.e. reducing social and economic vulnerability)⁵; early warning systems; disaster preparation (including evacuation procedures and emergency response planning); structural measures to limit risk (such as flood defences or enforced building codes); non-structural measures (such as risk-averse land-use planning to limit exposure); and financial risk-sharing. These different types of measures are appropriate for managing different scales of risk and so are often complementary within a risk management strategy (Figure 1). In the majority of cases, ex-ante disaster risk reduction is a far more cost-effective, sustainable and humanitarian approach to managing risks than simply bearing the losses or relying on ex-post measures.

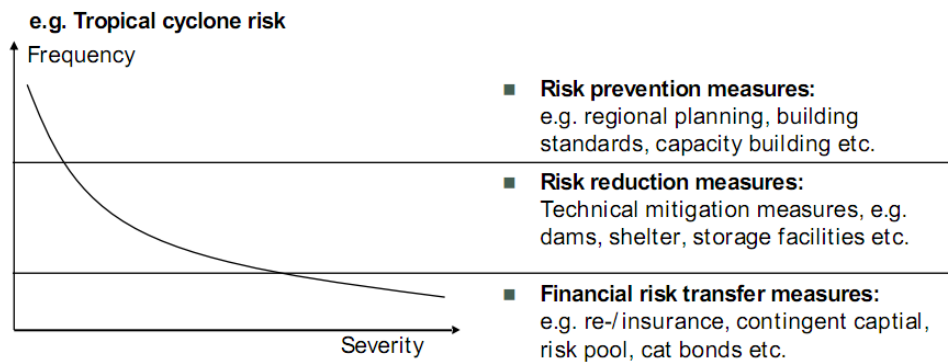


Figure 1: Illustration of available ex-ante risk management tools and their applicability for managing different scales of risk, in terms of severity and frequency (Warner and Spiegel, 2009)

Historically, low- and middle-income countries have tended to rely on *ex-post* measures, in particular post-disaster assistance rather than *ex-ante* measures. This partly results from a lack of the up-front finance needed for *ex-ante* measures. Disaster assistance typically comes in the form of donor aid (or lending) to developing countries. The advantage of post-disaster assistance (relative to *ex ante* action) is that it is cheap (i.e. from donor aid), reactive and requires no forward planning. The major disadvantage is that it does not prevent fatalities or damages. In fact, it can actually discourage risk reduction, potentially putting more lives and livelihoods at risk.

⁵ Poverty reduction and development, including strengthened governance and institutional structures, economic diversification and education can themselves significantly reduce vulnerability to disaster risk. A healthy, well educated population with access to social protection can better cope with shocks associated with natural disasters caused by extreme weather events (World Bank, 2009).

Enhanced *ex-ante* risk management can have huge and immediate benefits in developing countries.

Rationale for using Risk Transfer Tools, such as Insurance, and their Limitations

Not all the risks from extreme weather events can be eliminated cost-effectively; there will always be some residual risks. The impacts arising from this residual risk can be reduced through better preparedness and disaster response, but in many cases, households, businesses and governments are left with a financial gap in rehabilitation and rebuilding that can slow recovery and may impair the long-term health, human development and productivity of the most vulnerable, exacerbating chronic poverty⁶.

The financial gap can be closed pro-actively through risk-sharing and transfer, including social safety nets and insurance⁷. Well-functioning risk transfer markets share risks across individuals, regions and countries, reducing the welfare effects of negative shocks of all types on the affected population.

Insurance is a form of risk transfer common in developed countries with a growing application in the developing world⁸. Here the term ‘insurance’ is used as a collective term that covers a range of tools appropriate for different users and circumstances, from micro-insurance for farmers to national-level risk pools. The advantages of insurance over post-disaster assistance include: relatively fast to respond; reliable; payouts are certain; and where well-designed can create incentives for risk reduction⁹.

However, insurance is not a silver bullet for adaptation and has limitations as an adaptation tool. This has implications for the design of a loss and damage programme:

- Fundamentally, risk transfer and sharing schemes do not directly reduce the risk of immediate damage or loss from disasters. Ex-ante disaster risk reduction is the only approach that can prevent fatalities and limit direct damage from disasters.

⁶ For example, affected populations may be forced to cut back on more productive investments to fund rehabilitation (World Bank, 2009)

⁷ Insurance (risk transfer) is a mechanism whereby an individual or organisation (the insured) transfers part of their risk to an insurer in return for a payment (the premium). If the insured experiences a loss, the insurer pays out a previously agreed amount.

⁸ E.g. UNFCCC 2008, Warner and Spiegel 2009

⁹ Hoeppe and Gurenko 2006

- In a warmer world, without efforts to reduce risks, both post-disaster assistance and insurance will become increasingly expensive and ultimately unsustainable.
- Like post-disaster assistance, poorly designed risk transfer initiatives can be a maladaptation to climate change if they reduce incentives for risk reduction or create moral hazard.
- Insurance alone, particularly traditional notions of insurance, is not practical or viable everywhere: there are barriers and practical constraints to the adoption at scale that might make other tools more effective.

However, insurance is often the only viable tool to manage the less frequent but high severity events, which can exceed local coping and risk mitigation capacities (Figure 1).

Hence a central goal of the SBI work program should be to explore implementable options that avoid and reduce loss and damage, and use complementary tools like risk transfer to help vulnerable countries manage the impacts of loss and damage.

Implications for the Design of a Loss and Damage Mechanism

The evidence described in this section leads to a number of necessary principles of utilising risk reduction and transfer approaches within an adaptation framework. Firstly, there must be an appropriate balance of risk reduction and risk transfer measures that recognises the changing nature of risks over time. Secondly, risk transfer mechanisms should be designed to incentivise good risk management behaviour.

A loss and damage mechanism should also recognise the lessons and principles learnt from disaster risk management and development activities today, for example, those outlined in the Hyogo Framework for Action¹⁰. In particular, the need to mainstream efforts into existing national planning and policymaking processes, including development planning, poverty alleviation, environmental management and natural resource management. It should also build on the principles laid out by the UN Framework Convention on Climate Change and the Cancun Adaptation Framework, including being country-driven, participatory, promoting local capacity building and resilience and targeting assistance to the most vulnerable groups. A goal of the SBI work programme should therefore be to explore ways of designing mechanisms and implementing adaptation tools consistent with these principles.

¹⁰ UNISDR 2005

III. PROPOSED GOALS OF THE WORK PROGRAMME

The Work Programme on Loss and Damage should have clearly defined goals and outcomes from the start. Defining these goals and outcomes will be the first step of a work programme and will require input from Parties and relevant experts. In particular, understanding the concerns of Parties is a prerequisite for designing a work programme.

We suggest that a goal of this work programme be to identify viable packages of tools and components of a loss and damage mechanism and outline practical options for implementation, given the concerns of Parties and technical input from experts. A

valuable output would be a menu of feasible options with draft implementation plans that can be made available for consideration by the SBI at its thirty-first session in June 2011, with a view to making recommendations on loss and damage to the Conference of the Parties for its consideration at its eighteenth session (COP18) in late 2012. The output would include high-level estimates of the costs of measures and plans outlining priority actions to implement different options.

The different components of a loss and damage mechanism have differing information needs and design, governance and implementation issues. To reflect this, the work programme should be divided along the lines of the different tools and levels of risk outlined in paragraph 28, as such:

- 1) The development of a climate-insurance facility to address impacts related to severe weather events**, that is, infrequent, high impact risks of loss and damage from extreme events at a country level
- 2) Options for risk management**, including risk sharing and transfer mechanisms, such as insurance and micro-insurance, and risk reduction, including resilience building and economic diversification. This stream is focussed on managing more frequent, medium-scale risks of loss and damage at the country or regional level (than (1)) but risk reduction and resilience activities will also have benefits for the most severe weather events.
- 3) Approaches to address longer-term foreseeable loss and damage:** approaches for addressing rehabilitation measures associated with gradual events, such as

increasing mean temperatures, sea level rise, biodiversity loss, glacial retreat and desertification.

These three work streams are not independent. It is important to examine the interrelationships between the different tools.

Evidence gathering as part of the work programme should begin by engaging relevant stakeholders and experts (paragraph 28d) and identifying the important information and expertise gaps that need to be filled in order to make recommendations on the implementation a mechanism on loss and damage under the AWG-LCA. This engagement could occur through a focussed workshop. A programme of expert meetings and reports would then aim to fulfil these immediate needs. *While this evidence gathering will include scientific and technical considerations, we suggest that it take place within the SBI work programme on loss and damage as evidence gathering is geared toward the development of practical recommendations on implementation.*

This is an area where substantial expertise, experience and knowledge are already available and therefore, a goal of the work programme could be to identify and bring together this resource (including leveraging parallel initiatives¹¹), including creating active networks with stakeholder organisations, and utilise this towards filling important gaps related to adaptation. A key outcome of this stage would be a report detailing potential packages of measures (including both risk transfer and risk reduction options) under each work stream and options for their implementation, with a high-level appraisal of costs and benefits, and finally, a summary of any remaining issues or data gaps to be addressed for implementation.

A secondary goal of the work programme would be to inform and catalyse future activities on loss and damage beyond the SBI work programme and toward the formation of practical recommendations ahead of COP18, as well as building capacity for implementation. **An outcome of the SBI work programme here could be a draft plan of action.** This plan could include, for example, pilot studies and risk analyses, strengthening local capacity and international cooperation on loss on damage, both within the research and policymaking communities, but also within the private sector.

¹¹ Including the IPCC Special Report on Extreme Events and the UN ISDR Global Assessment Report

IV. SUGGESTED PRIORITIES FOR THE WORK PROGRAMME

There are three work areas required to explore the implementation of a loss and damage mechanism (given the elements outlined in paragraph 28):

- 1. Mapping the risks from climate change and the assets exposed**, that is, understanding the nature of the problem and gathering the technical risk information required to design response strategies.
- 2. Scoping the range of measures and instruments available**, their respective functions and their respective roles in a disaster risk management package.
- 3. Identifying options to operationalize approaches**, including technical design issues, but also implementation and governance

Much research attention has focussed on understanding the nature of the problem (the first component, above) and parallel efforts by the Intergovernmental Panel on Climate Change (IPCC) and UN ISDR will provide further information by 2012. Important information gaps are the detailed risk assessments required to inform specific local response strategies. However, this is an intensive, locally-specific exercise that may be non-essential to the development of recommendations on implementation and therefore beyond the scope of the SBI work programme. Some have suggested that financing for such detailed risk assessments might form one component of a loss and damage mechanism¹².

Substantial information and expertise is available on risk management tools (the second component, above) and therefore, a goal of the SBI might be to:

- i.** Gather this knowledge and assess the relative roles of different tools in the context of managing long-term climate change risks given core principles and lessons learnt from existing programmes. An outcome of this could be to develop viable packages of measures for consideration (with cost estimates as relevant).
- ii.** Identify current gaps in knowledge data and capacity (both local and global) for their implementation.

¹² Such technical risk analyses could form a technical assistance component of a loss and damage mechanism, as has been proposed, e.g. MCII 2008, AOSIS 2008 and Warner and Spiegel 2009

The third component outlined above, involving issues of design, implementation and governance, has so far received the least attention, but is an area where many Party queries have centred¹³. Information gaps in this area could create the largest barrier to developing a set of viable recommendations for COP18 and therefore, we suggest that this area be a priority for the SBI work programme on loss and damage.

V. KEY OPEN QUESTIONS FOR THE WORK PROGRAMME

Given the knowledge available today, in the context of paragraphs 26-29 and the proposals already made by parties (Annex A), we suggest the following open questions that could be addressed by the SBI work programme on loss and damage. The full list is given in Annex B. Summarised below are those questions and issues which we suggest have highest priority for investigation within the SBI work programme; where we define high priority questions and issues as those that could create barriers to the development of meaningful recommendations if not tackled ahead of COP18. **We suggest that a first step of the work programme would be to scope a comprehensive and prioritised list in discussion with stakeholders and experts.**

(a) Possible development of a climate risk insurance facility to address impacts associated with severe weather events

This work stream would focus on developing options a 'climate risk insurance facility' to manage the most severe weather events; that is, those that would usually cause losses that go beyond the capacity of a country to cope. It would particularly explore the proposals made by Parties and Organisations (Annex A) and consider specific feasibility, design and implementation questions. We suggest that high priority questions and issues related to this work stream include:

- i. What is the nature of the 'climate risk insurance facility'?** For example, would it be designed to act as an international solidarity fund or a financial risk sharing instrument? How would solvency be ensured? What is the role of private versus public insurance/reinsurance providers?
- ii. Which risks are covered?** For example, national-level, regional or individual risks? Immediate liquidity gaps (e.g. as in the Caribbean Catastrophe Risk Insurance Facility, CCRIF) or public infrastructure damages also? Property damage or business interruption? What levels of losses are covered? Would it

¹³ Iyahan and Young 2009, MCII 2008 and MCII 2009b

include only climate change-related risks or all climate risks¹⁴? Which hazards would be covered? Would the facility have scope to include non-climate hazards, such as earthquakes?

- iii. **How would the insurance facility target assistance to the most vulnerable?**
- iv. **Who pays the premia?** What fractions of premia are contributed by the international community versus beneficiary countries? How would any subsidies be structured - how would this vary depending on capacity of the beneficiary country and the level of coverage of the scheme?
- v. **What expertise and entities would be required to establish and run the insurance facility?** What are realistic timescales for start-up and growth?
- vi. **What data, institutional, legal and expertise gaps would need to be filled to operationalize the insurance facility?** How would country level capacity issues be addressed?
- vii. **How would the insurance facility be established and grow?** E.g. would it begin with individual regional pools covering specific risks, with the aim of growing to a more global, comprehensive solution?
- viii. **What public/private entities would need to be established to operate the insurance facility and how would these interact with existing public institutions?** E.g. independent non-profit organisations, MLFAs or regional development banks? What international, regional and local institutions would need to be involved? How would operational entities be designed and what responsibilities would they have?
- ix. **How would be the insurance facility be governed?** Which institutions would be responsible? What auditing and verification processes would be required? Jurisdiction? How to manage conflicts?
- x. **Who benefits?** Which countries are able to participate in the insurance facility? Is it limited to LDCs or broader participation with premia based on capabilities?

¹⁴ Including a broader range of risks might have advantages for diversification of the risk pool and therefore reduce overall costs.

(b) Options for risk management and risk reduction; risk sharing and transfer mechanisms such as insurance, including options for micro-insurance; and resilience building, including economic diversification.

Options addressed under this work stream are mainly those used to manage medium-scale or sub-national level loss and damage (e.g. Figure 1). This scale of risk can typically be cost-effectively reduced (or in some cases, prevented) and residual risks shared or transferred. The types of measures required here are similar to those used today to manage risks in both developed and developing countries and those already advocated by international development and disaster risk reduction organisations. This means that for this component, fewer knowledge gaps exist. However, implementation could be more challenging than for (a) as it is more likely to require ‘bottom-up’ actions and could therefore come up against barriers to action on the ground, such as institutional barriers and challenges of lack of local data and capacity.

However, investments and actions under this component also have strong synergies with other areas of adaptation financing (e.g. reducing risks from gradual changes in climate), as well as broader humanitarian, disaster risk reduction, development and poverty reduction activities not directly related to climate change. Examples include strengthening adaptive capacity, building risk information and early warning systems, addressing the underlying drivers of vulnerability (including economic diversification), strengthening institutional capacity and risk governance and building financial safety nets. This means that investments will have immediate benefits and win-wins.

The proposals currently made under this element¹⁵ emphasize the need for local ownership and coordination, with international financing being directed toward technical assistance, local capacity building (directed toward individuals, governments and the private sector) and funding of specific adaptation projects. In this context, high priority questions for the SBI work programme for loss and damage might include:

- i. How could a loss and damage mechanism be designed to support local capacity building in this respect? What types of knowledge and data gaps need to be filled?** E.g. a technical assistance facility to help identify and fill gaps in present-day climate risk information and risk understanding, and support local capacity

¹⁵ AOSIS 2008 and MCII 2009a

building, including risk governance, finance distribution channels and the legal and regulatory frameworks to support insurance tools.

- ii. **What local/international and public/private entities would need to be established?** What international, regional and local institutions would need to be involved? How would operational entities be designed and what responsibilities would they have?
- iii. **How can finance be targeted to assist the most vulnerable?**
- iv. **Governance:** how would the allocation of finance be governed? Who pays? How is financing organised (e.g. central pool vs. bilateral arrangements)? Would governance be centralised or disaggregated? How is adaptation finance allocated between beneficiaries and projects? How is success measured?
- v. **What would be the start-up procedure?** Where are immediate priorities and how would initial actions be scaled up? What are feasible timescales?

VI. CONCLUSIONS

A primary goal of the SBI work programme on loss and damage should be to develop packages of viable options for a loss and damage mechanism and outline options for implementation. To date, research and evidence gathering efforts have focussed on understanding the nature of the risks faced from climate change and the potential damages. Proposals have been made on approaches to manage these risks, including risk reduction, risk transfer and resilience building. A priority for the SBI work programme should be to draw together relevant expertise to explore the design and feasibility of these options and to consider issues of implementation, operation and governance to take these options into practice. A valuable outcome of the work programme would be a menu of possible packages of options (with high-level estimates of their costs) and implementation plans. A secondary outcome would be to identify remaining gaps and propose a plan to further develop the evidence base and build required capacity in support of implementation.

VII. ACKNOWLEDGMENTS

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ANNEX A: PROPOSALS FOR A LOSS AND DAMAGE MECHANISM

Numerous proposals for disaster risk reduction and insurance instruments have been put forward and were tabled in the UNFCCC negotiation process ahead of COP15 (Warner and Spiegel, 2008). In 2008, the Swiss Government reinforced earlier calls by proposing a multi-lateral adaptation fund that would be spent on prevention and insurance. Building on this initiative, the Alliance of Small Island States (AOSIS) and the Munich Climate Insurance Initiative (MCII) have submitted two separate but similar proposals for disaster risk reduction and insurance that have been considered ahead of COP15 in Copenhagen. Both propose that the international community makes funding available to assist developing countries, particularly those most vulnerable, to adapt to climate change, by reducing climate-related risks and transferring them where necessary through financial mechanisms.

The MCII proposal incorporates two pillars (Figure A1). The Prevention Pillar provides support for activities that cost-effectively prevent or reduce low-level weather-related risks from, for example, frequently occurring dry seasons or heavy rains. The Insurance Pillar provides support for those risks that can not be cost-effectively prevented, described as medium- and high-level weather-related risks. MCII proposes two tiers to deal with these risks. At medium levels of risk (e.g. events such as a 1-in-50-year return period event) a Climate Insurance Assistance Facility would enable public/private insurance and other social protection systems for vulnerable communities. This might include, for example, micro-insurance for agriculture or risk pooling for countries. To provide a financial safety net against the less frequent and higher impact events, MCII proposes a Climate Insurance Pool that will absorb a pre-defined portion of high-level risks, particularly in vulnerable countries, at no cost to the beneficiary countries. The Climate Insurance Pool would be reinsured against extreme loss years in the global reinsurance market. The April 2009 submission of the MCII costed the proposal at US\$8 – 10 billion per year.

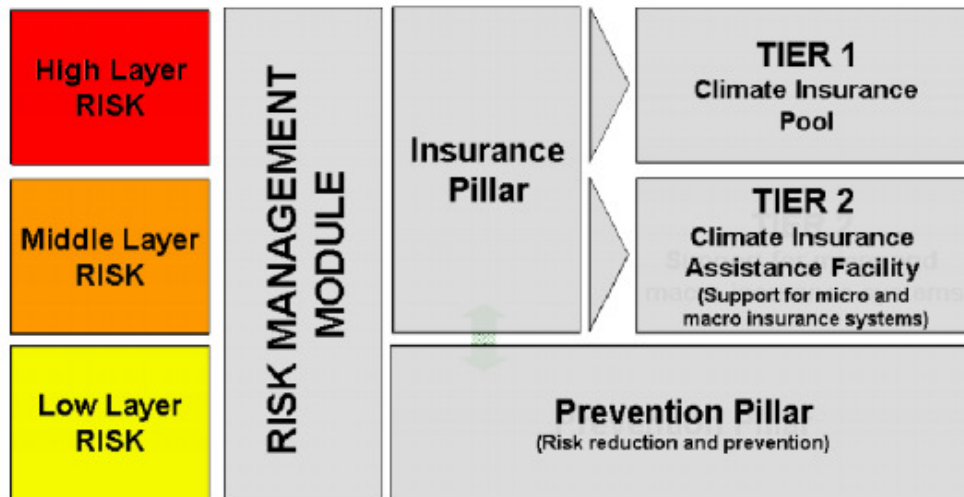


Figure A1: The MCII Proposal (Warner, K and Spiegel, A. 2009)

The AOSIS proposal (Figure A2) takes a similar form to the MCII proposal but with an additional pillar to deal with financial support for slow-onset loss events like sea level rise. This pillar is called the ‘Rehabilitation/Compensation Component’. The AOSIS proposal calls for a multi-window mechanism with three components (or Pillars) to address loss and damage from climate change impacts: insurance, rehabilitation, and risk management. These three components would be supported by a financial and technical support facility.

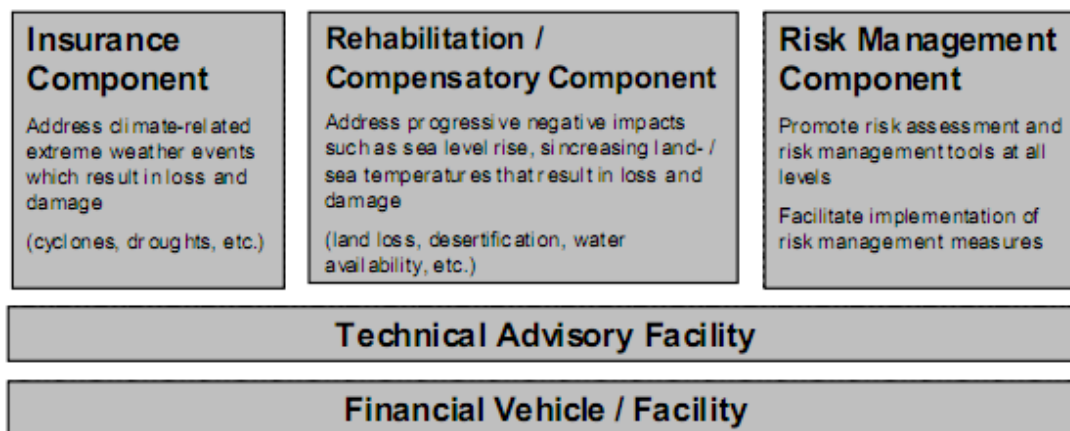


Figure A1: The AOSIS Proposal (AOSIS 2008)

Sources: AOSIS 2008, MCII 2008, MCII 2009, Warner et al. 2009a,b.

ANNEX B: OPEN QUESTIONS FOR THE DESIGN AND IMPLEMENTATION OF A LOSS AND DAMAGE MECHANISM

(a) Possible development of a climate risk insurance facility to address impacts associated with severe weather events

Design/feasibility issues:

- i. What is the nature of the ‘climate risk insurance facility’?** For example, would it be designed to act as an international solidarity fund or a financial risk sharing instrument? How would solvency be ensured? What is the role of private versus public insurance/reinsurance providers?
- ii. What different types of ‘climate risk insurance’ exist and do they provide a useful and effective template or is it necessary to design and develop a new insurance facility?** How would the insurance facility relate to already existing insurance solutions?
- iii. Which risks are covered?** For example, national-level, regional or individual risks? Immediate liquidity gaps (e.g. as in the Caribbean Catastrophe Risk Insurance Facility, CCRIF) or public infrastructure damages also? Property damage or business interruption? What levels of losses are covered? Would it include only climate change-related risks or all climate risks¹⁶? Which hazards would be covered? Would the facility have scope to include non-climate hazards, such as earthquakes?
- iv. How would the insurance facility target assistance to the most vulnerable?**
- v. Who pays the premia?** What fractions of premia are contributed by the international community versus beneficiary countries? How would any subsidies be structured - how would this vary depending on capacity of the beneficiary country and the level of coverage of the scheme?

¹⁶ Including a broader range of risks might have advantages for diversification of the risk pool and therefore reduce overall costs.

- vi. **How could the insurance facility be designed to complement other disaster risk management and adaptation activities?** How would it operate alongside existing post-disaster aid, e.g. in the form of loans, donor aid or charities?
- vii. **How could the insurance facility incentivise long-term risk reduction?**
- viii. **How would be the insurance facility involve the private sector?** E.g. technical assistance, operational entities, capitalisation and/or reinsurance? How can initiatives be designed to avoid crowding out the private sector? Is there scope for fostering private sector growth in developing countries (i.e. local insurers/service providers) or would this be mainly covered by large multi-national financial players? Could financing be designed to leverage private sector expertise and finance?
- ix. **How will the reserves of the facility be invested?** Should these be invested in adaptation in developing countries?
- x. **How would the facility relate to the other elements of the loss and damage mechanism?** How would a macro facility relate to micro level facilities? Would it be the central facilities role to develop local facilities? How would it support these facilities? Could a facility also be used to manage long-term risks such as sea level rises?

Technical design issues:

- i. **How would contracts be designed?** E.g. would parametric triggers be used as with CCRIF, or would it be closer to traditional reinsurance?
- ii. **Who would be the policyholder / insured entity?**
- iii. **How would the insurance facility be organised?** E.g. global or regional groupings? Global-level reinsurance initiatives to link regional pools? How many different cover layers?
- iv. **Costs versus benefits:** what levels of risk could be covered at what cost? What levels of capitalization would be required?
- v. **How would risks be assessed?**

Implementation:

- i. **What expertise and entities would be required to establish the insurance facility** What are realistic timescales for start-up and growth?

- ii. **What data, institutional, legal and expertise gaps would need to be filled to operationalize the insurance facility?** How would country level capacity issues be addressed?
- iii. **How would the insurance facility be established and grow?** E.g. would it begin with individual regional pools covering specific risks, with the aim of growing to a more global, comprehensive solution?

Operation and governance:

- i. **What public/private entities would need to be established to operate the insurance facility and how would these interact with existing public institutions?** E.g. independent non-profit organisations, MLFAs or regional development banks? What international, regional and local institutions would need to be involved? How would operational entities be designed and what responsibilities would they have?
- ii. **How would be the insurance facility be governed?** Which institutions would be responsible? What auditing and verification processes would be required? Jurisdiction? How to manage conflicts?
- iii. **Who benefits?** Which countries are able to participate in the insurance facility? Is it limited to LDCs or broader participation with premia based on capabilities?
- iv. **Who oversees and manages underwriting and claims?** That is, risk selection process, risk assessment, premium setting and claims payout. How do we reduce the risk of political interference versus private market drivers

(b) Options for risk management and risk reduction; risk sharing and transfer mechanisms such as insurance, including options for micro-insurance; and resilience building, including economic diversification;

Design issues:

- i. **What risk reduction and risk transfer tools are currently available?** What are the benefits and limitations of these tools and how can they work together? What are their requirements, in terms of finance and operation?
- ii. **Do we need any new tools?**

- iii. **What can be achieved and at what cost?** Where and how can adaptation finance have the greatest benefits? E.g. global knowledge and data versus specific local adaptation projects?
- iv. **What is the appropriate balance between near-term risk transfer and short-term/long-term risk reduction activities?** How can risk transfer tools be designed to incentivise long-term risk reduction?
- v. **What forms of risk transfer are appropriate?** Who is insured (individuals, communities and/or governments)? What is insured? How is affordability ensured? How can risk transfer tools, like micro-insurance, be designed to promote risk reduction and long-term adaptation? What can be learnt from existing schemes in both developed and developing countries? What designs of risk transfer tools are appropriate? Would risk transfer tools be delivered by the public sector, private-public organisations, or the private sector? How are the residual risks managed? How can we avoid moral hazard?
- vi. **What is the role of the private sector?** How can public finance leverage private finance and expertise? How can initiatives be designed to incentivise rather than crowd-out the private sector? Role of local markets versus global players?

Implementation:

- i. **What knowledge, data and local capacity gaps need to be filled for implementation and how might this be achieved?** E.g. gaps in local risk governance capacity, present-day climate risk information and risk understanding, distribution channels and regulation needs of insurance.
- ii. **Would there be one 'official' risk assessment and risk data source?** How would this data be generated, managed and disseminated?
- iii. **How would loss and damage projects work alongside, leverage and support existing national or international initiatives to protect vulnerable populations, as well as local broader development needs?** E.g. the UNISDR and Hyogo Framework, national development activities and the NAPAs.
- iv. **What would be a good set of principles for implementing programmes?**
- v. **What would be the start-up procedure?** Where are immediate priorities and how would initial actions be scaled up? What are feasible timescales?

Operation and governance:

- i. **What public/private entities would need to be established?** What international, regional and local institutions would need to be involved? How would operational entities be designed and what responsibilities would they have?
- ii. **How can finance be targeted to assist the most vulnerable?**
- iii. **Governance:** how would the allocation of finance be governed? Who pays? How is financing organised (e.g. central pool vs. bilateral arrangements)? Would governance be centralised or disaggregated? How is adaptation finance allocated between beneficiaries and projects? How is success measured?
- iv. **Would risk transfer instruments be centrally or locally operated and governed?** What international facilities would be involved? E.g. would central bodies be involved for technical assistance, reinsurance and/or providing insurance?

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