

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

Overview

1. Introduction	1
2. Loss and Damage in LDCs: Impacts today and tomorrow	2
2.1 Impacts today	2
2.2 Impacts tomorrow	4
3. The context of loss and damage associated with climate change impacts	5
4. Gaps identified in the first phases of the SBI Work Programme on Loss and Damage	6
4.1 Assessing the risk of loss and damage	6
4.2 Gaps in Addressing loss and damage of importance to LDCs	8
4.3 Needs in coordination action on loss and damage	10
5. Role of the Convention (and other institutions/mechanisms at the international level)	11
5.1 Legal justification for a role of the Convention	11
5.2 Functional justification of the Convention	11
5.3 Performance of the functions: the need for an international mechanism	13

1. Introduction

Countries worldwide are already faced with loss and damage associated with the adverse effects from climate change, which an increasing pace of climatic change promises to increase. To address Parties' concerns about the increasing risk of loss and damage, the Cancun Adaptation Framework established the Work Programme on Loss and Damage under the Subsidiary Body for Implementation (SBI) to suggest further actions by Parties on the issue of loss and damage at COP18.

Throughout 2012, the Least Developed Countries (LDC) group has participated actively in the activities of the work programme, which have included an expert meeting on assessing loss and damage, and regional expert meetings to examine a range of approaches to address loss and damage (thematic areas 1 and 2 of the work programme). With this submission, the LDC group would like to express its views on thematic area three of the SBI Work Programme on Loss and Damage – the role of the Convention - and on key concerns and needs related to loss and damage both now and in the future.

2. Loss and Damage in LDCs: Impacts today and tomorrow

At the current increase in global temperatures (about 1°C above pre-industrial levels), a wide range of climate impacts has already been observed. High temperature and dry spell conditions, which covered significantly less than 1 percent of the Earth's surface between 1951-1980, now typically cover about 10 percent of the world's surface area. Global sea level has risen about 20 cm in the past 100 years, while the rate of increase has doubled in the past two decades. The repercussions of these climate change impacts is widespread. Global maize and wheat production declined by 3.8 percent and 5.5 percent, respectively from 1980 to 2008 compared to a scenario without a trend of increasing temperatures. However, the impacts of climate change are not experienced equally. Between 1970 and 2008 over 95 percent of deaths from natural disasters occurred in developing countries.

2.1 Impacts today¹

New findings from recent research on the impacts of climate change on communities in selected LDCs show that households in vulnerable countries are already incurring severe loss and damage associated with extreme weather events and slow-onset climatic changes, which will likely grow in the future.² The research shows that loss and damage at the household and community level can result from: (1) inability to respond (costs of inaction) and (2) costs associated with existing coping and adaptive strategies. Loss and damage is also incurred beyond the household level, at the sub-national, national and regional levels. Analysis of findings on loss and damage today in LDCs and other vulnerable countries suggests that **communities are observing and experiencing changes in climate stresses, in both extreme weather events and slow onset climatic changes**. Research reveals that **communities are experiencing significant loss and damage** to quality of life, livelihoods, food and livelihood security as well as secondary loss and damage in the form of stress on social fabric essential to adaptive capacity and resilience. Observations include:

- **Bhutan**³: In Punakha District, late onset of monsoon rains and lower total amounts of monsoon rain decrease the availability of water for paddy rice irrigation. Farmers are attempting to adapt by changing water-sharing arrangements, shifting from rice to lower-yielding, rain-fed crops and buying pumps. For 84 percent of the survey respondents (N=273), these measures are not enough and/or entail extra costs. In addition, some adaptation measures are reported to cause conflicts between households and villages.
- **In The Gambia**⁴ drought and changing rainfall patterns in the North Bank Region have caused crop failures and food insecurity. In 2011 crop production dropped by 50 percent compared to the five-year average because of inadequate rainfall. The 2011 drought also affected livestock and irrigated vegetable production. Farmers in the area try to cope by looking for alternative sources of income to buy food, such as selling livestock or firewood, fishing or migration. Focus group participants expressed the need for drought-resistant crop varieties, better soil and water conservation and crop insurance to make their agricultural system less vulnerable to the vagaries of the weather.

¹ Full background information can be retrieved from <http://ldclimate.wordpress.com/>

² Together with national research institutes, the UN University is undertaking 8 case studies² in vulnerable countries on Loss and Damage to provide scientific insights about the adverse effects of climate change that go beyond people's capacity to cope and adapt. The case studies look at the impacts of extreme weather events as well as the impacts of slow-onset climatic changes. Full case studies will be available at www.lossanddamage.net

³ Wangdi, N.; Wangchuck, U.; Kusters, K. (2012). "Loss and damage in Bhutan: Changing glacial melt, rainfall variability and livelihood impacts in Punakha district". CDKN Loss and Damage in Vulnerability Countries Initiative. Bhutan Case Study Report, first draft, September 2012. UN University Institute for Environment and Human Security.

⁴ Yaffa, S. (2012). "Loss and Damage on millet production due to drought and changes in rainfall variability in the North Bank Region of the Gambia". CDKN Loss and Damage in Vulnerability Countries Initiative. The Gambia Case Study Report, first draft, September 2012. UN University Institute for Environment and Human Security.

- **Micronesia**⁵: While not an LDC, the challenges of Micronesia are similar in nature to the small island developing states (SIDS) that are also LDCs. On the island of Kosrae, 68 percent of the surveyed households (N=364) experienced adverse effects of coastal erosion caused by sea level rise and extreme weather events. Most households reported damage to their houses. 50.3 percent adopted measures to reduce the impacts of coastal erosion, such as building seawalls, reinforcing houses, planting trees along the coastline and moving to upland areas. However, for 95 percent of this group, the measures were not enough or entailed extra costs.
- **Bangladesh**⁶: In Sathkira District, salinity intrusion after cyclone Aila caused a total rice crop failure in 2009. In the two years that followed yields were 55 to 65 percent below pre-Aila levels. This had a severe impact on income and food security as the majority of the population depends on rice cultivation. The loss in rice production for the four villages in the study was estimated at US\$ 1.9 million. Salinity intrusion also caused a sharp increase in both water borne diseases and skin and eye infections.

Communities experience loss and damage from changes in weather stressors and creeping climatic changes.

Today, loss and damage from climate change presents new, dynamic and significant challenges to already poor and vulnerable populations.

Rural residents in the eight research locations overwhelmingly perceive that climatic changes are happening today, and these perceptions shape household risk management decisions. These losses mean that communities and households face deteriorating quality of life, loss of livelihoods, loss of food and livelihood security related to weather extremes and climate change.

The largely agriculture-based households in the research sites overwhelmingly report that extreme weather events and slow onset changes are already causing both economic and non-economic loss and damage. In the case of coastal erosion and saline intrusion as well as extreme weather, households lose tangible assets like arable land, and incur damage to housing and other critical infrastructure. Secondary loss and damage being incurred today in communities surveyed manifested through deteriorating social capital, which is essential to adaptive capacity and resilience.

Households with more diverse assets and access to a variety of adaptation, livelihood diversification, or risk management options—through social networks, community or government support programs, and education— can avoid or manage climate-related loss and damage. Those households with the least access to such options—few or no livelihood diversification opportunities, no land, and little education—employ erosive coping measures which leave or trap them at the margins of decent existence as they try to deal with loss and damage. These households cope by reducing consumption, reducing investments in productive activities on their farms or in the education of their children, attempting to migrate to places with better prospects, and/or selling productive assets. An inability to adapt to climatic stressors causes communities to incur increasing costs, especially for those least able to adapt (but who should be targeted most by adaptation strategies).

Although research revealed that adaptation efforts are being undertaken, it also shows that incomplete or insufficient measures increase loss and damage by leaving communities with no buffer

⁵ Monnereau, I.; Abraham, S. (2012). "Loss and damage in Micronesia: Coastal erosion, housing impacts, and the costs of not adjusting in Kosrae". CDKN Loss and Damage in Vulnerability Countries Initiative. Micronesia Case Study Report, first draft, September 2012. UN University Institute for Environment and Human Security.

⁶ Rabbani, G. (2012). "Loss and Damage on rice production and drinking water due to salinity intrusion in coastal Bangladesh". CDKN Loss and Damage in Vulnerability Countries Initiative. Bangladesh Case Study Report, first draft, September 2012. UN University Institute for Environment and Human Security.

when crops fail or when livelihoods are lost. Insufficient adaptation is ultimately an obstacle for development, especially for vulnerable groups that fall farther behind (relative deprivation) and incur greater costs (to pay for losses, damage incurred). The implications are twofold: First, there is still a significant role for adaptation in reducing loss and damage. Adaptation must be provided with adequate financial and technical support in order to facilitate implementation. Second, measures are needed to address particular loss and damage situations beyond adaptation. Affected communities are part of long-term solutions and should be empowered and equipped with better information, resources and options to manage loss and damage from changing weather and climate patterns into account.

2.2 Impacts tomorrow⁷

Future loss and damage is directly depending on the achieved temperature stabilization level.

A 1.5°C rise in global mean temperatures by 2100 would prevent some of the worst impacts, but still poses a serious challenge to particular vulnerable countries, especially LDCs, SIDS and many African countries. An estimated 75 to 250 million people would be at risk of increased water stress within the next few decades. In Tanzania, reduced power generation from hydro-electric plants (due to water stress) alone is estimated to culminate in a loss of up to 1.7 percent of GDP in 2030. Global sea levels are projected to rise to 75 cm above 2000 levels by 2100, but might be stabilized beyond 2100 if temperatures would well below a 1.5°C increase due to significant mitigation efforts. In Bangladesh a sea level rise of 45 cm would already result in a loss of 10 percent of the country's land mass. Flooding risk increases most rapidly between 0 and 2°C warming.

Reaching a 2°C global temperature increase would put 350 to 600 million people at risk of increased water stress by 2050 and 10 to 15 percent of Sub-Saharan ecosystem species would be at risk of extinction. Severe and widespread droughts would occur in the next 30 to 90 years over many densely populated areas. Large regions could experience seasonal extremes with high regularity. Sub-Saharan crop damages might exceed 7 percent, with a small chance of 27 percent damages. Major coral reef bleaching will occur, with widespread damages to coral reef systems and a risk of loss of coral reefs in the Indian Ocean between 0 and 15°S latitude. While sea level would rise to 80 cm above 2000 levels by 2100, a long-term stabilization at 2°C warming implies a continuous sea-level rise for centuries, with levels to approach 3 m by 2300. The threshold for the Greenland ice sheet to melt irreversibly is now estimated to be 1.6°C above preindustrial levels, compared to the IPCC AR4 estimate of 3.1°C.

At 4°C warming by 2100 the proportion of arid and semi-arid lands in Africa is likely to increase by 5 to 8 percent, and a completely new class of heat waves, with magnitudes never experienced before in the 20th century, could occur regularly. Between 24 and 42 percent of African plant species could lose all suitable range by 2085. Wheat production is likely to disappear from Africa by 2080, while millet yield in Sub-Saharan Africa is projected to decrease by 40 percent. The intensity of the most damaging (category 4 and 5) Atlantic tropical cyclones is projected to nearly double by the end of the 21st century. New research shows mortality risk depends on tropical cyclone intensity, exposure, levels of poverty and governance. Due to ocean acidification, corals around the world are likely to start dissolving above 550 ppm CO₂. Sea-level rise would exceed 1 m by 2100, with regionally possibly up to 20 percent higher values. The sea-level rise post-2100 is hard to project, due to large knowledge gaps in understanding the response of the ice caps to such strong warming. In contrast with a 2°C world, in a 4°C world there will be a significant projected increase in so-called "residual

⁷ Full background document with references can be accessed via <http://ldclimate.wordpress.com/>.

damages”; the levels of impacts that cannot be adapted to, but need to be absorbed in terms of economic losses, as well as loss of life, health, livelihoods, culture and biodiversity.

A stabilized greenhouse-gas concentration level that leads to 4°C warming by 2100 would result in global temperatures stabilizing at 6°C above pre-industrial over the next few centuries. The most recent analogue for a 6°C world is found in the Palaeocene-Eocene thermal maximum 55 million years ago, which saw global temperatures rise by about 6°C over a period of 20,000 years, or so. As far as we know there is no analogue for reaching such warming over just a few centuries and it is fair to say that this will lead at least to the levels of widespread extinctions in both marine and terrestrial ecosystems that are shown to have happened 55 million years ago.

3. The context of loss and damage associated with climate change impacts

Addressing loss and damage has three parts: mitigation, adaptation and addressing “residual” loss and damage. These three components provide context for understanding loss and damage.

Mitigation: The first step to addressing loss and damage is through avoiding the potential for loss and damage in the future through appropriate mitigation ambition. Climate change impacts are driven by the concentrations of greenhouse gases in the atmosphere, which in turn impacts atmospheric and ocean temperatures (and ocean acidification). Article 2 lays out the ultimate objective of the Convention, which is to avoid dangerous climate change—the first part of avoiding loss and damage. Greater success in mitigating greenhouse gas emissions means less “residual” loss and damage. The prevention of dangerous climate change is the pinnacle of the loss and damage debate. Loss and damage will be magnitudes greater in a 4° world.

Adaptation: Second, adequate and appropriate adaptation measures can build resilience vis-à-vis negative climate impacts. Negative climate change impacts that cause loss and damage are also linked to the ability of human systems to adapt to changes in climate. Thus, the second pillar of avoiding loss and damage must be facilitating the ability to adapt and adjust to climate change impacts. The greater the extent of adaptation to climate change impacts, the less “residual” loss and damage there will be. However, the current mitigation ambition means that specific actions to address loss and damage cannot be fully addressed by the adaptation agenda.

Loss and damage. Third, responding to the problem of loss and damage is a necessity. The “residual” loss and damage after mitigation and adaptation choices have been made, is certain to exceed anything yet experienced in the aggregate in human history and requires urgent, purposeful attention by the international community. Loss and damage impacts fall along a continuum, ranging from “extreme events” i.e. weather-related natural hazards to slow onset events or “processes” associated with future anticipated changes in climatic norms in different parts of the world. The concept of tipping elements in climate, natural and societal systems is an important consideration in addressing potential loss and damage.

Equity, fairness and responsibility. Article 3 of the UNFCCC states that “parties should protect the climate system for the benefit of future and present generations of human kind on the basis of equity and in accordance with their common but differentiated responsibility and respective capabilities. Accordingly, developed countries should take the lead in combating climate change and the adverse effects thereof.” So far actions of industrialized countries have not been enough to forestall the effects of climate change. As a result, the brunt of loss and damage, today and in future, has to be born by those countries that contributed the least to the problem, making loss and damage an issue of equity. Undoubtedly, staying below 1.5°C will not be possible with mitigation in industrialised countries alone, but will require major efforts around the globe and the associated means of implementation in order to shift globally to low-emission development pathways. In addition, equity and fairness in the context of loss and damage will also require to pay particular

attention to the effects on those people most vulnerable and least capable of addressing loss and damage, in line with the principles agreed in the Cancún Adaptation Framework.

4. Gaps identified in the first phases of the SBI Work Programme on Loss and Damage

Based on the insights of the expert meeting in Tokyo and the series of regional expert meetings in Addis Ababa, Mexico City and Bangkok, the LDC group would like to highlight some of the most important insights and needs for the group.

4.1 Assessing the risk of loss and damage

Invisible impacts and unknown loss and damage due to climate change do not initiate the necessary paradigm shifts in actions and investments. Making the risks of loss and damage more visible and transparent should therefore be a major priority for further consideration of the Role of the Convention. Two general and distinct functions exist, which should be driven forward regarding the assessment of risk of loss and damage.

Support for national level activities: Widespread facilitation of national level assessment of the risk of loss and damage is crucial. This is an important basis for informing and facilitating action to address loss and damage, enhancing the use of climate risk data for national users and generating wider synergies with the national adaptation agenda including the National Adaptation Plan (NAP) process. Gaps in assessing current and potential future loss and damage are a roadblock for planning and investment for climate resilient development.

Inform paradigm shift at the Convention level: The risk of loss and damage should be used as a yardstick to inform the wider UNFCCC regime, on the extent of mitigation, adaptation, means of implementation and special needs of countries, which can inform concepts of equity and fairness. Ultimately, it should give the Convention a reality check on the fulfilment of Article 2 given existing mitigation ambition. Therefore the assessment needs to be forward looking and prospective.

4.1.1 National level needs and gaps in assessing the risk of loss and damage

Risk assessment capacity building and enhancing, also including forging and linking with the NAPs process (in non-conditional way): Capacity, technical, financial and institutional constraints mean that developing countries, in particular LDCs, cannot employ assessments of risk of loss and damage at the required scale. Further work is needed to establish baselines and perform monitoring and evaluation, enhance understanding of particular typologies of loss and damage, assess parameters and develop common methods to assess loss and damage. The lack of adequate and predictable funding is a major impediment to the establishment and maintenance of data relevant for risk assessments. There are further capacity needs related to understanding and working with climate service products. There is a significant need for this information to systematically inform decision-making, especially to effectively address loss and damage and in support the establishment of NAPs. Yet imperfect knowledge does not imply that adaptation is not possible. Effective risk management and adaptation, including through NAPs, can still be done in the absence of perfect climate risk assessments.

Climate services for users in both the public and private sector in LDCs and other vulnerable countries: Unknown risks are a major impairment for investment in development. Climate services need to be built up in such a way that they serve both the public and private sector widely (open

source). This requires strengthening of meteorological services in developing countries to facilitate free sharing of data and information. There is also a need to clarify the role, scope and ambition of the Global Framework for Climate Services run under the auspices of the World Meteorological Organization (WMO) in the context of providing information services that are both accessible and appropriate for end users.

Non-economic assets and losses: Further understanding of non-economic losses is needed. These are of particular importance to LDCs, since the economies of LDCs are often largely based on natural resources and involve a significant level of informal economic activities. Neither assessments of the risk of loss and damage nor decision-making support tools should favour economic over non-economic losses. Understanding and analysis of issues such as social resilience, livelihoods, food security, and human mobility (migration, displacement, planned relocation) must be included in assessments to give policy makers a comprehensive view of loss and damage. Without such a comprehensive view that accounts for non-economic values, actions could be skewed and meeting the needs of affected communities inadvertently excluded. To this end, clear procedural requirements for the participation of vulnerable communities in decision-making should be formulated.

Standards and guidelines for assessment: The development of assessment standards and guidelines - including a step by step/toolkit approach for assessment of risks of loss and damage taking into account national circumstances – would aid LDCs in their efforts to assess loss and damage. Countries often lack sound analysis of risks, including exposure of assets and values-at-risk necessary to address loss and damage.

Historic experiences will no longer guide predictions of the future: Experience in assessing the risks of loss and damage are often approached from a disaster risk management perspective, with a focus on extreme events. However, changing patterns and frequency of extreme events and slow onset hazards of climate change are less understood. There are gaps in many loss and damage risk assessments, especially in the incorporation of future loss and damage.

Specific capacity building needs for national level institutional arrangements: There is the specific need for capacity building of climate risk assessment in the context of national level institutional arrangement for adaptation.

Specific loss and damage assessment needs in LDCs: LDCs have specific needs mostly around the risk of non-economic loss and damage assessment. In the short term, LDCs require specific assessment tools. Conducting case studies of comprehensive national level assessment programme is therefore an important activity which should be facilitated through the Convention immediately.

4.1.2 International gaps in assessing the risk of loss and damage

Information flow under the Convention: There are currently ineffective feedback mechanisms for Parties to be informed in a timely way about the extent of loss and damage and breaches of Article 2. There are already some information sources, including the IPCC, and the Research Dialogue under SBSTA. However, these bodies have their own constraints and have not yet instigated the international response appropriate to the climate crisis. LDCs and other vulnerable country Parties are already being affected by loss and damage from climate change impacts and will continue to be affected in the future. This is not systematically reported to the international level.

International repository for relevant information on loss and damage: Different information sources inside and outside of the Convention, that have direct relevance to assessing the risks of loss and damage, need to coordinate better. The Hyogo Framework for Action encourages countries to establish loss and damage databases on natural catastrophes. The Global Climate Observation System (GCOS) covers many Essential Climate Variables that track slow onset hazards. There are further Earth Observation Programmes that are relevant to inform about the extent of loss and damage. There is the need to streamline such information from a risk of loss and damage perspective to complement existing information flows inside the Convention process.

Establishment of monitoring of loss and damage within the Convention: There is no systematic channel for countries to report on their loss and damage experience and exposures. National communication is an important channel to communicate vulnerabilities in developing countries. However, at present there is no guidance vis-à-vis the parameters, scope and coverage of loss and damage experience and exposures. This is an important prerequisite to enable aggregation of such information on the international level and to allow for comparability of data. Another gap related to monitoring is the fact that there is no regular synthesis of relevant information in the national communication by the secretariat

4.2 Gaps in Addressing loss and damage of importance to LDCs

Gaps in Addressing the Continuum of Loss and Damage

The activities undertaken under the work programme, such as expert meetings on the range of approaches to address loss and damage, have shown that there are significant gaps that need to be filled in order to address loss and damage effectively, particularly for LDCs with their limited capacities and high degree of vulnerability. Many of these gaps exist both for approaches to address extreme weather events as well as slow-onset processes, but there are also some differences.

Relatively more is known and done to address the negative impacts of extreme weather events using approaches like risk reduction, risk retention, and risk transfer. However, even in these areas of risk management many gaps are widely acknowledged. Developing countries today do receive some assistance after major weather-related extreme events to recover although gaps and shortfalls of this ex post approach are widely acknowledged. The existing, erratic approach where humanitarian aid is pledged on a voluntary and arbitrary basis, which is used in case of major disasters in developing countries, will only address a fraction of the scale, if any, to meet the needs in the future to address loss and damage. It is not adequate and not sufficiently reliable to the foreseeable increase in such damages associated with climate change.

Risk reduction – lack of priority and resources: Overall risk reduction suffers from lack of resources for ex-ante approaches, lack of sound assessment base, and limited political willingness to undertake low-visibility risk reduction activities which may compete with higher political priorities. Many countries lack essential elements needed for risk reduction approaches:

- Awareness raising and education requires information-sharing systems and communication services, promoting dialogue and cooperation among scientific communities and practitioners.

- Early warning requires the collection and use of data on disaster risks, and hence the development and maintenance of capacities and infrastructure to observe, analyze and forecast hazards, vulnerabilities and disaster impacts.
- Disaster preparedness for effective response requires plans for policy, technical and institutional capacities for management and coordination; coordination and exchange of information; contingency planning, allocation of necessary financial resources including emergency funds.

Risk retention – unplanned losses: One of the key gaps around risk retention is that countries lack a sound understanding of potential loss and damage and their to absorb loss and damage with its own social, economic, cultural and other resources. Emergency assistance often comes too late and in unreliable forms and amounts. Loans are not a desirable way to deal with increasing losses from climate change, especially since LDCs have barely contributed to the problem. Many countries retain risk inadvertently by not having appropriate risk management plans in place, and are thus often caught unprepared.

Although unplanned risk retention is practiced widely, it can have less visible and implicit consequences when loss and damage does occur such as longer-term drag on economic growth or forfeiting key development goals because the financial means to achieve them may have been diverted to reconstitute loss and damage.

Countries often lack mechanisms to identify and effectively reach target groups under social safety net programs and other approaches to improve resilience to climate stressors. Countries lack monitoring capacity and financial resources for investments in resilience. There is currently no instrument which would provide reliable and predictable financial resources for developing countries, particularly LDCs. Investing resources into measures such as rehabilitation in LDCs will exacerbate existing resource scarcity and - given the likely increase in loss and damage - jeopardize sustainable development and poverty reduction prospects. Lower income countries would benefit from a solid risk analysis and risk mapping that indicates to them their risk exposures. Following this an analysis of national financial parameters will help guide decisions on the degree of risk retention that is appropriate for the national context, and the degree of other complementary approaches that could be considered (such as risk reduction and risk transfer).

Risk transfer: Lack of capacity, understanding and affordability: Risk transfer approaches require a number of elements for proper design, implementation, and ongoing maintenance which are lacking in many developing countries. Countries require a sound analysis of risks, including exposure of assets and values-at-risk, vulnerability, and probability of a range of climatic stressors (usually extreme weather events). Countries need a combination of ground-data (such as a reasonable met service with time series data about weather parameters) as well as satellite imagery information to establish risk profiles, and understand the cost of risk transfer relative to the amount of financial protection offered. LDCs lack financial capacity at a basic level, including banking and finance systems through which to channel risk transfer payments and payouts efficiently. Help is needed to grow regulatory frameworks for risk transfer to ensure consumer protection (ideally also one that makes provisions for parametric / index based approaches, and for insurance approaches that cater to low-income groups like microinsurance).

Slow onset: Gaps in experience and capacity. LDCs lack experience in addressing slow-onset climatic processes, although experience in water and land-use management, management of soils and other natural resources may provide points of departure. LDCs face gaps in finance, technology, and capacity for efforts to address loss and damage, which hinder efforts to address slow onset processes (as well as the impact of extreme weather events). The level of funding that might be required to

manage loss and damage related to slow onset climatic processes is uncertain and varies greatly between different countries and regions. Overall there is a lack of resources to implement proactive approaches to address experienced loss and damage from slow onset climatic processes.

Slow onset: Gaps in legislation and planning. Many countries are beginning to have legislation including consideration of slow onset impacts of climate change, yet implementation of these frameworks is often hindered by lack of institutional and financial capacity. There is a lack of political commitment, community and people participation, institutional, legislative and operational mechanisms for addressing the spectrum of loss and damage. A lack of institutional coordination on different levels, including because of limited capacities, often hampers adequate and climate-resilient risk reduction measures that are mainstreamed in core economic activities and planning. It is generally difficult for LDCs to address transboundary challenges such as human mobility and regional resource management. There is a gap in tools that manage variability and increase planning certainty. Tools are needed that offer buffers for developing countries, and help the international community better plan to meet financial needs (for adaptation, managing loss and damage). Regional approaches including risk transfer pools could help dampen the immediate impacts of extreme weather events, while seeking complementary longer-term solutions. There is also a lack for national and international systems, frameworks and principles to retribute and recompense people once livelihoods vanish as a result of climate change impacts.

Slow onset: Lack of threshold notification systems. Countries lack approaches that occur once social and ecological thresholds have been crossed. Few if any systems are in place to address unforeseen acute or chronic climate stressors that threaten key issues like food and water security for larger areas, livelihood security and potential population shifts if areas become less habitable. There are no systems that address severe “secondary impacts” related to world food production systems (e.g. impacts on food availability and trade due to heat waves or other climatic stressors that decrease crop yields and drive staple food prizes world wide).

Slow onset: Human mobility and displacement. Slow onset changes may render wider areas of land less habitable, render livelihoods unviable and decrease the food security of many people. Gaps exist in understanding the interactions between climatic stressors, livelihood, food security, and migration decisions. Gaps also exist in institutional frameworks needed to address the needs of mobile populations as some may need to move from areas subject to sea level rise, glacial retreat, and desertification / changes in regional rainfall regimes. Gaps exist in coordination and design of regional arrangements to help affected populations access safe, dignified livelihoods in origin and destination areas. Adequate provision will need to be designed in collaboration with relevant international institutions and other stakeholders to consider how to address interrelated issues of livelihood and food security, migration, displacement, and planned relocation.

4.3 Needs in coordination action on loss and damage

The work programme has also shown that there are significant gaps in the coordination of relevant international processes, which hamper an effective approach to address loss and damage. This relates both to processes both inside and outside the UNFCCC:

Under the Convention: A number of existing processes already address aspects related to loss and damage, such as the Nairobi Work Programme and the Research Dialogue under SBSTA, the Global Climate Observation System (GCOS) and related processes, the National Communications Process and the work of the Consultative Group of Experts, or the Least Developed Countries Expert Group. The NAPs process is of particular relevance for LDCs and their domestic efforts to assess and prepare for climate risks. The Adaptation Committee in particular, but also the Standing Committee on Finance and the Technology Executive Committee may contribute to a coordinated approach to loss and damage.

Outside of the Convention: A number of processes exist outside the Convention, which deal with or regulate certain aspects of the loss and damage spectrum. These include, the UNISDR for extreme events and the respective implementing agencies, the WMO for observation and data provision, UNCLOS for ocean acidification, UNESCO for mountain ecosystem, CBD for losses of biodiversity, UNCCD for losses from desertification, the IPCC for a link to science and the link to human mobility in the humanitarian context through UNHCR. There is also the need to define the relationship to funding institutions such as the GCF.

5. Role of the Convention (and other institutions/mechanisms at the international level)

5.1 Legal justification for a role of the Convention

The Convention itself contains a number of provisions directly linked to aspects, which are critical to the loss and damage debate. The preamble recalls, "that States have [...] the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction". Article 2 - as the ultimate objective of the Convention - aims to "prevent dangerous anthropogenic interference with the climate system", and "to ensure that food production is not threatened". Article 3.3 requires Parties to take precautionary measures and states that scientific uncertainty should not be used to postpone action where there are threats of serious and irreversible damage. Article 4.4 obliges developed country Parties to assist particularly vulnerable developing country Parties in meeting the costs of adaptation. In Article 4.1 developing countries also commit to undertake adaptation actions, supported by Article 4.4. and others, which also underlines that developing countries prefer to avoid loss and damage through adaptation. Finally Article 4.9 highlights the special attention to least developed countries with regard to funding and transfer of technology

The role of the Convention has further been underlined through decisions 1/CP.13, 1/CP.16 and 5/CP.17.

In addition, LDCs would like to reiterate the complementary legal justification to address loss and damage contained in the Rio Declaration, including principles 13 and 15. These principles have been reaffirmed in the outcome of the Rio+20 Summit. The outcome of Rio+20 furthermore underlines the grave threats posed by sea-level rise, such as loss of territory, and other adverse impacts of climate change.

5.2 Functional justification of the Convention

There is important functional justification for a role of the Convention in loss and damage. LDCs are of the view that such a role was initially recognised in decision 5/CP.17 in which Parties agreed on the need to explore a range of possible approaches and potential mechanisms for addressing loss and damage including an international mechanism. 1/CP.16 mandated to consider inter alia the possible development of a climate risk insurance facility to address impacts associated with severe weather events; options for risk management and reduction; risk sharing and transfer mechanisms such as insurance, including options for micro-insurance; and resilience building, including through economic diversification; and approaches for addressing rehabilitation measures associated with slow onset events. Under the work programme, little attention has been paid so far to these tasks that Parties have given themselves. In the view of the LDCs more comprehensive approaches to address loss and damage are required. An international mechanism must be considered seriously given the scale of the challenge. Overall, in order to address the gaps identified above, the LDCs are of the view that at least the following functions need to be pursued, with the Convention process in a leading role to fill these gaps:

Function 1: Promoting improved assessment regarding loss and damage, including through international coordination and cooperation for activities on:

The **national/regional level:**

- Enhancing data collection and access (such as through open data initiatives) and promoting good assessment tools for different levels, taking into account the needs and contributions of vulnerable groups and people;
- Incentivising the development and maintenance of regionally consistent datasets for improving predictive modelling and use in the establishment of baselines and indices to measure loss and damage from slow-onset processes;
- Capacity building and strengthening for relevant institutional arrangements on the national level, including meteorological services in developing countries;
- Assessing and understanding non-economic assets and losses (such as in the areas of lives and livelihoods, human mobility, loss of territory, food security);
- Enhancing the ability of countries to conduct risk assessments related to different levels of expected warming and on different spatial levels), including through consideration of loss and damage in NAPs
- Elaboration of standards and guidelines for such assessments, based on good practice and experience;

The **global level:**

- Promoting research and development on matters important to further the understanding and assessment of loss and damage on a global scale, including with regard to the attribution of loss and damage to inter alia levels of historic and future responsibilities, mitigation and adaptation ambition, and to warn about potential triggering of key tipping elements, both ecological as well as societal, and;
- Providing feedback in a timely and systematic manner about the extent to which loss and damage threatens to breach Article 2 of the Convention, drawing inter alia on information sources such as the IPCC and the results of the periodic review, and promoting appropriate action with regard to mitigation and supply of means of implementation;
- Streamlining information from different bodies and processes (such as the Global Climate Observation System) from a risk of loss and damage perspective to complement existing information flows inside the Convention process.

Function 2: Promote a range of approaches to address the full continuum of loss and damage (such as risk reduction, risk retention, risk transfer, slow-onset processes), including through:

- Supporting and coordinating technical assistance to developing country governments to implement approaches which address loss and damage;
- Providing new and additional financial means in a reliable, predictable and sustainable manner, including for

- Implementing proactive adaptation measures which can reduce loss and damage;
- Rapid delivery for disaster relief activities;
- Funding for rehabilitation;
- Compensating residual or unavoidable loss and damage (incl. for individuals)
- Examining the role and potential modalities (incl. its finance) of a climate risk insurance facility to assist particularly vulnerable developing countries in risk sharing and transfer;
- Enhancing the understanding, coordination and cooperation of financial measures which could assist LDCs in rapidly recovering after occurred disasters;
- Establishing and supporting regional networks for collaborative partnerships to address loss and damage;
- Promoting cooperation to advance policy coherence and regulations related to loss and damage, including through fostering proactive adaptation planning which can reduce loss and damage
- Elaborating technical guidance related to aspects such as rehabilitation of loss and damage, redress and compensatory mechanisms for individuals within developing countries;

Function 3: Promote exchange, interaction and coherence between relevant political and other processes with relevance to loss and damage, including:

- Inside the Convention among bodies relevant to loss and damage, including SBI and SBSTA, LEG, NWP and the Adaptation Committee.
- Outside the Convention: among processes and institutions such as UNISDR (extreme events), WMO (observation); United Nations Convention on the Law of the Sea and work on oceans (sea-level rise and associated desalinisation, ocean acidification); CBD (ecosystem and biodiversity losses); UNCCD (losses from desertification) and UNHCR (migration) and the wider UN system.

While there have been some efforts for coordination, particularly on adaptation in the Joint Liaison Group (CBD, UNFCCC, UNCCD), overall there is a lack of coordination on the international level. Since all these processes can make valuable contributions and since duplication of efforts should be avoided, effective coordination is required on the international level. Moreover, the relationship to funding institutions such as the GCF need to be considered further, depending on the financial arrangements pursued in order to address loss and damage. Of course it has to be avoided that funding for adaptation would come on the expense of any financial means to address "residual" loss and damage.

5.3 Performance of the functions: the need for an international mechanism

Given the expected scale of the loss and damage challenge, and its linkages to the international progress on mitigation and adaptation, LDCs are of the view that a **permanent, more institutionalised and coherent response is required**. The existing, significant gaps cannot be overcome with an uncoordinated, loose set of activities. A UNFCCC work programme, an expert group or a permanent agenda item alone are not sufficient. The Convention process has a central role to play here, in particular because of the necessity to assess the link between its progress towards achieving Article 2 and the associated loss and damage.

Therefore, the LDC group proposes to **establish an international mechanism to address loss and damage** which would work as an umbrella for activities required on different levels and would perform the key functions required for an adequate response as outlined above. Central governance elements should include

- The COP as the central oversight body of the mechanism providing the political direction;
- Development of key guidance for the elaboration and operation of the mechanism and its elements;
- Operation of its elements by various institutions, as appropriate;
- Definition and constant review of the mandates given to the Adaptation Committee, the SBs and other bodies under the Convention.

Further options for modalities should be elaborated in 2013.