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Loss and damage: key issues and considerations for the Bangkok regional expert meeting

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The series of expert meetings on 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 is a significant element of the SBI work programme on loss and damage. The discussions at the regional meeting for Asia and Eastern Europe should provide substantive input to the decision on loss and damage to be adopted at COP18 in Doha in December. We provide this background note as a contribution to the regional meeting and the important discussions on 27-29 August in Bangkok.

I. Background – what is loss and damage and why is it important?

The phrase “loss and damage” refers broadly to the entire range of damage and permanent loss “associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change” that can no longer be avoided through mitigation nor can be avoided through adaptation. There are multiple approaches to address those damages and losses, some which may have synergies with adaptation efforts, while others will require taking action through new arrangements and stand-alone approaches. Obligations under the UNFCCC related to loss and damage require attention by the Parties, and the regional meetings provide a unique window to contextualize local, national and regional challenges in a manner whereby the Parties to the Convention can decide adequate next steps at COP18.

Recent climate change events across Asia – including the 2010 floods in Pakistan, 2011 floods in Thailand, increasing desertification in Syria, and the increasing loss of Himalayan glaciers – have impacted millions of people and resulted in tragic loss of life and livelihoods, with massive social, environmental and economic costs. For example:

- Widespread **flooding in Pakistan in 2010** affected 20 million people, killing 1781,² displacing millions, and damaging 1.6 million homes. The World Bank places the cost of damages at \$10 billion (\$5b in the agriculture sector) while the estimated recovery and reconstruction needs range from \$6.7b to \$8.9b.³ As well as damage to infrastructure, which affected governance, education, energy, business and communications, the flooding led to widespread health risks from malaria, cholera, and severe malnutrition. With the economy heavily dependent on agriculture, the economic impacts are grave: 5.3m jobs were lost according to the ILO; growth dropped from a predicted 4.5% to -2%/-5%; and the \$55b IMF debt will grow as Pakistan is forced to borrow in order to recover.⁴ The 2011 floods in Sindh and Balochistan further impeded recovery, affecting 9 million people – most of them still suffering from the previous devastating flooding – and inflicting \$3.7b in damage, \$1.8b to agriculture alone.⁵ Minimum reconstruction costs amount to an additional \$2.7b. Many of those displaced by the 2010 floods remain so.

¹ Decision 1/CP.13. See the Annex for the mandate and negotiating history on loss and damage within the UNFCCC.

² <http://reliefweb.int/report/pakistan/pakistan-floodsthe-deluge-disaster-facts-figures-15-september-2010>

³ World Bank: Preliminary Damage and Needs Assessment (2010)

⁴ <http://www.brookings.edu/blogs/up-front/posts/2010/08/17-pakistan-floods-karamat>

⁵ Pakistan Government: Flood Impact Assessment (2011)

- **Flooding also afflicted Thailand in 2011**, affecting more than 3 million people – killing over 700, destroying 766,267 homes and inundating 1.3 million hectares of paddy.⁶ UNESCAP estimate that the total cost of damage and loss across all sectors is 1.425 trillion Baht (\$45 billion) and the cost of recovery is around \$47.5 billion.⁷ Among the many affected sectors, the manufacturing sector reported losses of over \$31.7b, the agriculture sector \$1.3b, and the housing sector sustained losses estimated at \$2.7b. Seven major industrial estates were flooded, and the production of cars and electronic goods was suspended with knock-on effects for global supplies, prices and labour. The World Bank estimated that the economic impact would include a reduction in real GDP growth of 1.1 percentage points. The flooded industrial estates had an accumulative insurance of \$19.5b, of which 30% may be paid out.⁸
- **Himalayan glaciers**, the crucial ‘Water Towers of Asia’, are disappearing, with transformational implications for the 1.3 billion people making their livelihoods in the river basins fed by the glaciers, including from predicted increases in winter drought and summer floods. In **Nepal**, the annual costs of the floods and landslides were \$14.7 million between 2001 and 2007 according to the World Bank.⁹ The droughts cost Nepal up to 30% of its rice yield in 2007, as well as electricity, which would have otherwise been generated using hydro-power. As the glaciers melt, they form glacial lakes, some of which are growing so fast that they pose a threat of glacial lake outburst floods. The cost of assets that are at risk of being lost to these floods is between \$1.8 and \$8.7 million,¹⁰ not to mention the number of lives at risk, and the potential loss of traditional knowledge and practices developed in this unique part of the world.
- In **Syria**, **increased desertification** threatens food, water, and job security. Across the region agriculture will continue to bear the brunt of the impacts of desertification, with IFPRI estimating an additional \$241m per year is needed to counteract the effects on nutrition.¹¹ The FAO says that in Syria, 79% of the population is at risk from desertification and that the projected agricultural production capacity is likely to decrease by 16% in coming years.¹² Given that agriculture provides 30% of the workforce with employment and 25% of the country’s GDP, this drop in productivity is extremely worrying: there is already 26% youth unemployment. The Syrian government reported to UNCCD that it has seen a 61% decrease in pasture productivity and estimates the loss of crops as 5.7b Syrian pounds per year. Economic impacts are already evident; Syria now only produces cotton for its domestic market.¹³ After a severe drought in 2006-2009 led to basic crop yield dropping by 79% in some areas and vegetation for grazing to disappear, 1.5 million people migrated to urban centers as the income of severely affected populations nosedived by 90% according to the World Bank.¹⁴

Economic and non-economic losses both represent lost development opportunities and a threat to the right to development. At the heart of the challenge of loss and damage is addressing the needs and aspirations of communities and people, who have contributed least to the causes of climate change, yet are among its first and worst victims. Indigenous peoples and local communities are harmed by changing ecosystems and threats to traditional livelihoods, while farmers and farming communities often dependent on rain-fed agriculture could experience massive drops in production leaving millions without food.

II. Key topics for consideration by the expert meeting on approaches to address loss and damage associated with the adverse effects of climate change

The regional meetings under the UNFCCC are important to contextualize and deepen our understanding of the needs of developing countries at multiple levels so that the next steps on loss and damage under the

⁶ Wikipedia – original sources in Thai

⁷ UNESCAP: Thailand floods damage and loss assessment: lessons learned

⁸ Guy Carpenter: Floods in Thailand

⁹ World Bank, GFDRR: Vulnerability, Risk Reduction and Adaptation: Nepal

¹⁰ World Resources Report Case Study: Nepal: Responding Proactively to Glacial Hazards

¹¹ IFPRI: Climate Change Impacts on Agriculture and Costs of Adaptation

¹² FAO 29th Regional Conference for the Near East: Implications for Agriculture

¹³ IISD: climate change and conflict in the Middle East

¹⁴ World Bank Development Horizons First/Second Quarter 2010: Climate Change: Middle East faces looming challenges

Convention and with other relevant bodies (like the WMO) will be consistent with their needs. The regional meetings should enable an understanding of the regional perspective of the direct harms (i.e., the direct economic and non-economic losses of actual (unavoidable) harms, which should be addressed and/or compensated at full costs) and to also understand foregone development opportunities (i.e., the costs of lost and diminished opportunities in developing countries, caused by having to forego development pathways followed by the developed countries).

According to the mandate, the expert meeting is to examine a range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather and slow onset events. At a minimum, the meeting should consider broadly the types of loss and damage that will occur, as well as the breadth of approaches necessary to address the diversity of loss of damage. Developing a typology of the types of approaches that have been most effective and how these have been supported would be a useful outcome, especially if these approaches to address loss and damage are considered and contextualized in the context of sustainable development. The meeting should pay particular attention to gaps, as identification of gaps can help define the role of the Convention in this area.

Specific topics that should be addressed by the expert meeting include the following:

Loss and damage needs to be considered in the context of lost opportunities to achieve sustainable development. Added to the existing challenges of development are the challenges of mitigating and adapting to climate change, and now of addressing loss and damage. Therefore, discussions on loss and damage are not about traditional approaches to disaster risk management or another name for adaptation, but about the *additional burden* to sustainable development caused by the failure to reach the objective of the Convention to stabilize greenhouse gas emissions. Therefore, discussions must include *direct harm* (i.e., the direct costs of actual (unavoidable) harms and forgone development opportunities) and *forgone development* (i.e., the costs of lost and diminished opportunities in developing countries, caused by having to forego development options) from extreme events and slow-onset events.

Both economic and non-economic damage and losses must be considered in both the assessment of loss and damage and in the analysis of approaches to address loss and damage. Examples of economic losses include structural damage from floods or hurricanes, or crop loss due to drought or extreme heat. Non-economic losses include cultural loss, loss of livelihoods or territory, or species extinction. Some damage can be rehabilitated (such as damage to infrastructure), while other damage and loss cannot (e.g., cultural loss, loss of ecosystems, melted glaciers, loss of human life). Much attention has gone into the traditional approaches to risk management to address economic losses, but the work programme needs to redouble efforts to understand approaches to address non-economic losses.

Distinctions can be made between avoidable and unavoidable losses. Avoidable losses, as the name implies, can possibly be prevented with anticipatory action. Avoidable losses are not always avoided, however, as countries may decide to not act, or limited capacity may prevent action. But many climate change impacts are unavoidable, including many slow-onset changes. Examples of unavoidable losses are coral bleaching, sea level rise, and temperature rise that leads to land being taken out of production. For a more detailed discussion on slow-onset events, please see *TWN Loss and Damage Briefing Paper #3* defining slow-onset events.

Loss and damage are fundamentally the result of climate impacts, not inherent vulnerabilities. Vulnerability and risk drivers are not the cause of losses: loss and damage result from climate impacts. Damage and loss can be exacerbated due to underlying vulnerabilities, but vulnerability is not the cause of drought or sea level rise. If an old person slowly crossing a street is hit by a car, she is hurt by the car, not by her underlying vulnerability of being old and walking slowly. As codified in international law in Principle 2 of the Rio Declaration on Environment and Development (1992), 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.*” The duty of States to abide by the ‘no-harm’ rule applies to the harm caused from the historical accumulation of greenhouse gases and this duty is not exonerated by the vulnerability of those affected,

especially when some of those vulnerabilities are due to uncontrollable or historical circumstances, such as geophysical conditions, unfair global economic conditions, structural conditions created under colonialism, etc.

Consideration should include shocks arising from disasters, limitations of humanitarian approaches and other economic issues. Traditional approaches to respond to emergencies, particularly at the international level (pledge-based responses, ad hoc bilateral support for recovery, concessional loans, etc) are not sufficient to address recurrent loss and damage. Therefore, the regional meetings need to consider relevant experience on financial and other measures to assist developing countries affected by extreme losses, such as debt relief, concessional loans, etc. Such schemes could be designed to help developing countries recover after terrible tragedies. Relevant examples can be drawn from the devastating earthquake in Haiti in January 2010, when the IMF established a Post-Catastrophe Debt Relief (PCDR) Trust that allows the Fund to join international debt relief efforts when countries meeting certain criteria are hit by the most catastrophic of natural disasters. According to the IMF, such debt relief is intended to free up additional resources to meet exceptional balance of payments needs created by the disaster and the recovery, complementing fresh donor financing and the Fund's concessional liquidity support.

III. Key Emerging Issues

The 27-29 August regional meeting in Bangkok is the third regional meeting convened under the work programme and should consider some key issues identified in the African (June 2012) and Latin American (July 2012) regional meetings. The Latin American regional meeting, for example, benefited from inputs on the specific elements of the IPCC Special Report on extreme events (SREX), which identified the increased danger of extreme rainfalls, wildfires, the increased costs to national economies in Central and South America from climatic disasters, and the role of approaches, such as early warning systems, legislation, risk transfer, and education, training and public awareness. So far, approaches such as risk retention (a national fund to finance prevention as well as loss and damage), risk transfer (like a regional insurance pool), disaster risk reduction and links and synergies between risk reduction and other instruments such as risk transfer, and efforts to manage incremental climatic processes have been discussed. Additionally, it has been mentioned that no group or country-category is defined as more vulnerable to adverse impacts of climate change than another under the Convention, but that vulnerability is defined according to geophysical conditions identified in the Convention.

There are still some gaps to respond to the full extent of questions mandated by COP17 to better understand the full range of approaches and tools that can be used to address the risk of loss and damage, at all levels and for a broad range of sectors and ecosystems, considering both extreme weather events and slow onset events. The COP17 suggested that such approaches and tools include, inter alia, conventional, non-conventional and innovative instruments to address specific types of loss and damage in the context of this thematic area, especially those driven by the multiplying, magnifying and intensifying effects of climate change at the national, subnational and local levels. Approaches such as national safety networks, approaches drawing from social capital, and others that could address concerns related to non-economic losses needs to be discussed.

There is a need for multiple approaches and systematic support. Addressing loss and damage will require international-level action (or at least coordinated regional action) in particular areas. An international mechanism will be a facility to support developing countries' needs with to respect loss and damage and can drive enhanced understanding, coordination and cooperation on addressing loss and damage around the world. What institutions already exist under the Convention to address what is needed? What can Parties do on their own, what can regional centres support, and what is lacking? As loss and damage will be a continuing issue, the Convention needs to find a way to systematically support developing countries, rather than with an ad hoc humanitarian pledge approach, as has been historically the case with major disasters in developing countries.

There are limits to adaptation. The continuing accumulation of greenhouse gases in the atmosphere, the denial of historical responsibility by developed countries, and the limited support that has been forthcoming for adaptation, limit how much developing countries can do. Moreover, there are real physical limits to adaptation. As temperatures and sea levels rise, territory will become uninhabitable and unproductive. Soil

moisture levels will decrease to the point that cultivation of crops is no longer viable in entire regions. Groundwater sources in coastal areas will become too saline to provide drinking water for people living there. Adaptation will become impossible on low-lying islands and in the most arid regions, leading to permanent loss of lands, livelihoods, and cultural resources.

There are limitations to risk reduction, risk retention and risk transfer approaches to loss and damage.

Over the past decade, policymakers and negotiators have discussed a range of approaches to address loss and damage, from disaster risk reduction to risk transfer and insurance. The current round of expert meetings should further evaluate these existing approaches with a view to identifying gaps in addressing the range of loss and damage. For discussion on risk reduction, risk retention and risk transfer approaches to loss and damage see *TWN Loss and Damage Briefing paper #1* prepared for the Latin America regional meeting.

Existing approaches to address extreme weather events have limitations to address loss and damage from climate change.

Much of the discussion on approaches to address loss and damage has focused on extreme events – e.g., floods, drought, and heat waves. Risk transfer approaches are particularly appropriate for certain types of extreme events, albeit taking into consideration the limitations of such approaches discussed above. There is potential for risk transfer and other risk-sharing mechanisms like insurance to address a subset of losses and damage, but insurance works best for low probability, high impact events. Insuring climate risks becomes less and less tenable when events become more frequent (non-stationarity), and the costs of premiums will rise accordingly. More frequent droughts, or high temperatures that kill crops or livestock, will become less and less insurable as these events increase in frequency with the rise in global temperature.

Losses and damage from slow-onset impacts and state shifts are distinct threats requiring new types of approaches.

Slow-onset impacts, as noted in decision 1/CP.16,¹⁵ include sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification. State shifts are permanent shifts in climate and ecosystem characteristics. Because the Earth is slow to warm, accumulated historical emissions will cause warming, and impacts, for years to come – even if all emissions are halted immediately. We are facing the risk of passing tipping points and triggering a process of abrupt and non-linear climate change.

Whilst extreme events will likely increase in severity and frequency, these are climatic events that are not unfamiliar to most. Yet climate change will also bring about novel changes with which we are unfamiliar: seasonal shifts in precipitation leading to changes in the timing of growing seasons, slow-onset changes and state shifts in climate. For a more detailed discussion on slow-onset events, please see *TWN Loss and Damage Briefing Paper #3* defining slow-onset events.

Loss and damage requires consideration of approaches to address economic shocks. The Convention, as the policy-relevant forum, must drive discussions on how financial measures could be fostered to assist countries in coping with loss and damage, for example deferral of payments to international institutions, debt relief, and other similar measures.

Loss and damage is an issue of equity. The countries most vulnerable to loss and damage are not responsible for the climate change that is destroying lives and livelihoods. A mechanism to prevent and redress loss and damage is essential. Equity as the basis is operationalized in Principle 3.1 of the Convention: “*The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.*” This principle needs to be clearly reflected in the work of the loss and damage work programme, with developed countries taking steps to proactively address and support approaches to address loss and damage, including through a needs-based approach.

¹⁵ These impacts are listed in a footnote in decision 1/CP.16.

III. Recommendations to the SBI on loss and damage

SBI37 will make recommendations on loss and damage on the elements of a decision to be taken at COP18. The outcome in Doha should elaborate the process to continue the work on loss and damage in the SBI and in other appropriate bodies, provide recommendations to bodies of the Convention, strengthen related work under the Convention, contain stand-alone elements, like capacity building, and establish pilot programmes to address the needs of developing countries.

The conclusions of this expert meeting will feed into the SBI's considerations, as will submissions from Parties due by 17 September. Based on the analysis above, the Bangkok expert meeting should include the following elements in its recommendations to the SBI:

Mitigation ambition must be increased. Loss and damage is the unfortunate result of insufficient ambition in addressing the historical accumulation of greenhouse gases in the atmosphere and in achieving the objective of the Convention. More unfortunately, climate change impacts are likely to be most damaging and costly in those countries with least or no responsibility for the greenhouse gas emissions already leading to a changing climate.

The UNFCCC is the relevant policy forum to continue discussing loss and damage. A permanent process to address loss and damage needs to be put in place under SBI, with roles assigned to the Adaptation Committee, and consideration of the matter taken up also under the financial mechanism. The Convention contains relevant principles for addressing loss and damage that should be taken into consideration as Parties debate next steps on loss and damage. Convention principles are also relevant for the work of the regional meetings to evaluate approaches to loss and damage. For example, Article 3.3 of the Convention states that: “...where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures.” This principle must be applied consistently in the development of inputs for a COP18 outcome.

Developing countries require systematic consideration and support on loss and damage. The current work of the work programme indicates that loss and damage will grow to become a major issue affecting economies and livelihoods in developing countries. As loss and damage will be a continuing issue, the Convention needs to find a way to *systematically* support developing countries, rather than with an *ad hoc* humanitarian pledge approach, as has been historically the case with major disasters in developing countries. Such a systematic approach should include means of assessing loss and damage; means of addressing loss and damage, including through a compensation mechanism; and a means for the Convention to exercise leadership in coordinating a global response on loss and damage.

Parties must recognize that the range of approaches considered up to this point are inadequate to address slow-onset impacts. Negotiations in Doha must focus on filling the existing gaps in institutional and legal frameworks to address loss and damage, including through an institutional mechanism to address slow-onset impacts and other unavoidable damages. The COP should extend the work programme, and include as top priority for continuing work the elaboration of the modalities of an institutional mechanism on loss and damage.

Both economic and non-economic losses must be addressed by a loss and damage mechanism. Ultimately finance cannot adequately compensate people for the loss of family, homes, territory, culture or livelihoods that will result from radical changes in climate, whether at local, regional or global levels. Therefore there is a need for consideration of the role of national and subnational safety networks as approaches to address loss and damage and how to strengthen these approaches through the Convention. Parties must take seriously their obligations established under Article 3.1 of the Convention.

The needs of climate migrants require appropriate consideration. Many people will be forced to move from affected areas, including from low-lying islands and coastlines. Industrialized countries should do their fair share in helping these people build new lives. They should accept their fair share of the people exiled from their homes and countries by climate change. Adequate support will need to be designed in collaboration with

relevant international institutions to consider how to address the issue of migration. The SBI has the capacity to make recommendations to other international bodies along these lines.

Approaches to address loss and damage require involvement of financial institutions. The Convention is the policy-relevant forum to convene discussions on how financial measures could be fostered to assist countries in coping with loss and damage, for example deferral of payments to international institutions, debt relief, and other similar measures. As identified above with the experience of the IMF PCDR, there are other relevant experiences and approaches that should be part of a range of approaches to address loss and damage and where the Convention must take the lead. The use of IMF Special Drawing Rights (SDRs) to finance such an initiative provides an example of the type of efforts that need to be discussed in the regional context and that have not been addressed at all through the on-going loss and damage work programme.

The Convention can identify appropriate actions to address emerging needs and gaps, including outside the Convention. The work under the work programme to date appears to identify multiple challenges for developing countries in developing and operating catastrophe insurance and other instruments. This work has identified opportunities and challenges for developing countries to employ insurance-related measures for extreme weather and other instruments, particularly those such as safety networks to address non-economic losses. More work could be done to see how such tools could be employed to manage weather-related variability while longer-term solutions are being explored. Tools that manage unexpected extremes could create a buffer for developing countries, and help the international community better plan issues like financial needs (for adaptation, managing loss and damage).