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UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

Subsidiary Body for Implementation
Thirty-fifth session
Durban, 28 November to 3 December 2011

Item 8 of the provisional agenda
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 to enhance adaptive capacity[1]
- Activities to be undertaken under the work programme

Views and information on the thematic areas in the implementation of the work programme

Submissions from Parties and relevant organizations

1. The Subsidiary Body for Implementation (SBI), at its thirty-fourth session, invited Parties and relevant organizations to submit to the secretariat, by 15 August 2011, further views and information on the following themes to be addressed in the work programme:

(a) Assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge on the same;

(b) A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels;

(c) The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change.

2. The SBI requested the secretariat to compile these submissions into a miscellaneous document to be made available by its thirty-fifth session.[2]

3. The secretariat has received 17 such submissions. In accordance with the procedure for miscellaneous documents, the nine submissions from Parties[3] and four submissions from

[1] Decision 1/CP.16, paragraphs 26–29.
[2] FCCC/SBI/2011/7, paragraph 110.
[3] Also made available on <http://unfccc.int/5902.php>.

international organizations[4] are attached and reproduced* in the languages in which they were received and without formal editing. In line with established practice, the four submissions from non-governmental organizations have been posted on the UNFCCC website.[5]

[4] Also made available on <http://unfccc.int/3714.php>.

* These submissions have been electronically imported in order to make them available on electronic systems, including the World Wide Web. The secretariat has made every effort to ensure the correct reproduction of the texts as submitted.

[5] <http://unfccc.int/3689.php>.

Contents

Paper no. 1: Australia

AUSTRALIA

Submission under the Cancun Agreements | August 2011

Further views and information on the agreed themes of the work programme to consider approaches to address loss and damage associated with climate change impacts in vulnerable developing countries |SBI

I. Overview

This submission contains the further views of the Australian Government on the themes to be addressed under the work programme on loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change, as requested under paragraph 5 of FCCC/SBI/2011/L.20. Australia also draws attention to its previous submission on the work programme on loss and damage.

In summary, Australia considers that:

- The work programme should focus exclusively on the adverse impacts of climate change and not include consideration of impact of response measures.
- It is essential to build on current work and enhance existing knowledge on loss and damage undertaken by national governments and regions in order to assess the associated risks.
- A mix of tools and policy instruments will be required. A comprehensive approach to adaptation – built sectorally from the bottom up and ensuring proactive adaptation solutions are implemented – will allow for a more targeted and complete solution to loss and damage than one built from the top-down.
- Allocating risks to those best placed to manage them is likely to be an important part of an effective approach. The work programme should assess the appropriateness of applying approaches at the individual, company, sector, national, regional and international levels.
- The UNFCCC should look to complement rather than duplicate the existing work of relevant bodies, and use its comparative advantage in determining its role in assisting with the implementation of any loss and damage approaches.

II. Elaborating the themes of the work programme to address loss and damage

As emphasised in our submission on the elements for a work programme on loss and damage in February 2011, Australia considers that the work programme under the Cancun Adaptation Framework provides a solid foundation for supporting action on adapting to loss and damage suffered as a result of the adverse impacts of climate change.

While in Australia's view reducing carbon pollution and developing a post-2012 international framework that supports meaningful mitigation action by all major emitters remains the primary means of minimising climate-related risks, we also recognise that some climate change impacts cannot be avoided, and that the adverse effects of severe climate change induced events are already evident in many countries.

At the UNFCCCC session in Bonn in June, Parties agreed to the themes of the work programme on loss and damage. These should be approached sequentially in order to ensure that a discussion on specific approaches and implementation, builds on an adequate foundation of knowledge on the risks and costs of loss and damage.

Australia would appreciate an opportunity for further informal discussions on the work programme before Durban. This could be the Experts Meeting to take place before SBI36 and agreed to in Bonn in June (FCCC/SBI/2011/L.20). Additional discussions would provide Parties with time to consider potential activities for the work programme, in time for adoption at COP17.

It is also important that this work programme focus exclusively on the adverse impacts of climate change and does not include consideration of impact of response measures, which is addressed through a separate process mandated in the Cancun Agreements.

III. Theme 1: Assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge on the same

Australia recognises that all Parties will face challenges in addressing the risks associated with climate change impacts and that some countries, developing countries in particular, will be especially vulnerable to these impacts.

In order to address these risks, Australia considers it essential to build on current work and enhance existing knowledge on loss and damage undertaken by national governments and regions in order to assess the associated risks. This includes work related to the UNFCCC, such as the IPCC Special Report on Managing the Risks of Extreme Events and Disaster to Advance Climate Change Adaptation, and beyond, including the UN International Strategy for Disaster Risk Reduction.

Methodologies and data bases used in the disaster risk reduction sphere, which can contribute to cross-sectoral and cross-country comparisons of climate-related losses, should be utilised and developed.

This work programme theme should explore data, technical and capacity gaps in knowledge and approaches to loss and damage, particularly for slow onset events.

To this end, the work programme on loss and damage should develop the building blocks necessary to inform effective adaptation policies in the area of risk management. This includes knowledge on reducing the risk of loss and damage through proactive adaptation planning and risk management, and increasing the resilience of institutions, systems and communities to recover from unavoidable impacts caused by climate change, including through risk transfer mechanisms.

IV. Theme 2: A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow-onset events, taking into consideration experience at all levels

A mix of tools and policy instruments will be required, with the best approach depending on the nature of the activity or asset at risk, the existing social, economic and policy environment, the interests and goals of those affected, the nature and magnitude of the climate change expected, and the degree of certainty with which future climate change can be anticipated.

In recognising the array of climate change impacts and the different circumstances of each country, Australia considers it appropriate that the work programme on loss and damage incorporates a range of approaches.

With this theme in mind, the work programme should document and assess country experiences with various risk mitigation and risk management approaches. In doing so, the work programme should take into account knowledge, expertise, good practice and lessons-learned at local, national and regional levels.

Australia co-hosted a workshop with Barbados on 'Innovative Approaches on Loss and Damage: National and Regional Perspectives' on the margins of the Bonn negotiating session in June, 2011. Over 30 countries participated, demonstrating the broad variety of approaches to loss and damage and the utility of considering different experiences and policies designed to address these.

It is important for each country to develop an approach that will promote rational and effective action to manage potential loss and damage from climate change impacts, taking national circumstances into account. This is likely to require both a sound over-arching framework and more detailed approaches to managing specific sectoral and regional vulnerabilities.

Countries that bear greater risks in particular sectors should consider approaches to specifically address these. Thematic, sector-specific approaches can assist in responding to future loss and damage events in a targeted fashion. Sectors of particular note for a number of countries include infrastructure, including tourism infrastructure, agriculture, water and energy. At the workshop on innovative approaches, Chile outlined its sector-specific approach for agricultural loss and damage, which could potentially inform other jurisdictions.

The work programme theme on approaches should elaborate on what tools are applicable and cost-effective to manage different kinds of risks and how they can best complement each other. To do this there should be well-accepted methodologies to assess and compare the costs and benefits of approaches.

The work programme could consider undertaking a cost-benefit analysis through a top-down study at the macro level with different policy scenarios and assumptions, or examining risks and approaches from the bottom-up industry/sector level. Australia believes the latter option would fit within the activity-focus of the work programme, assist with comparability of approaches and better suit the capacities of parties.

Australia considers a comprehensive approach to adaptation – built sectorally from the bottom up and ensuring proactive adaptation solutions are implemented – will allow for a more targeted and complete approach to loss and damage than one built from the top-down.

Allocating risks to those best placed to manage them is likely to be an important part of an effective approach to managing potential loss and damage, implying a role for individuals, businesses, and community groups as well as governments. The work programme should also assess the advantages and disadvantages of applying approaches at the individual, company, sector, national, regional and international levels. This could usefully include an assessment of moral hazard.

Australia recognises that insurance is one possible component of an effective risk mitigation strategy, though it is unlikely to be applicable in all circumstances. The work programme should nevertheless consider where and under what conditions insurance can be part of the solution to loss and damage from the adverse effects of climate change.

In developing approaches to loss and damage it will be important to distinguish between slow-onset impact and sudden impact events. The risk mitigation efforts for slow onset events are fundamentally different than those addressing extreme weather events and do not lend themselves solely to risk transfer solutions.

V Theme 3: The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change

In order to gain clarity on the role of the Convention in enhancing the implementation of approaches to loss and damage the first step is to understand and document its current role in managing the risks from the adverse effects of climate change.

The role of the Convention should not overlap the existing work of relevant bodies including the UN International Strategy for Disaster Risk Reduction (and the Hyogo Framework for Action), the UN Environment Programme, UN Development Programme, and the Multi-lateral Development Banks. In addition, the UNFCCC should look to complement rather than duplicate the roles of regional, national and local entities with valuable expertise and experience in addressing loss and damage.

It is therefore important to determine the Convention's comparative advantage in addressing loss and damage. The Convention already provides a number of useful services including public awareness raising, education, research (through the Nairobi Work Programme and IPCC), training, capacity-building, Measurement Reporting and Verification (MRV) and facilitating developed country support measures.

These elements represent the comparative advantage of the Convention, and can be used to assess the utility of involving the UNFCCC in the range of approaches to address loss and damage.

Paper no. 2: Colombia

Submission from Colombia on Views and information on the themes to be addressed in the implementation of the work programme on Loss and Damage

The Colombian Government welcomes the opportunity to present considerations regarding the implementation of the work programme on Loss and Damage as this is a priority issue for particularly vulnerable countries:

a) **Assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge on the same**.

There is a need to enhance information and capacity at national level for mapping assets, including ecosystems that have differing exposure to loss and damage in countries. However, the possibility of working at sub-regional levels, for example to assess shared ecosystems or infrastructure investments, should be explored. Loss and damage caused by climatic variability and climate change need to be quantified, and guidance provided on available methodologies. Greater support and efforts are needed to provide the necessary scientific evidence, given that downscaled information is often inexistent or inadequate, and vulnerability assessments are often incomplete. Quantification should include such issues as loss of ecosystem services and biodiversity.

b) A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels.

There is already considerable knowledge acquired through work in disaster risk management and in insurance schemes such as micro insurance and weather-index insurance. The loss and damage work program should explore a range of risk management tools and risk transfer mechanisms given that needs – and the capacity to access risk transfer mechanisms - will vary greatly not only between countries but between sectors and areas.

c) The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change.

The Convention needs to address the fact that although many risk management tools and risk transfer mechanisms can increase the capacity of countries and sectors to respond to climatic impacts, in many cases these are expensive options that are beyond the capacity of countries. At all levels - countries, sectors, cities, local authorities – will be unable to either access insurance or to afford it.

In order to put in place these risk management and transfer mechanisms, countries may also need to put in place appropriate policy and regulatory frameworks. Support and guidance are needed.

In complement to risk management approaches, the Convention should also ensure that countries and stakeholders are able to put in place robust planning and programming processes to increase resilience at country levels and in all sectors. Preventive measures, such as “climate-proofing” existing and projected investments, productive practices and urban spaces, among others, should be advanced within the broad, deep approach to Adaptation that Colombia has called for.

Paper no. 3: El Salvador

Posición de El Salvador, como presidencia pro-tempore de la CCAD.

Aplicación del Programa de Trabajo de Pérdidas y Daños Asociados con los impactos del Cambio Climático.
Agosto 2011

El Salvador aprecia mucho la oportunidad de expresar sus opiniones sobre la aplicación del programa de trabajo para hacer frente a la pérdida y los daños asociados a los efectos adversos del cambio climático en los países en desarrollo que son particularmente vulnerables al cambio climático.

Antecedentes: En el documento FCCC/SBI/2011/L.20 el Órgano Subsidiario de Ejecución (SBI) en su 34 período de sesiones, realizado en Bonn, Alemania del 6 a 16 de junio de 2011, presentó sus conclusiones sobre: "Enfoques para hacer frente a las pérdidas y los daños asociados a las repercusiones del cambio climático en los países en desarrollo que son particularmente vulnerables a sus efectos adversos con el fin de mejorar la capacidad de adaptación" Actividades que se llevarán a cabo en el marco del programa de trabajo.

El párrafo 5 invita a las partes y a las organizaciones competentes a que presenten a la secretaría, a más tardar el 15 de agosto de 2011, opiniones e información adicionales sobre los temas que se debían abordar mencionados en el párrafo 4 a) a c) *supra*: El SBI tomó nota de la importancia de abordar las siguientes esferas temáticas en la aplicación del programa de trabajo:
a) La evaluación del riesgo de pérdidas y daños asociados a los efectos adversos del cambio climático y los conocimientos actuales a ese respecto;
b) Una serie de enfoques para hacer frente a las pérdidas y los daños asociados a los efectos adversos del cambio climático, incluidos los efectos relacionados tanto con fenómenos meteorológicos extremos como con fenómenos graduales, teniendo en cuenta la experiencia a todos los niveles;
c) La función de la Convención en el mejoramiento de la aplicación de los enfoques para hacer frente a las pérdidas y los daños asociados a los efectos adversos del cambio climático.

El SBI pidió a la secretaría que recopilara esas comunicaciones en un documento de la serie MISC para examinarlo en su 35 período de sesiones, y que preparara un informe de síntesis basado en las comunicaciones y en otra información pertinente antes de su 35 período de sesiones.

Aplicación del Programa de Trabajo sobre Pérdidas y Daños:

a) La evaluación del riesgo de pérdidas y daños asociados a los efectos adversos del cambio climático y los conocimientos actuales a ese respecto.

Algunos elementos necesarios para evaluar las pérdidas y daños, en países en desarrollo altamente vulnerables a los efectos adversos del cambio climático, deben ir orientados a mejorar la base de datos científica y técnica de los países, considerando:

1. Un mejor entendimiento de los riesgos, los enfoques, los instrumentos y los requisitos de aplicación: Análisis y optimización de metodologías existentes de evaluación de daños y pérdidas.
2. La observación, la reunión y disponibilidad de datos e información: se deben crear sistemas regionales robustos de observación sistemática del clima para redes regionales con datos meteorológicos, hidrométricos e hidrogeológicos y la priorización de acciones para el funcionamiento y mantenimiento sostenible de estaciones clave.
3. El reforzamiento de la capacidad institucional y formación de capacidades nacionales: capacitación de técnicos y científicos de países en vías en desarrollo.
4. Puesta en marcha de iniciativas pilotos que den los elementos básicos para iniciar a medir los riesgos por pedidas y daños: los análisis de los enfoques existentes y el asesoramiento técnico sobre los distintos instrumentos y herramientas podrían verse complementados con actividades de demostración, como proyectos piloto para la gestión integrada del riesgo y los seguros relativos al clima, en una serie de países altamente expuestos, para facilitar la aplicación.

b) **Una serie de enfoques para hacer frente a las pérdidas y los daños asociados a los efectos adversos del cambio climático, incluidos los efectos relacionados tanto con fenómenos meteorológicos extremos como con fenómenos graduales, teniendo en cuenta la experiencia a todos los niveles**.

Los enfoques para hacer frente a las perdidas y daños asociados a los efectos adversos del cambio climático deben considerar múltiples opciones que se adapten a las diferentes circunstancias nacionales y realidades de los países en especial de los países en desarrollo altamente vulnerables como los del istmo centroamericano. Por ejemplo:

- Se deben crear instrumentos financieros (asignaciones extraordinarias, fondos especiales, etc.) para la prevención del riesgo de desastres;
- Crear fondos regionales para atender las perdidas y daños ocasionados por eventos climáticos extremos como Huracanes.
- Desarrollar sistemas que permitan analizar y visualizar posibles escenarios de riesgo y responder a los mecanismos de seguro de emergencia en los sectores productivos como ser el agrícola;
- Bonos para catástrofes con altos índices de perdidas y daños, que representen pérdidas cuantiosas en los países en desarrollo y estados insulares altamente vulnerables;
- Programas destinados a aumentar la resiliencia a nivel local, que tomen en cuenta la gestión integrada de riesgos. Identificando a la autoridad nacional

encargada de aplicar las políticas y medidas de adaptación, entre ellas las que tengan que ver con la gestión y la reducción del riesgo.

- Preparar planes de acción para las pérdidas y los daños desde la perspectiva de la seguridad y la salubridad alimentarias, ya que estas se ven directamente afectadas por la degradación de las tierras, la degradación de los bosques y la desertificación ocasionadas por fenómenos climáticos imprevistos y extremos.

C) **La función de la Convención en el mejoramiento de la aplicación de los enfoques para hacer frente a las pérdidas y los daños asociados a los efectos adversos del cambio climático.**

La Convención de las Naciones Unidas sobre Cambio Climático debe jugar un rol importante en la aplicación y ejecución del plan de trabajo sobre perdidas y daños, orientándolo en particular para los países menos desarrollados, estados insulares y países en desarrollo altamente vulnerables a los efectos adversos del cambio climático. Dando monitoreo y seguimiento a los compromisos financieros y técnicos de los países desarrollados para apoyar y atender las perdidas y daños ocurridas en los países altamente vulnerables y con poca capacidad de respuesta ante los fenómenos climáticos.

La convención podría explorar las opciones de aplicación, en función de diferentes combinaciones de temas como las necesidades de las Partes, los arreglos institucionales / entidad operacional, las consideraciones de la gobernabilidad, los acuerdos financieros alternativos, etc. La aplicación debería considerar a la prevención y reducción de daños como principal prioridad.

Velar porque el programa de trabajo sea un proceso continuo de acumulación y transferencia de conocimiento para apoyar un mejor entendimiento de las pérdidas y daños.

Preparar documentos de diagnóstico (sujeto a actualizaciones) en los que se compile y sistematice información diferenciada sobre el financiamiento que los países desarrollados proveen a los gobiernos de países en desarrollo para la respuesta a desastres por eventos hidrometeorológicos extremos.

La Conferencia de las Partes identificará de acuerdo a criterios y necesidades de los países parte, el establecimiento y/o continuidad, además de la composición y modalidades de los Programas de Acción y/o grupos de trabajo especiales para abordar los planes de adaptación, orientados a reducir la vulnerabilidad al cambio climático.

Paper no. 4: Gambia on behalf of the least developed countries

Loss and Damage: Submission by Gambia on behalf of the Least developed Countries Group

1. Introduction

The Cancun Agreements Dec 1/CP.16) established a work programme aiming 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 to enhance adaptive capacity and the Conference of the Parties requested the SBI to agree on activities to be undertaken under this work programme.

The decision 1/CP.16 on Cancun Agreements also suggests that the SBI makes recommendations on loss and damage to the Conference of the Parties for its consideration at COP18, as well as to strengthen international cooperation and expertise to understand and address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events. The draft conclusions of SBI 34 took note of the importance of addressing the following thematic areas in the implementation of the work programme:

(a) Assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge on the same;

(b) A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels;

(c) The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change.

LDCs welcome the invitation for Parties and relevant organizations to submit to the secretariat further views and information on the above mentioned thematic areas and have laid out their view in the sections below.

2. LDCs and loss & Damage: Background for the submission

LDCs believe that it is of utmost importance to address the question of loss and damage associated with climate change impacts including those impacts that cannot be avoided through mitigation and that also go beyond and exceed the adaptive capacities of the LDCs. Severe threats of climate change expose LDCs to profound climate change impacts such as increase in frequency, intensity and heightened occurrence of extreme weather events and slow-onset impacts such as rising sea-level, coastal erosions, droughts, desertification, floods, cyclones, tornados, storm surges, biodiversity loss, landslides, loss in arable land and, glacier melt.. Many of the impacts of climate change such as land degradation and loss of biodiversity over the next few decades are unavoidable and irreversible. Greenhouse gas (GHG) emissions that have already been released into the atmosphere will continue to affect the LDCs regardless of changes that we make today.

These irreversible losses lead to conclusions that a high level of harm to human populations in LDCs is inevitable.

Industrialized countries are responsible for a major share of historic and current GHG emissions. However, existing commitments to mitigation feature a significant gap in emission reduction to be consistent with a 2° C let alone 1.5° C pathway. In fact, the existing targets rather lead the world towards a 2.5 to 5° C degrees world[1]. Therefore, the LDCs believe that it is fundamental for Parties to address the consequences of loss and damage, in parallel with stepping up their mitigation ambition.

3. Views of LDCs on the thematic areas

a. General points

- The SBI Work Programme focuses on issues related to the implementation of measures to address loss and damage. LDCs believe that more information and capacity to address the technical issues around the concept of loss and damage is needed.

- The SBI work programme should create a common understanding of key terms, challenges and different ways to assess and address different kinds of loss and damage in the context of climate change.

- Parties should gather good examples, lessons learnt and pathways about working solutions on community, local, government, sub-national, national and regional approaches to address loss and damage.

- Proper data access, better cooperation between countries and sufficient resources for ex-ante risk management will be essential.

- Activities focusing on education and raising capacity of UNFCCC negotiators to discuss and evaluate different risk management options under the SBI Work Program on Loss and Damage must be introduced.

- More effective negotiations and decisions about implementation of appropriate measures for loss and damage are needed.

- The efforts should be ongoing and participatory.

[1] UNEP (2010): The Emission Gap Report

b. Assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge on the same

LDCs request that the work programme support LDCs to learn from their current experience on climate change with assessments of characteristcs of exposure to loss and damage. Also, LDCs request that:

- Assessments on exposure of all areas including man-made, natural and social must be carried out;
- SBI Work Program on Loss and Damage should support LDCs to assess the risk of loss and damage where data are missing or less available;
- SBI work programme should support LDCs to understand what tools are needed for assessing the risk of loss and damage assosiated with climate change;
- SBI work programme should enable the preparation and analysis of databases to support parties in their efforts in assessing risk of loss and damage assosiated with climate change;
- SBI work programme should explore synergies between assessment of loss and damage and other areas under adaptation.

c. A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels

It is essential that parties explore different approaches to address loss and damage associated with adverse effects of climate change. LDCs view that approaches to be adopted to address loss and damage could range from risk reduction strategies (as per Hyogo Framework of Action 2005-15), social security and protection measures , risk transfer options, as well as options for rehabilitation measures to recover from severe disasters due to climate change. Also, in relation to the approaches to address loss and damage, the LDCs suggest following:

- SBI work programme on loss and damage should assist LDCs in exploring and understanding different instruments that could be used for foreseeable risks and rehabilitation at all levels (micro and meso, macro, and long-term) related to climate change;SBI work programme should assist LDCsunderstand and analyse different tools that are applicable in different circumstances, indicators for cost effectiveness, experiences and lessons learned;
- The work programme should compile tools and approaches to understand, reduce and

address the specific types of loss and damage, helping the Parties articulate lessons learned good practice, challenges and analysis of relevance of various instruments and frameworks in the context of adaptation and disaster risk reduction.

d. The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change.

The Convention should address loss and damage as a leading priority. In addition, the role of the Convention in enhancing the implementation of approaches to address loss and damage, *inter alia*, would be the following:

- Lay out relevant principles and concepts such as equity and fairness, common but differentiated responsibilities and respective capabilities of countries, country needs and country drivennes, the reaching of poor and vulnerable people and communities etc;
- Establishing operational entity;
- Addressing governance considerations;
- Establishing institutional arrangements;
- Establishing financial arrangements;
- Introducing provisions to deal with implications of failing commitments on loss and damage;
- Addressing capacity issues of LDCs in relation to loss and damage assosiated with adverse effects of climate change in their countries;
- Conveying expert meeting and gathering relevant technical and policy documentation to enable Parties better understand various options and all the other issues related to loss and damage due to climate change impacts;
- Facilitating the stakeholder engagement in relation to the issue of loss and damage (including private sector, insurence companies, guarantee agencies, decentralized financial systems, scientific communities), and seek their contribution and engagement for a successfulmecanism to adress loss and damage in LDCs.

Paper no. 5: Norway

Submission on approaches to enhance adaptive capacity in developing countries that are particularly vulnerable to the adverse effects of climate change when addressing loss and damage associated with climate change impacts

Norway welcomes the opportunity to provide views on the three thematic areas identified under the work programme for loss and damage associated with climate change.

1. The aim of the work programme is to build a solid knowledge base in order to be able to make informed decisions on how the UNFCCC should address this issue at COP 18. We believe that the work programme will also provide valuable inputs to the work undertaken by Parties, international organisations and the private sector on risk management strategies to address loss and damage associated with the climate change impacts.

2. Norway recognises the importance of strengthening the adaptive capacity of developing countries that are particularly vulnerable to the adverse effects of climate change; especially least developed countries and small island developing states, as well as countries in Africa affected by drought, desertification and floods. The strengthening of national institutional capacity is a key factor, including those related to planning, weather- and climate services, information dissemination systems, research and the implementation and coordination of adaptation and disaster prevention measures. There is clearly a need for increased awareness raising and capacity building, which the programme on loss and damage will contribute to.

3. The IPCC Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation, which is to be approved by the Panel in November in Uganda, will be an invaluable input to the work programme. The report will include an assessment of gaps in knowledge. In our opinion it is important that the work programme build upon and address these knowledge gaps.

4. The work programme should be seen as an opportunity to explore and learn how to integrate and address climate change impacts into risk management strategies. Hence, it is important that the work programme involves the full spectrum of actors with relevant competence in the field of risk management. In this regard, it is important that the work programme is coordinated with efforts undertaken by other UN bodies, in particular the World Meteorological organization (WMO) and the International Strategy for Disaster Reduction (ISDR). The WMO's work related to the Global Framework for Climate Services (GFCS) is especially relevant in this regard and will be an invaluable resource in respect of worldwide disaster risk reduction, and hence loss and damage. The GFCS aims to strengthen meteorological and hydrological services and the effective use of weather and climate services, in particular in developing countries.

5. Climate change may create a new risk landscape, but there is much knowledge on how to prevent, prepare for and respond to climate related extreme events. The work programme should further build on these experiences.

a) Assessing the risk of loss and damage associated with the adverse effects of climate change, and the current knowledge on the same

6. Assessing the risk of loss and damage resulting from climate change and current knowledge is a good starting point for the work programme. In this part of the work programme we should use the opportunity to enhance our common understanding of the concept of loss and damage, and to map out the knowledge base for loss and damage associated with the impacts of climate change.

7. The **outcome** of this part of the work programme should be to identify and propose ways to address gaps in knowledge on the risk of loss and damage.

8. On the matter of risk assessment, we would start by highlighting some general factors that are an important backdrop for this section of the work programme:

- Risk management strategies must be based on sound science, including both the natural and social sciences. The development of vulnerability assessment criteria, tools, monitoring mechanisms and responses should be done in close cooperation with relevant institutions.

- When mapping out the knowledge base for loss and damage in the work programme, it will not be possible to get a "complete" or "true" picture of the risks associated with the impacts associated with climate change.

- Vulnerability to the impacts of climate change is not only caused by climate change but is in many cases is as a result of human activity. To understand risk and the concept of loss and damage, the drivers of vulnerability must also be considered, such as institutional set up, legislation, social and economic structures, not only the exposure to climate change effects as such.

- Vulnerability is a moving target and highly contextual. Hence science must be coupled with local knowledge when mapping out vulnerability to impacts associated with climate change.

- Risk assessment tools have limitations. While one tool may be suitable for capturing one type of risks, for example impacts on material assets, it may not be suitable for capturing other risks, for example impacts on non-material assets such as human security or ecosystems.

- Furthermore, the information arising out of risk assessments also has limitations. This is partly due to the uncertainties and limitations in the existing knowledge of climate change and its impacts, in particular related to impacts at smaller scales.

- Loss and damage will be affected by multiple stressors and be the result of the impact of climate change and vulnerability to those impacts, combined with other stressors such as loss of biodiversity and desertification.

9. Considering the above, Norway is of the view that the work programme will contribute to deepening our understanding of how climate change interact with other processes of change, both in society and in nature.

10. Thematic area a) may be structured around the following questions:

i. What is the current status of assessing the risk for loss and damage arising from today's climate?

ii. What is the current status of assessing the risk of loss and damage associated with the impacts of climate change?

iii. What are the elements that determine the risk of loss and damage associated with the impacts of climate change

iv. Which tools are appropriate for assessing the risk of loss and damage associated with climate change and what has been learnt from using different tools in such assessments?

v. What experiences do we have of integrating climate change into existing risk assessment tools?

vi. What are the strengths and limitations in different assessment tools available considering:

    a. Slow-onset and sudden onset events;

b. Vulnerability of different groups in the society, for example men, women and children; and

c. Risk of loss of non-material or non-fiscal assets, such as non-tangible cultural heritage and values, human security and eco-systems.

b) A range of approaches to address loss and damage associated with the adverse effects of climate change, including the impacts related to extreme weather and slow onset events, taking into consideration experience at all levels;

11. Managing the risk of loss and damage relates to a broad range of risk management actions, from prevention to preparedness, to response and recovery from extreme events, including risk transfer instruments such as insurance.

12. Exploring different approaches to loss and damage after exploring the knowledgebase is a logical sequencing of the work programme. The two themes should however not be seen in isolation, as all approaches to address loss and damage must be embedded in risk assessments. Under this theme there is an opportunity for the work programme to identify approaches relevant to address loss and damage and enhance our understanding of what the conditions are for successfully implementing risk management strategies.

13. Considering approaches on loss and damage should also include an identification of tools and related capacity building efforts including e.g. long term weather forecast capacity, early warning systems for floods, drought and crop failure as well as health related information systems. The WMO Global Framework for Climate Services would provide valuable input in this regard, and should be of high priority.

14. The **outcome** of this part of the work programme should be to enhance the Parties' understanding of which approaches and actions to address the risk of loss and damage are required and appropriate to undertake at national, sub-national, regional and international level.

15. The backdrop for risk assessments (para 9) is also relevant for the approaches to address loss and damage. On the matter of risk assessment we would in addition highlight;

- Through disaster risk reduction one would build resilience both towards slow-onset and sudden events. However, there may be major differences in approaches to respond to sudden climate change related events and slow onset events. For example the approach to preventing damage from drought (e.g. in for form of reduced food security) and preventing damage from hurricanes have very different nature. However both require long term planning and strategic investments to reduce vulnerability.

- Further, risks are managed differently in different context, sectors and levels. Different groups also respond and manage risks differently. Hence, we need to keep in mind that an effective risk management approach in one setting may not work well in others.

- Although many disasters will require national responses, the local- and context-specific nature of climate related events in general and impacts of climate change and vulnerability puts the local level at the core of any risk management approach.

- Developing risk management strategies have proven more efficient when they are developed with local knowledge, including local and traditional knowledge on how to deal with climate-related events and with broad participation from the communities and different groups within the communities, such as women, children and the elderly.

16. Thematic area b) may be structured around the following questions:

i. Which would be the criteria for success with respect to the different approaches to address loss and damage?

ii. What is the role of regulatory frameworks?

iii. What role should public, private and civil society play in risk management strategies?

iv. What risks are captured in different risk management tools?

v. What are the key differences between responses related to sudden events and slow onset events?

vi. Which preconditions are required for different risk management strategies and tools to work effectively? (For example institutional, organisational, legislative frameworks).

vii. Which risk management approaches and risk transfer tools would be useful as means to adapt to the impacts of climate change?

c) The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change

Norway is of the view that identifying a role for the UNFCCC should flow from the outcomes of the discussions under the other thematic areas. The discussion on the role of the Convention should consider possible synergies with the work under other multilateral agreements, in particular the multilateral environmental agreements. In particular coordination should be sought, e.g. when it comes to capacity building for implementation of various action plans deriving from these agreements/conventions.

Organisation of the three thematic areas

We need to work effectively and structure our work appropriately. The workshop on the identification of gaps and challenges in the implementation of risk management approaches to the adverse effects of climate change to be held in October is a good opportunity to identify the challenges and gaps in the implementation of risk management approaches to the adverse effects of climate change (FCCC/SBI/2010/27, para. 27). Furthermore, there should be two to three expert meetings to explore the two first thematic areas prior to COP 18. Regional meetings could also be considered, which may provide an opportunity to focus on regional specific issues as well as allow for broad participation from relevant stakeholders.

Norway considers that the thematic areas have a logical sequencing and that a first expert meeting should be dedicated to thematic area a) and a second to the thematic area b). Furthermore, the discussion may benefit from a third meeting on crosscutting issues like gender, children and youth, and health. Regarding the third thematic area, we believe that this will be the end product of our deliberations and would be best handled as a part of our negotiations.

A compilation of the Parties' views and inputs will be very helpful. However, it would also be useful to have written material that goes beyond the Parties opinions and views for our deliberations. In this respect we may consider commissioning work on areas where the Parties may require a systematic overview of specific topics. This may, for example, be on the issue of identifying the advantages and limitations of different risk management strategies and tools, as mentioned above.

We would like to use this opportunity to reiterate that broad participation from stakeholders: relevant international organisations, non-governmental organisations and private sector would be crucial to a good outcome of the work programme.

Paper no. 6: Pakistan

SUBMISSION BY PAKISTAN

APPROACHES TO ADDRESS LOSS AND DAMAGE ASSOCIATED WITH CLIMATE CHANGE IMPACTS AND CAPACITY BUILDING UNDER THE CONVENTION AND KYOTO PROTOCOL (SBI)

Pakistan welcomes this opportunity and would like to submit its views on Approaches to Address Loss and Damage associated with Climate Change impacts in developing countries that are particularly vulnerable to the adverse impacts of Climate Change to enhance adaptative capacity and Capacity Building under the Convention and Kyoto Protocol.

Key Considerations

2. Climate change is today an inescapable reality for Pakistan and is beginning to manifest itself through increasing intensity and ferocity. Pakistan is a country which, owing to its particular geographical circumstances, is highly impacted by any changes in climate making it one of the most vulnerable countries. Yet, it is one of the smallest contributors to the problem of climate change and can, thus, be termed one of the worst victims of "climate injustice". The 2010 flood was the worst flood of Pakistan as per records available in terms of people killed, affected as well as economic losses. This flood is categorized as 8th most severe among the top 10 flood disasters worldwide in term of economic damages costs at country level (EM-DAT, 2011).

3. Dealing with climate change is no longer a choice for the country – it is an imperative which it has to cope with and adapt to in the foreseeable future. The country does not have the luxury of an "exit" strategy when it comes to facing up to the climate challenge. The costs associated with loss and damage need to be estimated to a reasonable degree of accuracy and provide adequate technical and financial support to plan and strategize to adapt to this challenge. The major likely impacts are the following:

- Enhanced melting of glaciers and reduction of snow cover leading to alterations in the seasonal flow patter of the Indus River system
- Increased flooding in the rivers for a few years followed by declining river flows.
- Increased chances of formation of glacial lakes with risk of GLOFs or glacial lake outburst flows.
- Higher frequency and intensity of extreme climate events coupled with erratic monsoon rains could cause high floods followed by droughts.
- Increased water demand due to high evaporation rates at elevated temperatures

- Increased chances of water stress of the shared water resource potentially leading to cross border conflict

4. The above stated adverse impact of Climate Change retarding the socio-economic challenges may be considered and measures for addressing these challenges may be incorporated under the SBI work programme (FCCC/SBI/2011/L.20, Paragraph 5), as well as Capacity Building under the Convention (SBI). (FCCC/CP/2006/5/Add.1, decision 4/CMP12 Paragraph 1(a) and Capacity Building under the Kyoto Protocol (SBI). (FCCC/KP/CMP/2006/10/Add.1, decision 6/CMP2, Paragraph 1(a&b)

Paper no. 7: Sri Lanka

Early Submission of Information and Views

This has reference to your letter ODES/ SB 34 dated 5th July 2011 regarding the early submission and views. I am pleased to submit the following views of the Government of Sri Lanka.

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 to enhance adaptive capacity

- Activities to be undertaken under the work programme (SBI)

Developing countries like Sri Lanka are highly vulnerable to the adverse impacts related to extreme weather events and slow onset events, which directly affect on the socio economic sectors of the country. Assessing the risk of loss and damages, and identifying approaches to address loss and damages are very difficult due to lack of expertise and financial barriers.

However, the developing countries that are particularly vulnerable to the adverse effects of climate change should undertake the baseline assessments including cost estimation for at least highly sensitive areas where there are vulnerable to extreme weather events.

Based on the baseline assessment and risk assessment it is essential to develop action plans or programmes to enhance the adaptive capacity of the vulnerable countries.

Therefore, the Convention would be able to facilitate for conducting baseline and risk assessments in enhancing the implementation of approaches to address the loss and damage associated with adverse effects of climate change for the developing countries that are particularly vulnerable to the adverse effects of climate change.

Paper no. 8: Switzerland

Further views and information on the themes to be addressed in the implementation of the work programme on loss and damage

SBI 35

This submission contains the views of Switzerland on the themes to be addressed in the work programme on loss and damage, as requested under paragraph 5 FCCC/SBI/2011/L.20. Switzerland welcomes the opportunity to share its views on this topic. From Switzerland's perspective the following topics should be addressed under the three proposed thematic areas:

a. Assessing the risk of loss and damage associated with the adverse effects of climate change and current knowledge on the same

Under this thematic area an overview on methodologies and data requirements for risk assessment and current knowledge on the risk of loss and damage should be provided. We consider useful to address the following questions under this thematic area:

1. Methodologies for risk assessment:

- What kind of risk assessment and risk quantification approaches exist (incl. risk assessment for slow onset events)?
- What are their requirements, their strengths and weaknesses?

2. Data requirements for risk assessment:

- What are the data requirements and gaps for risk assessment (data on weather and climate change as well as non climate-related data needs such as vulnerability data)? What does already exist? How comprehensive and reliable is that data?
- How accessible and how compatible is the data?

3. Current knowledge on the risk of loss and damage:

- What is the current knowledge on the risk of loss and damage (e.g. SREX, Global Assessment Report on Disaster Risk Reduction, knowledge at regional and local level)?
- What are the actors / institutions/networks with relevant knowledge (incl. actors/institutions in DRR, development cooperation, humanitarian aid and the private sector)?

b. Range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience on all levels

Under this thematic area the knowledge on different approaches to address loss and damage should be deepened and experiences with these approaches bundled. Approaches to be considered are: integrated risk management approaches, risk transfer solutions (as part of a risk management approach) as well as other approaches including in relation to gradual changes.

The following questions may be addressed:

- Which approaches exist for risk management and for risk transfer? What is their scope (type of hazards, losses, geographical scope etc.) and limits, applicability to other contexts?
- Which experiences with risk management and risk transfer approaches exist at regional and local level?
- How can risk management and transfer solutions contribute to disaster risk reduction (DRR)?
- How can risk management and risk transfer approaches be applied under difficult circumstances (e.g. data gaps, difficult policy environments etc.) and be used in assisting the poorest?
- What are the needs such as capacity building in order to better implement risk management and risk transfer approaches?
- What kinds of approaches are feasible when being confronted with gradual changes / slow onset events?
- How do different approaches best contribute to a broader adaptation approach?

c. Role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change

Under the third thematic area the role of the Convention, including linkages, complementarities and synergies to other institutions and initiatives should be investigated. The importance thereof derives from the significant overlaps and synergies especially with the institutions and initiatives in the field of disaster risk reduction.

The following questions may be considered:

1. Role of the Convention

- What role may the Convention play in enhancing the implementation of approaches to address loss and damage, e.g. through capacity building, technology transfer and finance, and in the context of initiatives of governments, private sector, civil society and others?
- What institutional arrangements within the Convention exist which may address loss and damage (e.g. Nairobi Work Programme, Adaptation Committee)?

2. Complementarities and synergies to other institutions and activities
What may be the relationship, complementarities and synergies between UNFCCC and other relevant institutions, initiatives and frameworks/strategies such as UNISDR, Hyogo Framework for Action and others in the field of loss and damage?

As a result, the findings of the three thematic areas should be provided to the SBI prior to its 37th session.

Activities to address the three thematic areas
Switzerland proposes to address the three thematic areas sequentially and through expert meetings and workshops.
For thematic area *"a. Assessing the risk of loss and damage associated with the adverse effects of climate change and current knowledge on the same"* we propose a technical paper summarizing methodologies, data requirements and gaps, and current knowledge, to be prepared by the secretariat and to serve as a basis for an expert meeting. This paper should include and be based on elements of existing papers that have been done in other contexts (such as the Hyogo Framework for Action). The expert meeting should allow for in-depth discussion under involvement of experts from different fields such as IPCC, the insurance industry, academic institutions and others. Findings from the SBI workshop to identify challenges and gaps in the implementation of risk management approaches to the adverse effects of climate change (to be held in October 2011 in Peru) should be taken at hand.
Thematic area "*b. Range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience on all levels*" may be addressed in a joint meeting of experts and delegates. This meeting should build on the outcomes of the above mentioned SBI workshop to identify challenges and gaps in the implementation of risk management approaches. The joint meeting may have a stocktaking element as well as a capacity building element for negotiators. Other cost effective activities such as online capacity building tools, webinars etc. may also be explored. It is crucial that existing relevant experiences on all levels are made available and shared among experts and delegates.
In thematic area *"c. Role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change"* we propose to have a meeting with delegates and other actors (e.g. representatives of institutions in the field of DRR). This would provide a space for in-depth discussions and input from other relevant actors on these complex institutional issues.

Paper no. 9: United States of America

Submission by the United States of America

Thematic areas of the work program to consider approaches to address loss and damage associated with the adverse effects of climate change

17 August 2011

At its thirty-fourth session, the Subsidiary Body for Implementation (SBI) took note of the importance of addressing the following three thematic areas in the implementation of the work program:

(a) Assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge on the same;

(b) A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels; and

(c) The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change.

The United States welcomes the opportunity to submit, pursuant to paragraph 5 of FCCC/SBI/2011/L.20, its views on these three thematic areas, with the overall objective of implementing a work program that is flexible and country-driven and helps countries understand, target, and allocate limited funds to comprehensively address climate risks through various cost-effective approaches.

(a) Assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge on the same

Risk assessments are the foundation for planning and decision-making. Risk assessments incorporate information about threats, exposure and vulnerability. They consider the magnitude of potential losses, and the probability that they will occur, taking into account a variety of assumptions and uncertainties, as well as consequences for the exposed assets and communities. UNISDR defines risk assessment as follows:

Risk assessment: A methodology to determine the nature and extent of risk by analyzing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and the environment on which they depend. Risk assessments (and associated risk mapping) include:

- A review of the technical characteristics of hazards such as their location, intensity, frequency and probability;
- The analysis of exposure and vulnerability including the physical social, health, economic and environmental dimensions; and
- The evaluation of the effectiveness of prevailing and alternative coping capacities in respect to likely risk scenarios.

With this information, governments, communities, the private sector, and other stakeholders can understand the risks they face and the factors that exacerbate or mitigate them, and then make decisions about how to manage those risks.

We propose that the first thematic area strengthen understanding of:

1. Various methods to assess risk and vulnerability to impacts related to extreme weather events and slow onset events, e.g., what information needs to be collected, how to collect it and appropriately involve stakeholders in the process, and how to analyze data and translate data into decision support tools; and

2. What additional capacity is needed to *apply* risk assessment methods on the ground, including additional capacity to facilitate application in developing countries.

(b) A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels

Comprehensive risk management is comprised of four key, complementary elements: risk reduction, risk retention, risk transfer, and disaster response.

- **Risk reduction** measures are adaptation measures aimed at averting and reducing damage.
- **Risk retention** measures, such as savings accounts or government contingency funds, are best targeted to moderately adverse events that happen too frequently to be insured on the market, and when not all losses can be averted through risk reduction measures; they can help individuals and governments plan ahead and have quick access to resources for response and recovery.
- **Risk transfer** mechanisms, such as insurance, limit the financial impact for affected individuals or governments by distributing risk to other players in the market. For events of a certain frequency and severity, insurance can be the most cost-effective tool.
- Less **post-disaster assistance** will be required if the other elements have been used to their full potential.

Through the second thematic area, the work program can strengthen understanding of the costs and benefits of different risk management approaches, and of how to design comprehensive risk management portfolios. The work program should help countries understand how they can leverage significant opportunities to anticipate and *avert* loss and damage through risk reduction measures, as well as use risk retention mechanisms like government reserve funds and effectively deal with residual risks through market-based insurance products and other tools.

We propose that this second thematic area strengthen understanding of:

1. The different components of risk management, such as risk reduction, risk retention, and risk transfer. This includes understanding:

    a. Which risks each of these approaches can address cost-effectively;
    b. How these approaches can complement one another;
    c. Which risks are insurable, and which are not, and how to design insurance to incentivize further risk reduction efforts;
    d. Policy and planning options to deal with trends such as urbanization and coastal development that may increase the economic costs associated with the adverse impacts of climate change; and
    e. What capacity, data, regulatory frameworks, and other technical requirements are needed to effectively apply different tools and approaches at different scales.

2. The advantages, disadvantages, and challenges of applying risk management approaches at the local, national, regional, and international levels. This will help decision-makers:

   a. Improve their capacity to tailor risk management approaches to national contexts and specific vulnerabilities and priorities (for example, micro-insurance can help poor households, but it can be challenging to reach rural households without high administrative costs, whereas macro-insurance payouts may not be automatically channeled in a way that benefits the poor and most vulnerable, although they can help governments rebuild critical infrastructure and restore public services); and
   b. Seek opportunities for collaboration and coordination with other countries and actors (for example, to study the benefits and challenges of regional insurance pools).

The work program can facilitate the exchange of lessons learned and good practices from existing micro-insurance pilot projects, regional insurance pools and national macro-insurance schemes, catastrophe bonds, government reserve funds, and other risk management activities. There are a number of existing micro-insurance programs in countries like Ethiopia, and macro-insurance schemes in the Caribbean, Turkey, and Mexico, as well as synthesis reports that compile additional case studies. For each risk management approach, the work program can investigate these examples and consider best practices and lessons learned at different levels of implementation. This will help Parties, decision-makers, and practitioners understand the challenges and benefits of each approach, as well as the necessary enabling conditions, and to gauge the replicability of these tools in other countries and regions.

(c) The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change.

As noted in our February 2011 submission, the United States has serious concerns about the development of a global climate risk insurance facility. We believe that, before making operational decisions, there is a need for further analysis on the most efficient and effective ways to support adaptation. Furthermore, there are significant differences between countries in terms of anticipated climate change impacts, characteristics of national insurance regulations, readiness and existing capacity, making a one-size-fits-all approach technically unsound.

A global facility could inhibit a country-driven approach to adaptation by presuming that all vulnerable countries want a significant portion of adaptation resources to be set aside for later use, rather than invested in urgent implementation of actions. Given limited public resources, the decision to lock away limited public resources in an insurance pool implies that fewer funds will be available for adaptation measures that can actually avert or reduce damages. There is also evidence that premiums subsidized by donors, in addition to crowding out private insurance providers, can actually impede climate change adaptation by eliminating the motivation to reduce one's own risks (increasing moral hazard).

Instead, governments interested in insurance can draw on actuarial, financial, and climate modeling expertise to begin pooling risks through tailored products at the national and regional levels that respond to local realities.[1] National and regional schemes with appropriate private sector participation are also likely to be more nimble and capable of rapid response than a global insurance facility under the UNFCCC. Eventually,

[1] Governments and NGOs have been able to bring in financial and private sector expertise to develop technically sound micro-, meso- and macro-insurance products at the local, national and regional levels. For example, the World Bank provided technical assistance to the Government of Mongolia for the development of index-based livestock insurance; Swiss Re has supported micro-insurance design in countries like Ethiopia and India; and the Caribbean Catastrophe Risk Insurance Facility has forged partnerships with several bodies of experts including universities, the Caribbean Institute for Meteorology and Hydrology, and the Caribbean Development Bank.

some of these regional schemes could partner in an even larger risk pool, with an eye to efficiency and cost savings; this kind of bottom-up approach will ensure that strategies are still country-driven and grounded in local contexts.

By addressing the first two thematic areas before coming to the third– the role of the Convention– the work program can prepare governments and practitioners to choose and apply appropriate risk management tools in countries and regions that are vulnerable to the adverse impacts of climate change as well as develop a sound basis for making recommendations to COP 18.

We propose that the third thematic area strengthen understanding of:

1. Where international coordination would be beneficial to help countries identify and implement appropriate approaches given the risks they face. While all approaches and actions must be country-driven and respond to local risks and priorities, there will be some areas where international coordination would be beneficial. For example, such coordination may help enhance action, build capacity, ensure the consideration of lessons learned elsewhere, enable regional risk pooling, and involve the private sector for increased sustainability. The work program can help identify and highlight these opportunities, as well as pinpoint existing barriers to private sector participation.

2. How the Convention can strengthen public-private exchange and collaboration. A significant amount of program implementation will ultimately happen at the regional, national and local levels, with the participation of governments, NGOs, and private sector companies. The UNFCCC can play an important role in supporting these bottom up actions by catalyzing international coordination to improve access of countries to information and knowledge, including through expert meetings, development of tools, and synthesis of lessons learned, and to strengthen the ability of countries to target various approaches, lay the foundations required for establishing risk transfer programs, and make decisions on how to allocate limited public funds among a range of risk reduction and transfer approaches. Additional information emerging from in-depth discussions with technical experts under the first and second thematic areas will allow for further refinement of the Convention's role.

Engagement of stakeholders with relevant specialized expertise

For each of the three thematic areas proposed above, it will be critical to engage relevant experts. These include insurers and other private sector representatives, disaster risk reduction specialists, and academics and non-governmental organizations involved in research and pilots around the world. The work program can invite submissions from all relevant organizations on the three thematic areas. It can also commission reports and ask relevant experts to participate on panels at the expert meetings and workshops.

It will also be important to consult with the intended beneficiaries, in order to target the work program at the most pressing questions, and facilitate the development of effective risk management systems that make a real impact on vulnerability. When reviewing existing micro- and macro-insurance schemes, for example, the work program can request that some insured individuals and governments share their perceptions of specific products and how well these tools have helped to reduce their vulnerability. Consulting with intended beneficiaries will be particularly important under the second thematic area. The work program should consider beneficiaries' perceived risks, existing coping mechanisms, demand for products like micro- or macro-insurance, and need for training on topics like risk reduction and financial literacy.

To ensure broad consultation, and to take advantage of opportunities to build the capacity of implementers and countries in addition to negotiators, the work program could: invite civil society practitioners and implementers who already attend the negotiations to participate in the in-session workshops; encourage

Parties to send government representatives from relevant ministries, in addition to negotiators, to the workshops; consider organizing regional workshops instead of in-session workshops so that more local organizations can attend at a lower cost; and help disseminate workshop reports or literature reviews to a broader audience and in accessible languages to local NGOs that cannot attend in person.

Timing

The United States believes that the work program should address the three thematic areas in sequential order. This will ensure that recommendations to the COP, as well as planning and action undertaken on the ground by countries and practitioners, is built on a solid foundation that includes an understanding of the risks, economics, complementarity, and challenges of various risk management approaches. We propose that the work program address the three thematic areas in two workshops or expert meetings. The expert meeting referred to in paragraph 6 of FCCC/SBI/2011/L.20 should address the first thematic area: (a) assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge on the same.

Paper no. 10: United Nations International Strategy for Disaster Reduction

UNISDR Submission to the UNFCCC concerning FCCC/SBI/2011/L.20 related to "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 to enhance adaptive capacity."

The following views were developed by the UNISDR based on consultations with Permanent Missions to the United Nations Office at Geneva, through the ISDR Support Group as well as with ISDR partners through the Inter-Agency Group on Disaster Risk Reduction. In particular, contributions were received from Switzerland, Germany, China, Panama, Philippines, the Global Facility for Disaster Reduction and Recovery of the World Bank (GFDRR), UNU and WMO.

The views specifically focus on the ways that activities and institutions engaged in reducing risk to natural hazards can support climate change adaptation.

Decision and Relevance to ISDR **Subsidiary Body for Implementation** **Thirty-fourth session, Bonn, 6–16 June 2011** **Agenda item 9** **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 to enhance adaptive capacity - Activities to be undertaken under the work programme (FCCC/SBI/2011/L.20)**	**Views from UNISDR to strengthen integration of disaster risk reduction**
Paragraph 5 *invited* Parties and relevant organizations to submit to the secretariat, by 15 August 2011, further views and information on the themes to be addressed in paragraph 4(a–c): (a) Assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge on the same; (b) A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels; (c) The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change.	UNISDR views and information from disaster risk reduction work: ▪ The use of existing disaster risk reduction work under the ISDR can ensure that Parties apply up-to-date risk modelling such as that used in the *2011 Global Assessment Report* (GAR), to assess losses and damages associated with climate change extreme event impacts in developing countries. Another example of such support to decision making is the *Open Risk Data Initiative* (OpenRDI). ▪ Parties should assist ongoing work to ensure that existing risk assessments for natural hazards incorporate considerations of the changing dynamics of weather-related hazards due to climate change, at the least recognising increased uncertainties. The development and role of the increasing vulnerability and socio-economic trends such as urbanization should also be factored into risk models. Methodologies to achieve this are being developed in the context of the Global Risk Assessment of the Global Assessment Report (GAR) of UNISDR. ▪ Approaches and experience in reducing disaster risk compiled by Parties, organizations and individuals under the ISDR provides directly applicable guidance on ways to address loss and damage associated with the adverse effects if climate change. Such experiences are compiled on www.preventionweb.org.

	▪ Building on existing loss databases, Parties need to expand and support the network of national disaster loss databases so that climate-related losses can be accounted for in a more precise, robust and harmonized manner that allows cross-country comparisons of losses and damages. For example, *Post Disaster Needs Assessment* (PDNA) contribute with a systematic detailed approach, following disaster events, for such data gathering and analysis. ▪ Standard methodologies are required for assessing drought-risk and recording drought impacts across sectors. Recent studies have highlighted the low capacity to monitor drought risk and impacts effectively. ▪ Existing regional approaches, strategies and policy frameworks to reduce disaster and climate change impacts, including trans-boundary losses and damages need to be better integrated into discussions both on assessing and addressing loss and damage associated with the adverse effects of climate change.

Paper no. 11: United Nations University

SUBMISSION BY THE UNITED NATIONS UNIVERSITY

Institute for Environment and Human Security (UNU-EHS in Bonn)

SBI Work Program on Loss and Damage: Ideas for work streams and areas of discussion up to and beyond COP18

15 August 2011

Prepared for Party consideration in the lead-up to COP17 at Durban

Keywords: SBI Work Program on Loss and Damage, risk management, human migration, displacement and planned relocation**,** climate adaptation, climate change, Cancun Adaptation Framework, risk reduction and prevention, mobility solutions

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

Submission by the United Nations University Institute for Environment and Human Security (UNU-EHS) located in Bonn, Germany. August 15, 2011.

Contents

1. Introduction

The Cancun Adaptation Framework (contained in - /CP.16) suggests that the Subsidiary Body for Implementation (SBI) make recommendations on loss and damage associated with the adverse effects of climate change including impacts related to extreme weather events and slow onset events to the Conference of the Parties for its consideration at COP18, as well as to strengthen international cooperation and expertise to understand and reduce such losses. At the SB 34 in Bonn the SBI noted a number of approaches for addressing loss and damage. In this document (see para 4), the SBI took note of the importance of addressing the following thematic areas in the implementation of the work programme:

(a) Assessing the potential for loss and damage associated with the adverse effects of climate change and the current knowledge on the same;

(b) Examine a range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels;

(c) Address the role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change.

Purpose of this submission

UNU contributes views in this submission about the major possible elements for the SBI Work Program on Loss and Damage, as articulated in paragraphs 25 – 29 of Draft Decision - / CP.16 and as suggested at SB 34 in Bonn. This submission provides ideas about what Parties can achieve leading up to and in Durban at COP17 this year, and activities that can be included in the SBI Work Program on Loss and Damage. UNU also offers ideas about achievable milestones in the Work Program to COP18 and after that time.

This submission contains examples for policy perspectives that could help shape activities around climate induced displacement and migration[i].

The Work Program on Loss and Damage should be an ongoing process of supporting implementation activities related to loss and damage associated with climate change impacts in

developing countries that are particularly vulnerable to the adverse effects of climate change[1]. Advance understanding of and the reduction of loss and damage

On an ongoing basis[2] , the SBI Work Program will 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 events[3] which may include effects on human mobility. The SBI Work Program will catalyse existing and future activities on loss and damage through exchange of ideas between Parties and experts. The SBI Work Program provides a useful avenue for relevant stakeholder organizations to signal what kinds of actions would be needed from Parties to catalyse action (e.g. provision of data about risk, information about ongoing and planned risk management priorities or actions, etc.); and for Parties to signal what kinds of knowledge gaps they would need filled.

Knowledge gaps in the research about environmental change, migration and displacement include[ii]:

- Environmental processes that trigger migration: There is not yet a widely agreed and measurable definition of human mobility linked to environmental change. This contributes to the already difficult task of compiling accurate data sets or precise figures across scientific studies[iii].
- The process of environmental migration itself: More evidence-based research is needed to characterize the drivers in origin areas (e.g., livelihood insecurity, environmental hazards, conflict, demographic pressures, gender inequality, etc.) and the pull factors in areas of destinations (e.g., demand for labour, aging population).
- More understanding is needed about what combinations of factors lead to human mobility enhancing resilience of affected people, or undermining resilience. This will add to the analysis of the role migration and displacement may play in the future as the impacts of climate change become are expected to become more pronounced.

2. Promote the prevention and minimization of loss and damage

[1] Para 26
[2] e.g. leading beyond COP18, with a time period to be defined or open ended as appropriate
[3] Para 25

Disaster risk management and reduction are featured in the Cancun Adaptation Framework along with the para on human migration and displacement (paras 13 -14). Loss reduction spans the range of rapid- and slow-onset hazards that can cause loss and damage. Activities related to loss and damage must be viewed as part of a climate risk management strategy that includes, first and foremost, activities that prevent human and economic loss and damage from climate variability and extremes. Activities and ultimately the recommendations by the SBI to COP18 should underscore the need to design and implement all activities with an aim to prevent and reduce loss and damage, including minimizing the impacts of climate change on human mobility where it is not voluntary. A range of measures will be needed, but all should work towards the goal of risk reduction and take into account the principles of the Hyogo Framework of Action. All actions should strive to complement and enhance the ability of National Platforms under Hyogo to prevent and reduce loss and damage at the national and sub-national levels. Additionally, recommendations by the SBI Chair will consider what activities under the Convention can catalyse prevention and reduction of loss and damage internationally, and in areas where concerted international efforts can fill gaps which individual governments—especially in vulnerable countries—may struggle to fill alone. The SBI Chair could recommend support for disaster risk reduction and conflict mediation strategies while strengthening humanitarian responses. This could help governments take action to reduce the risks people face from acute crises arising from natural disasters and competition over resources leading to conflict, and pre-empt crisis situations.

3. Provide a framework for activities that lead to implementation of measures to reduce loss and damage

The Work Program will, through workshops, events and other modes as appropriate, support SBI with information so that it is in a position to make recommendations on loss and damage to the Conference of the Parties for its consideration at its eighteenth session[4]. This may be an avenue for provision of further evidence and recommendations related to human mobility in the context of environmental and climatic change. The UNFCCC process may benefit from views about what activities are already being undertaken, what innovative new approaches are possible to design (both under the Convention and outside of but in harmony with it), and what kinds of activities may

[4] Para 29

remain unrealistic for the foreseeable future (or what kinds of criteria would be needed to make such activities possible). The SBI Chair could recommend:

- Identify guiding principles, effective practices and institutional frameworks to help governments in developing appropriate laws, policies and programs to address environmentally induced internal and international migration. Current laws, policies and institutional arrangements are inadequate to deal with complex movements of people. Of particular concern is the possibility that large numbers of people may be rendered stateless if rising sea levels inundate island countries and low-lying, densely populated delta areas. Guiding principles are needed today to shape thinking about how to manage potential larger-scale relocation in the future.
- Policy frameworks and institutions that address environmentally induced migration: A few examples of policy frameworks addressing this issue are available, such as temporary protection status (TPS) in the United States and Europe or principles and soft laws for protecting people who have been displaced by environmental events. Yet beyond humanitarian approaches for rapid-onset extreme events, there are significant governance gaps. Complex and slow onset events could pose a major challenge to legal and governance frameworks, in part because responsibility and temporal limits are difficult to assign. Moreover various institutions that deal with different issues related to the impacts of climate change may have a tendency to operate in “silos” and may approach issues such as climate change within narrow sectoral perspectives.

4. UNU will support Parties in achieving milestones in Work Program on Loss & Damage

- Upon Party request, UNU will **provide case studies of countries related to migration and displacement** (particularly Guatemala, Peru, Ghana, Kenya, India, Bangladesh, Thailand, Vietnam and other countries). These case studies could include an overview of major recent weather-related natural catastrophes with the collaboration of Munich Re´s NatCatService, the world´s largest database on natural catastrophes. The studies could also

contain a section on policy considerations around migration, displacement and planned relocation specific to that country.

- Provide an **overview of terminology and measures used to address migration, displacement and planned relocation and ways to reduce loss and damage associated with climate change, at side events and expert meetings**

- Prepare a **policy brief** on migration and displacement, based on a new program on rainfall variability, food security and migration worldwide, and a UNHCR - UNU study of climate change, refugees and food security in the Horn of Africa

- Support the Climate Change, Environment, and Migration Alliance (CCEMA) in preparing **a glossary on key terminology** related to human mobility in the context of climate change

- Continue to coordinate and work with CCEMA to **bring views of practitioners, experts, and humanitarian organizations to delegates** in the UNFCCC process

- Provide a panel of **experts to discuss and answer delegate questions about the use of a variety of risk management tools in the context of adaptation**, for upcoming negotiations sessions in Durban, SBs, etc.

Further, if Parties express a desire for the following, UNU volunteers to

- **Co-organize a workshop** on a relevant theme, as appropriate and desired by Parties.

- **Co-organize a series of training workshops** to support delegates in familiarizing themselves with technical terms, different ways of managing migration and displacement in the context of changing environmental conditions, etc. together with other relevant stakeholder organizations. These training sessions could be organized as desired

immediately before sessions or relevant SBI Work Program workshops to capitalize on participants´ time.

5. Conclusions and way forward

Research has substantiated the fact that environmental change is one of a larger set of factors that affect human migration and displacement worldwide. Processes such as natural disasters and shifts in climate patterns which may bring glacial melt, sea level rise and desertification are and will increasingly affect migration and displacement. Some of the most vulnerable regions include areas like low-lying islands and deltas, coastal areas, areas dependent on glacial-fed water systems and areas subject to persistent drought. Field-based research suggests that most environmentally induced migrants and displaced people will move within their own countries. Some movements will resemble familiar migration and displacement patterns, but other movements will likely occur under emergency circumstances or complex humanitarian crises, particularly where climate change exacerbates natural hazards, such as cyclones, and communal violence and conflict.

Key messages

- The topic of human mobility has appeared for the first time in a decision of the Conference of the Parties of the UNFCCC. The issue is couched in pragmatic, solution-oriented terms under adaptation, reflecting the realization of Parties following the IPCC´s 4th Assessment report that the impacts of climate change are highly likely and may already be manifesting themselves in different regions of the world. Migration, displacement, and planned relocation are featured in the Cancun Adaptation Framework as technical issues in a part of the text which highlights a list of activities that may qualify for adaptation funding in the future.
- Opportunities for moving practical solutions and discussions forward in UNFCCC process through Cancun Adaptation Framework (para 14(f)), Climate Finance and the Adaptation Committee, and through the SBI Work Program on Loss and Damage. These and other policy processes will likely catalyze nationally and regionally driven work on the topic of migration, displacement, and planned relocation in the context of climate change.

Key gaps

- Emerging dialogue focusing on existing tools, but risk that emerging issues related to human mobility and climate change may introduce needs that are not addressed by existing tools and institutions
- Likelihood that – at least in the medium and longer term – that humanitarian response could be overwhelmed by growing disaster-related displacement. Possibility that disaster risk reduction and measures to avoid loss and damage may not keep pace with the rising and potentially permanent changes associated with desertification, sea level rise, ocean acidification, loss of geologic and other freshwater sources, etc. which can add pressure to human mobility. This underscores the need for new thinking about managing and planning for the impacts of climate change upon human mobility, ranging from migration to displacement to relocation.
- Related to these two points, there is a need for longer term planning mechanisms related to human mobility which may be difficult to attain in context of voluntary, non-binding international cooperation.

Now that migration and displacement have been highlighted in the UNFCCC climate negotiations, policy makers increasingly ask "what do governments need to know about the potential impacts of climate change and human mobility in order to prepare their own appropriate legal, institutional, and governance approaches?" The potential scale of future movements may require support for those countries and communities most affected by internal and immediate cross-border environmental migration as less and least-developed countries may not have sufficient capacities or resources to manage or respond to such flows. The next few years will provide opportunities to fill knowledge gaps and support decision makers with more and better quality information about the role of environmental factors in the combination of issues that affects human migration, displacement, and planned relocation.

With the inclusion of climate induced displacement, migration, and planned relocation in the Cancun Adaptation Framework, many new windows of opportunity have opened for work on the issue. It is useful for delegates to link the issue to the SBI Work Program on Loss and Damage

leading up to COP18. Activities undertaken within the context of the SBI Work Program on Loss and Damage from SB 34 to COP18 should focus on building understanding of delegates about assessment of risks, the range of approaches that could address loss and damage, and possible roles of the Convention. Leading up to COP18, delegates should define a process to discuss solutions, focusing on what is needed and what implementation ideas could be further explored after COP18. A draft text around these issues could be prepared for decision at COP18.

[i] Martin, S., and Warner, K. (2010). Climate change and migration: Findings of the transatlantic study team. German Marshall Fund Study Team on Climate Change and Migration, German Marshall Fund, September 2010. http://www.ehs.unu.edu/article/read/gmf

[ii] Stal, M., Warner, K. (2009) The Way Forward Researching the Environment and Migration Nexus. Research Brief based on the Outcomes of the 2nd Expert Workshop on Climate Change, Environment, and Migration. 23 - 24 July 2009, Munich, Germany. United Nations University. ISSN: 1816-5788. October 2009; Warner, K. and Laczko, F. Migration, Environment and Development: New Directions for Research. International Migration and Development. Continuing the Dialogue: Legal and policy perspectives. Joseph Chamie and Luca Dall´Oglio (Eds). IOM and Center for Migration Studies. ISBN 1-57703-047-8. New York and Geneva. pp: 235-253.

[iii] Further, governance issues arise related to definitions: Some refer to "environmental refugees" while others refute that the word "refugee" has a specific legal meaning in the context of the 1951 Geneva Convention Relating to the Status of Refugees. See Castles, S. (2002): Environmental change and forced migration: making sense of the debate In: *New Issues in Refugee Research*. Working Paper No. 70. United Nations High Commissioner for Refugees (UNHCR), Geneva; Dun, O. and Gemenne, F. 2008 "Defining Environmental Migration", Climate Change and Displacement. Forced Migration Review 31:10-11.

Paper no. 12: World Bank

World Bank Submission to Agenda Item 9 on 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 to enhance adaptive capacity - Activities to be undertaken under the work programme (FCCC/SBI/2011/L.20).

1. Under Para. 5 of Decision FCCC/SBI/2011/L.20 the SBI invited Parties and relevant organizations to submit , further views and information on the themes to be addressed in paragraph 4(a - c) of the same decision. It requested the secretariat to compile these submissions into a miscellaneous document for consideration at its thirty-fifth session and to prepare a synthesis report based on the submissions and other relevant information before its thirty-fifth session.

2. Under para. 4 of that decision, The SBI took note of the importance of addressing the following thematic areas in the implementation of the work programme:
   (a) Assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge on the same;
   (b) A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels;
   (c) The role of the Convention in enhancing the implementation of approaches.

3. ***The World Bank welcomes the proposed work program and supports the importance of addressing the loss and damage associated with adverse effects of climate change, both in the context of extreme weather events and slow onset events***. Recent studies (Economics of Adaptation to Climate Change and the Natural Hazards, Unnatural Disasters: The Economics of Effective Prevention) and the wide ranging work undertaken by the World Bank and other development organizations underscores the importance of dealing with climate change and climate variability as critical dimensions of climate resilience, including pursuing integrated climate risk management approaches through building national disaster risk management capacity and mainstreaming climate adaptation in core economic development. As experience with both disaster risk reduction and climate change adaptation grows, there is increasing recognition by development organizations and Parties that these two fields share a common focus in that they are both concerned with reducing the vulnerability of communities and contributing to sustainable development. It is also important that discussions with Parties maintain that adaptation includes not only climate extremes, but also the more slowly evolving risks posed by systematic trends such as increasing mean temperatures and sea-levels. In some cases these are not mutually exclusive, for example the current climate extremes causing such distress in the Horn of Africa are symptomatic of longer drying trends in the region, requiring immediate disaster management as well as longer-term adaptation. Slow onset of climate changes are already resulting in failing agricultural systems in several of the most poor countries, accentuating inadequate water supplies, and having adverse impact on deteriorating or sub-optimal infrastructure – all of which undermine or reverse the course of economic development.

These losses and damages are significant and growing and need to be addressed within a holistic climate risk management approach that will result in climate resilient economies.. The Economic Analysis of Adaptation to Climate Change provided ample evidence on these aspects with case studies from Bangladesh, Mozambique, Ethiopia amongst others.

4. ***In this context, the UNFCCC should seek through the L&D work program to integrate economic development with disaster risk management, climate change adaptation, risk financing and post-disaster reconstruction as a continuum within a unified policy, institutional and management framework.*** Specifically, the UNFCCC can further provide a platform and mechanism for strengthening national and regional capacity across the full continuum of the L&D agenda, from enabling critical data acquisition, analysis and sharing and developing management capacity, to establishing national and regional risk financing frameworks, to being able to conduct needs assessments and formulate concrete risk reduction and climate adaptation policies and investments, and to mobilizing the needed resources to follow through with such investments. Development of good practice and building capacity should be critical elements of the work program. (para. 4 (c)

5. **There are some concrete steps to this end that may be taken under the UNFCCC process,** including, inter alia:
   I. Promoting a comprehensive risk management approach at the strategic planning, policy and program levels in accordance with the Cancun Adaptation Framework
   II. Ensuring that loss and damages associated with both extreme events and chronic slow change, all of which impacts on major sectors and actors in countries, are given due attention.
   III. Placing loss and damage considerations within that larger framework and climate and disaster risk management approaches in countries towards the overall objective of climate resilient development
   IV. Ensuring a close linkage between climate adaptation and disaster risk reduction in the development of the proposed NAPs
   V. Development of good practice and capacity building at national and local levels.

6. The World Bank offers a suite of analytical tools, data services and investment options to assist clients and partners in their efforts to reduce climate-induced damage and losses. Together these activities support the full cycle of climate and disaster risk management, from the collection and analysis of climate and risk data, to the provision of financial protection against disasters, and the assessment of damage and losses when disasters occur. Some specific products are mentioned here:

   I. Climate information and Disaster risk data collection and management: The World Bank provides support to data collection and management through a variety of analytical tools and services. Key work-streams are:

      i. Climate Change Knowledge Portal (CKP): a web-based service to take better account of risks to development planning and implementation that arise from climate variability and climate change. To date, 31 country risk and adaptation profiles and online dashboards have been developed to provide

synthesized information on climate change, impacts and risk reduction actions, with work on-going to expand coverage to other countries.

ii. **Weather and Climate Information and Decision-Support Systems (WCDIS):** the World Bank supports the technical strengthening of decision-making support capacity in at-risk countries, to help authorities collect and translate weather and climate data into relevant and useful information for all weather and climate-exposed sectors and users. This service is being extended to some of the client countries of the Pilot Program for Climate Resilience

iii. **Open Data for Resilience Initiative (Open DRI):** inspired by the belief that all decision makers should have the freedom to share and understand risk data, Open DRI provides clients with the tools to share, source and create disaster risk data.

II. **Disaster risk analysis:** Since 2006, the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR) have invested some $23 million to finance 30 regional, national and city level disaster risk assessments in high-risk zones. Risk assessments are often comprehensive and multi-hazard, and look at the probability of and scale and impact in different disaster scenarios.

III. **Disaster Risk Financing and Insurance**: The World Bank's Disaster Risk Financing (DRF) Program is helping countries reduce, pool, and share climate-related disaster risks, particularly through risk financing and transfer mechanisms, such as sovereign disaster risk financing, property catastrophe risk insurance, agricultural insurance and disaster micro-insurance, at both country (Mongolia, Malawi, Mexico, etc) and regional (the Caribbean, the Pacific, South Eastern Europe) levels.

IV. **Damage and Needs assessment**: Through the Post-Disaster Needs Assessments, the World Bank and GFDRR are helping to set the standards in post-disaster reconstruction planning and financing, and advance the early planning of risk reduction activities in the aftermath of a crisis, in partnership with UNDG and the European Commission. The PDNA methodology has been developed out of the experience the World Bank, UNDG and European Commission have in responding to sudden onset crises, but its application and development in slow-onset disasters, such as the Horn of Africa drought in 2011 demonstrates the potential of this tool to mobilize political and financial capital in the long road to recovery from disaster. Work is currently underway to further 'green' the PDNA Methodology for programmatic and upstream integration of DRM and CCA.

V. **Country Assistance Strategies, Development Policy Operations and Targeted Investments**: Increasingly Bank strategies and operational products are placing climate and disaster risk management at the center of strategic policies and development programs (e.g. Mexico) to ensure that both climate change and climate variability are fully addressed up front in development context. This coupled with the opportunities provided by the Pilot Program for Climate Resilience (which are

operating in 18 countries) have pioneered effective engagement in mainstreaming climate adaptation and disaster risk management in several countries (including Bangladesh, Caribbean – St Vincent and Grenadines and Grenada, Samoa, etc). These strategic approaches build on and complement national strategies (NAPAs, Strategic Programs for Climate Resilience) and have the potential to inform the L&D discussions within more strategic contexts of the proposed NAPs.

7. The World Bank stands ready to assist in ways to promote this agenda and showcasing some of the on-the-ground experiences it has with countries on key products, services, capacity building and technical assistance as part of the elaboration of the work program along the entire continuum.

Paper no. 13: World Health Organization

WHO submission on views and information on the elements to be included in the work programme on loss and damage

This submission contains the views of the World Health Organization on elements to be included in a work programme to consider approaches to addressing loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change, as requested under paragraph 28 of Decision -/CP.16 on *Outcome of the work of the Ad Hoc Working Group on long-term Cooperative Action under the Convention* (AWG-LCA).

WHO welcomes the opportunity to submit its considerations on loss and damage within the health sector as a consequence of the adverse effects of climate change and to express its views on the following three broad thematic areas:

- Assessing the risk of loss and damage associated with the adverse effects of climate change and current knowledge on the same;

- A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow-onset events, taking into consideration experience at all levels;

- The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change.

1. Assessing the risk of loss and damage associated with the adverse effects of climate change and current knowledge on the same

WHO evidence

• Climate change is happening now and it inevitably affects the basic requirements for health: clean air and water, sufficient food and adequate shelter. This in turn impacts on some of the largest global health problems. Each year, about 3.5 million people die from malnutrition, 2.2 million from diarrhoea, 800 000 from causes attributable to urban air pollution, and 60 000 in climate-related disasters, mostly in low resource settings and highly prevalent in humanitarian settings[1].

• Climate change also brings new challenges to the control of infectious diseases as some are highly climate-sensitive to temperature and rainfall, including cholera and the diarrhoeal diseases, as well as vector borne diseases including malaria, dengue and schistosomiasis.

[1]http://whqlibdoc.who.int/publications/2009/9789241598880_eng.pdf.

http://www.ipcc.ch/publications_and_data/ar4/wg2/en/contents.html

Inter-Agency Standing Committee (IASC); World Health Organization (WHO). Protecting the health of vulnerable people from the humanitarian consequences of climate change and climate related disasters 2009.

http://www.who.int/hac/events/drm_fact_climate_risk_management.pdf . Disaster Risk Management for Health Fact Sheets. Global Platform - May 2011

• Health facilities are often damaged or destroyed in weather related disasters, hampering the ability to provide emergency health services and primary health care.[2]

• Climate change threatens to reverse the progress that the global public health community has been making against many diseases, and increase the challenges for the humanitarian community to respond to natural, biological and social emergencies.

• WHO carried out the first analyses to estimate the global burden of disease attributable to climate change in the early 2000s, producing a set of estimates that have been widely cited in global climate policy, and which form the basis for subsequent estimates of economic costs of the impacts of climate change on health, for example by the UNFCCC and World Bank. Following a mandate from the World Health Assembly, WHO is now coordinating a re-estimation of these health impacts at global and regional level.

• Damage to health represents an important fraction of overall economic losses due to climate change. In the early 1990s, studies estimated that damage costs of climate change ranged from 1% to 3 % of global world product (GWP), and the loss of human life as a fraction of overall economic loss reached up to 50% in some scenarios[3]. Estimates for specific diseases also showed the impact of damage costs. For example, based on medical-treatment costs per case, estimates present annual damage costs of increased Salmonella cases in the EU with a range between Euro 70 and 139 million until 2040[4].

• However, there still remains a major knowledge gap on economic losses resulting from health impacts - including the cost of premature death, impact on people's productive capacity (both sick people and healthy people, the latter for example under heat stress), and the burden borne by health systems to deal with increased caseload. No health economic study systematically examines all the health damage cost categories across all diseases/health impacts at global level, leaving aside a wide range of associated climate-sensitive health impacts.

• To fill these gaps, WHO is undertaking a global damage cost study based on a re-estimation of health impacts attributable to climate change. Such a study will provide international decision makers with a better understanding of the magnitude of the health impact and motivate further adaptive and mitigation actions at international level. Aside from this, WHO has developed a Damage Cost tool[5], which provides guidance on how to estimate at country level damage costs associated with unmitigated health impacts of climate change. It provides minimum standards for the selection, measurement and valuation of impacts and response options, thus giving stakeholders sufficiently robust estimates to raise funds and plan responses. A key advantage of country studies over a global damage cost study is that its implementation is country-led and it enables countries to assess costs based on their specific needs.

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[2] For example, more than 236 health facilities damaged and 200 destroyed by flooding and mud in the Pakistan flood 2010, the university hospital in Burkina Faso flooded and critical services suspended, hospitals flooded in the Manila Metropolitan area, 92 health centres flooded or inaccessible in Benin in 2010.

[3] Tol, R. *The damage costs of climate change: towards more comprehensive calculations*. Environmental and Resource Economics. 1995. **5:**353-374.

[4] Cited in Hutton, G. *The economics of health and climate change: key evidence for decision making*. Globalization and Health 2011, **7**: 18.

[5] A collaboration between WHO Headquarters and the WHO European Regional Office. More details available upon request.

• Therefore, gaps in knowledge and evidence remain, particularly regarding damage costs and loss of lives due to climate change at national and sub-national level. As many environment and health-related impacts are not always easy to measure in monetary terms, the available data and studies value only direct and quantifiable economic impacts, resulting in a systematic under-valuation of health effects of climate change and lack of analysis of correlated data and consequences[3]. WHO therefore proposes to bring attention to:

- Quantification of loss in terms of well-being and household resilience.
- Estimation of interactions and linkages between climate-change effects and impacts on human populations, with an emphasis on the level and equity of distribution of productivity and wealth impacts.
- As most studies are global or regional, analysis of impact variation between countries with similar climate change patterns can serve as a measure to monitor vulnerability and inequities between countries, and as an indicator for how different countries at different stages of economic development are affected by climate change.
- Estimation of losses in health infrastructure and to health systems from the impact of climate events.

2. A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow-onset events, taking into consideration experience at all levels

Based on the health risk assessments that WHO has already carried out at a global level, and is now supporting at national level, the evidence to date indicates that although the effects of climate change on sudden-impact extreme weather events will have important health consequences, slow-onset events are likely to have a much larger aggregate impact. It is therefore essential that international efforts to address loss and damage also address the fundamental determinants of vulnerability to climate change, and go beyond just risk transfer to spread the cost of shocks.

The Organization is therefore proposing a comprehensive approach to strengthen health systems to assess and address the adverse effects of climate change on health. This includes strengthening of health protection through disaster risk reduction, humanitarian preparedness and response and, potentially, use of insurance and other risk transfer mechanisms, for example in relation to health facilities. It also includes a vulnerability and adaptation assessment for the full range of health effects of climate change, followed by comprehensive adaptation planning to address key weaknesses in health systems including the vulnerability of health infrastructure to climate events.

In order to contribute to the efforts of health-system strengthening in least developed countries and confer them with a "climate-resilient" status for health, a series of interventions are proposed as a minimum package, which include:

- a comprehensive climate-change and health-vulnerability assessment;
- preparedness for, and response to, the public health consequences of extreme weather events, including population displacement;
- an integrated environment and health surveillance system, including meteorological surveillance;
- strengthening country capacities for the delivery of preventive interventions of selected communicable disease control programmes;

- research on local-level health effects of climate change and on locally-appropriate adaptation measures; and
- intersectoral coordination and health representation in national and international development, humanitarian, and climate policy forums.

Vulnerability and adaptation assessments. WHO would encourage and support Parties to conduct vulnerability, impact, and adaptation assessments based on the WHO public health tool "Vulnerability and Adaptation Assessment" which supports the following iterative process:

1. Identification of the human health risks for current climate variability and recent climate change, and the public health policies and programmes to address the risks.
2. Projection of future health risks and impacts under climate change.
3. Identification and prioritization of policies and programmes to address current and projected health risks.
4. Establishment of a process for monitoring and managing the health risks of climate change.

Vulnerability and adaptation assessments are important as they can provide national-level evidence of the linkages between climate and health, improve understanding of local and specific health risks and vulnerabilities, provide the opportunity for capacity building, and serve as a baseline analysis to monitor how health risks may be influenced by a changing climate over time.

Enhanced capacity to address public health emergencies saves lives and protects communities. Acute shocks such as extreme weather events and disease epidemics can overload health systems in even the most developed nations. Complex emergencies, resulting in humanitarian crises result in enormous health burdens for the affected population and often require wide-scale international assistance. WHO therefore proposes:

- Further reinforcing health vulnerability and risk assessment, multi-sectoral disaster risk reduction, health emergency preparedness, early warning, and health action in emergencies to help to ensure that people are better protected from the increasing hazards of extreme weather and help communities recover more quickly following a disaster.
- Support for increased capacity of health systems to prepare for climate-change hazards and extend services and continuity of care to mobile, hard-to-reach populations and newly established communities after displacement, bridging emergency relief and long-term sustainability.
- Strengthening of coherent partnership between humanitarian actors, NGOs, private sector, and national health systems through emergency preparedness measures in advance of any emergency, to be maintained from the very onset of the emergency and throughout the community recovery and stabilization phase.

Strengthened disease surveillance systems, linked to weather forecasts, early warning systems and disease control programmes can protect health from local to global scales. Effective disease surveillance and control become even more important under conditions of rapid environmental change and movement of people, disease vectors and infections.

- Rapid and accurate disease notification, in compliance with the International Health Regulations, is an essential component for planning disease control.

- Extreme weather forecast and public health tailored early warning, such as the WHO Regional Office for Europe Heat-Health Action Plan, have great potential for using meteorological information to enhance early warning and effective response. They are relevant over a range of time scales, from hours or days (for example for flood or heat wave warnings), to weeks (for seasonal epidemics of vector-borne disease), to months (seasonal forecasts of precipitation anomalies allowing planning for flooding or drought), to years (for drought and associated food insecurity)
- Increased linkage of disease surveillance activities with meteorological and environmental information, for example as planned under the Global Framework on Climate Services, could greatly enhance the effectiveness of health-protection measures.

Local public health interventions to build community resilience

- Health loss and damage can be reduced by preventive actions along the full spectrum of health determinants, from reducing environmental hazards (for example ensuring access to safe water), to improving the social determinants of health (such as educating and empowering women in developing countries), to control programmes for specific diseases (for example Integrated Vector Management to make best use of a range of interventions to control vector-borne disease).
- Such strategies need to be flexible enough to take into account the diverse composition of modern communities, and include migrants and people from different ethnic and cultural groups, and with different health-seeking behaviours.

WHO is providing support and expertise to each of the above-mentioned responses, covering planning, global coordination, assisting national governments and regional partners, and making analytical contributions. Impact assessment, economic tools and reviews are a central part of WHO's work, such as conducting reviews of economic evidence and conducting cost-benefit analysis on interventions such as Malaria Early Warning Systems. WHO is also coordinating major pilot projects in 14 countries to generate the knowledge and capacity needed to scale up the solutions efficiently. The Organization will continue to ensure that this work feeds into the objectives and work programmes of the UNFCCC.

3. The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change

Parties to the UNFCCC commit themselves to avoid adverse impacts on "*human health and welfare*", as specified in Article 1, Paragraph 1, of the Convention. The ongoing and planned work outlined above is designed to support UNFCCC parties to achieve this goal.

However, UNFCCC delegates consider that health is relatively neglected compared to the importance that it should have within the negotiations[6]. We would therefore propose that the Convention could help UNFCCC parties to achieve their stated goals through:

- A results-based approach to fulfil the commitment in Article 4.1. (f) of the UNFCCC - i.e. "All Parties…shall: …f. Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate

[6] Singh, S., U. Mushtaq, et al. (2011). "The importance of climate change to health." Lancet **378**(9785): 29-30.

methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects and measures undertaken by them to mitigate or adapt to climate change;", backed by monitoring and assessment of progress against this commitment.

- Continuing to encourage countries to include health as one or the priorities for national adaptation planning.
- Supporting health actors in assessing and addressing loss and damage from climate change in health, as well as economic and environmental terms, and designing appropriate response measures.

Finally, WHO would like to restate our commitment to help achieve the goals of the UNFCCC, and to lend all available technical support for health protection from climate change, under the mechanisms finally agreed by UNFCCC parties.