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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 capacity¹

- Activities to be undertaken under the work programme

Report on the regional 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

Note by the secretariat*

Summary

This report provides a summary of the four expert meetings, three at the regional level and one for small island developing States, held in the context of thematic area 2 of the work programme 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. The meetings took place in Addis Ababa, Ethiopia, from 13 to 15 June 2012; Mexico City, Mexico, from 23 to 25 July 2012; Bangkok, Thailand, from 27 to 29 August 2012; and Bridgetown, Barbados, from 9 to 11 October 2012, respectively. The report includes an overview of the issues discussed at the meetings, including gaps, needs and challenges, as well as region-specific issues related to the impacts of climate change, and possible areas for further action in addressing loss and damage associated with the adverse effects of climate change at different levels.

¹ Decision 1/CP.16, paragraphs 26–29.

* The document was submitted after the due date owing to the timing of the last meeting, which was held in Bridgetown, Barbados, from 9 to 11 October 2012.

Contents

	<i>Paragraphs</i>	<i>Page</i>
I. Introduction.....	1–4	3
A. Mandate.....	1	3
B. Scope of the note.....	2–4	3
II. Proceedings.....	5–7	4
III. Summary of the key issues identified at the expert meetings.....	8–81	4
A. Framing loss and damage and understanding different linkages.....	12–21	5
B. Addressing slow onset events.....	22–30	7
C. Comprehensive risk management toolkits.....	31–48	9
D. Capacity.....	49–57	11
E. Data and information from current practices.....	58–65	13
F. Increasing synergies.....	66–70	14
G. Enhancing regional and international cooperation.....	71–80	15
H. Other relevant issues.....	81	16
IV. Possible areas for further action.....	82	17

Annexes

I. Background, structure and proceedings of the expert meetings on approaches to address loss and damage associated with climate change.....	20
II. Relevant examples of measures and tools for addressing loss and damage, presented at the expert meetings on approaches to address loss and damage associated with climate change.....	24

I. Introduction

A. Mandate

1. The Conference of the Parties (COP), at its seventeenth session, requested² the secretariat to organize four expert meetings, three at the regional level and one for small island developing States (SIDS), reflecting regional priorities and experiences, to be held before the thirty-seventh session of the Subsidiary Body for Implementation (SBI), to address issues related to thematic area 2 of the work programme 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 (hereinafter referred to as the work programme on loss and damage). Thematic area 2 of the work programme on loss and damage covers 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 COP also requested the secretariat to make the report on the expert meetings available for consideration by the SBI at its thirty-seventh session.³

B. Scope of the note

2. This report synthesizes key points discussed at the four expert meetings held in the context of thematic area 2 of the work programme on loss and damage between June and October 2012.⁴

3. Owing to the limitation on its length, this report does not recount narrative information in a sequential manner. The presentations made by the meeting rapporteurs provide such information in detail.⁵ Information on the current practices for addressing loss and damage presented at each expert meeting is summarized in annex II to this report. Presentations on climate-related risks, hazards, sectors and systems that are most relevant to each region, and on a range of current activities and lessons learned, are available on the meetings' webpages, providing the contextual information shared at each meeting.⁶ In addition, the information sheets provided by the participants of the latter two expert meetings provide examples of measures and tools to address loss and damage associated with the adverse effects of climate change, including information on lessons learned and the potential for scaling up existing efforts.⁷

4. This report contains:

- (a) A description of the proceedings of the expert meetings (chapter II and annex I);
- (b) A summary of the key issues identified at the expert meetings (chapter III);
- (c) A summary of the possible areas for further action to address gaps and needs identified at the expert meetings (chapter IV);

² Decision 7/CP.17, paragraph 8(a).

³ Decision 7/CP.17, paragraph 8(b).

⁴ Relevant documentation related to the expert meetings can be accessed on the UNFCCC website at <<http://unfccc.int/6056>>.

⁵ Available on the webpage of each meeting, accessible via <<http://unfccc.int/6056>>.

⁶ Webpages of the meetings accessible via <<http://unfccc.int/6056>>.

⁷ Information sheets were introduced at the latter two expert meetings, with an aim of facilitating further information-sharing on and learning from current practices.

(d) Tables containing relevant examples, shared at the expert meetings, of measures and tools currently used to address loss and damage (annex II).

II. Proceedings

5. The four expert meetings on a range of approaches to address loss and damage associated with the adverse effects of climate change took place in the context of thematic area 2 of the work programme on loss and damage. In total, 146 representatives of Parties and 157 representatives of relevant organizations and stakeholders attended the meetings.

6. Mr. Tomasz Chruszczow, the Chair of the SBI, chaired the first three meetings, and requested Mr. Juan Hoffmaister (Bolivia (Plurinational State of)) and Ms. Angela Churie-Kallhauge (Sweden) to chair the fourth meeting on his behalf. The four expert meetings represent progress in understanding the range of approaches to address loss and damage associated with the adverse effects of climate change. Further details on the proceedings of the four meetings can be found in annex I to this report.

7. The organization of the expert meetings was supported by the Governments of Australia, Canada, Germany, Japan, New Zealand, Spain, Sweden and Switzerland, as well as by the European Commission. In addition, the African Climate Policy Centre of the United Nations Economic Commission for Africa, the Climate and Development Knowledge Network through the Loss and Damage in Vulnerable Countries Initiative, the Munich Climate Insurance Initiative, the United Nations Development Programme (UNDP) and the United Nations International Strategy for Disaster Reduction (UNISDR) supported the participation of some experts.

III. Summary of the key issues identified at the expert meetings

8. Substantial similarities were observed across regions with regard to the types of approach currently being pursued to address loss and damage associated with the adverse effects of climate change.

9. Most knowledge and information on lessons learned from current practices in addressing loss and damage today relates to responding to extreme weather events and there is substantial awareness in relation to the associated needs. Accordingly, a high proportion of the information shared at the expert meetings concerned current work geared towards preventing⁸ and reducing the risk of loss and damage resulting from weather-related hazards, including extreme weather events, at different levels. Although there are a growing number of pilot practices in relation to insurance and other types of risk transfer, there is a major gap in knowledge with regard to transferring risk, and very little knowledge is available on managing residual risks.

10. Proportionately less information and lessons learned were presented on measures to retain risk at different levels and measures specifically aimed at addressing the impacts of slow onset events.⁹ Similarly, limited knowledge is available on approaches to manage residual risks. Questions remain regarding the kind of approaches that are required to address loss and damage resulting from these types of risk, which, in some cases, bring about transformational changes to countries, owing to the scale of the potential loss and damage.

⁸ For example, hazard mapping, vulnerability assessments and early warning systems.

⁹ The definitions of types of approach used for the purpose of this report are based on the literature review contained in document FCCC/SBI/2012/INF.14.

11. This chapter summarizes key gaps and needs as well as associated challenges in addressing loss and damage associated with the adverse effects of climate change. In each section, key cross-cutting (across levels and regions) issues commonly mentioned at all of the expert meetings are described. This is followed by a brief overview of other relevant issues identified at each meeting. Table 1 provides an overview of the key commonalities across regions in terms of gaps, needs and challenges identified at different levels.

Table 1

A summary of the key common challenges, needs and gaps in relation to addressing loss and damage that were identified at the expert meetings on approaches to address loss and damage associated with climate change¹⁰

<i>Local/subnational level</i>	<i>National level</i>	<i>Regional/international level</i>
<ul style="list-style-type: none"> • Making use of indigenous and community knowledge • Increasing community participation • More financial and technical support needed for local-level action • Generating more accurate downscaled data • Addressing slow onset events • Effective communication of data • Raising awareness • Mainstreaming climate change into development planning • Establishing and enhancing early warning systems • Getting international-, regional- and national-level decisions to reach the local level • Making use of bottom-up approaches 	<ul style="list-style-type: none"> • Increasing the sharing of case studies and lessons learned • Improving training facilities • More financial and technical support needed for local-level action • Improving technical capacity and monitoring • Strengthening institutional capacity • Addressing slow onset events • Raising awareness • Enhancing the assessment of non-economic impacts • Establishing and enhancing early warning systems • Evaluating the effects of actions taken • Enhancing the coordination of different government actors • Mainstreaming loss and damage into national development planning • Prioritizing actions targeting the most vulnerable 	<ul style="list-style-type: none"> • Creating an overview of regional initiatives • Improving the efficiency of the use of resources • Formulating clear definitions and guidelines • Increasing regional cooperation through regional platforms and forums • Addressing slow onset events • Supporting early warning systems • Setting up a common framework for institutional arrangements to address loss and damage • Giving policy guidance • Increasing cost-effectiveness by linking actions at a transnational level • Linking policy and research communities

A. Framing loss and damage and understanding different linkages

Framing loss and damage

12. Several meeting participants considered that loss and damage refers to the residual impacts that mitigation and adaptation actions are not able to prevent. Some participants considered that specific approaches are required to address such residual impacts, while

¹⁰ The table includes only the key challenges, needs and gaps that were commonly identified at all four of the expert meetings.

some others viewed loss and damage as part of the spectrum of the adverse effects of climate change that adaptation efforts can address. It is necessary to enhance a common understanding of what constitutes loss and damage, including the types of loss (e.g. loss of lives, as well as economic, non-economic, direct or indirect losses), and how to address it, in order to address the issue under the work programme on loss and damage.

13. There was broad consensus that the extent of loss and damage is dependent upon the levels of mitigation of greenhouse gas emissions and adaptation to the adverse effects of climate change. Accordingly, minimizing loss and damage would require considering mitigation and adaptation jointly in a holistic manner from the perspective of sustainable development; however, some meeting participants mentioned that current international instruments are lacking in addressing loss and damage in such manner. Some others felt that loss and damage should be addressed in the context of the existing adaptation frameworks.

14. Conceptualizing loss and damage from the perspective of sustainable development is also important for countries with a limited economic base, because responding to disasters associated with climate change impacts means readjusting national budgets, potentially resulting in the setting back of sustainable development.¹¹

Linkages

15. In order to design comprehensive risk management portfolios or toolkits, and to address loss and damage in a coherent manner, a better understanding was viewed necessary of the linkage between the different relevant governance levels (local, national, regional and international), taking into account national circumstances, including the different scales at which a country operates. Similarly, it is important to tailor tools according to the different levels at which such tools will be used.

16. A disconnect between the national and the local level, as frequently noted at all of the expert meetings, hinders the effective assessment of the risk of loss and damage. Many meeting participants considered that enhancing community-level data collection could improve model accuracy, because an inclusive, participatory approach enables an understanding of how loss and damage affects various groups of people, including women and children, who may have no economic assets. Such an approach also enables a focus not only on the hazard (through a top-down approach) but also on the vulnerability (through a bottom-up approach) and facilitates resilience-building, particularly at the national and subnational levels.¹² To that end, there is a need to develop methodologies that link different governance levels in addressing loss and damage, and to enhance efficient and effective communication strategies in order to address the disconnects between levels.

17. Linking different governance levels also facilitates the integration of traditional knowledge and local coping strategies with scientific data and the mainstreaming of the social capital of communities into development planning. Such integration is crucial in informing policies and strategies for addressing loss and damage resulting from slow onset events, as knowledge of the past may no longer be sufficient in itself to predict the future climate. In addition, at all of the expert meetings, the need to ensure that international, regional and national decisions reach the local level was noted.

¹¹ In many cases the impacts of these disasters have a great effect on gross domestic product (GDP). In addition, non-economic losses, as noted by some meeting participants, have in many cases a large impact on the development of the affected countries.

¹² Current practices as presented by the Secretariat of the Pacific Regional Environment Programme at the SIDS expert meeting, which reported that combining community-based approaches with national-level policy guidance allows the benefits of bottom-up and top-down approaches to be maximized.

Costs related to loss and damage

18. As affirmed at the expert meetings, having risk and hazard assessment processes in place at the national level is essential in order to understand the portfolio of risks and inform stakeholders where their vulnerabilities lie. Similarly, countries need to define which risks they are able to adapt to and the level of risk that they are willing to accept, on the basis of a comparative assessment of different approaches and a cost-effectiveness analysis of available adaptation options, in order to design comprehensive risk management portfolios or toolkits and make decisions on taking action.

19. The meeting participants acknowledged the cost-effectiveness of preventive action,¹³ and that by pooling risk at the macro level countries can save on the administrative costs of risk transfer and on the cost of capital (premium), given the diversification of a pool.¹⁴

20. Although some results of the cost-benefit analysis of specific financial instruments,¹⁵ as well as some key findings from regional studies on the economics of climate change, were presented at the expert meetings,¹⁶ the meeting participants noted that major gaps remain in the information on costs related to loss and damage associated with the adverse effects of climate change. Similarly, challenges remain in terms of how to establish an analysis of the cost-effectiveness of measures in relation to different types of loss.¹⁷

21. This calls for further consideration of how to model losses, including considering the baseline against which the comparison should be drawn, rather than focusing on which measure is better. Such issues are difficult to address if not put into a specific context, such as of a country or sector. In addition, concerns were raised repeatedly about the difficulties of quantifying non-economic losses,¹⁸ which is due to the lack of available tools for such an assessment.

B. Addressing slow onset events¹⁹

22. The meeting participants acknowledged that the impacts of slow onset events are already being felt in all regions and are exacerbating extreme weather events, but that there is limited readiness to address these impacts, in terms of the institutions and capacities in place at all governance levels. The existing gaps related to knowledge on and tools for addressing such impacts, in comparison with current knowledge on and available tools for addressing extreme weather events, were highlighted at all of the expert meetings.²⁰

¹³ Using different methodologies, some statistics and information were shared on the relative cost-effectiveness of prevention: for example, USD 1 invested in prevention avoids USD 5 worth of losses, according to a study undertaken by the United Nations Economic Commission for Latin America and the Caribbean (UNECLAC). While evidence from Ethiopia, reported by the African Risk Capacity (ARC), shows that USD 1 spent on early response can save USD 4 of the cost of intervention once a crisis has escalated.

¹⁴ As learned from existing regional-level risk pooling initiatives, such as the Caribbean Catastrophe Risk Insurance Facility (CCRIF) and ARC. For further details, see the presentations made by CCRIF and ARC.

¹⁵ For example, donor support, budget contingencies and parametric insurance. For further details, see the presentation made by the World Bank.

¹⁶ For further details, see the presentations by the Asian Development Bank and UNECLAC.

¹⁷ For example, it is difficult to compare measures from the perspective of saving lives.

¹⁸ For example, loss of cultural heritage, loss of ecosystem services, etc.

¹⁹ According to decision 1/CP.16, slow onset events include sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification.

²⁰ Description of the climate change impacts that each region is exposed to, as well as information on

23. Managing the risks associated with climate change, in particular the risks associated with slow onset events, requires long-term planning and institutional arrangements with appropriate legislation and policies, as well as reliable governance structures across sectors and levels, supported by timely, quality information and sustainable commitments to providing financial resources.

24. There is an urgent need to improve the understanding of the characteristics of slow onset events, including the linkages with extreme weather events, definitions of baselines for slow onset events, potential tipping points, the capacity and skills needed for quantifying losses, and what types of approach are necessary. Such an improved understanding would lead to raised awareness of the magnitude of the loss and damage resulting from incremental climatic processes, especially among policymakers, and facilitate a clarification of the necessary enabling environment, such as regulatory frameworks, policies and institutional structures. This would, in turn, facilitate the avoidance of institutional fragmentation in addressing slow onset events.

25. While some successful practices were introduced,²¹ discussions at the expert meetings for the Latin American region and SIDS highlighted the limitations of using infrastructural measures to address slow onset events at the appropriate temporal and spatial scales. In this regard, the issue of long-term versus short-term planning warrants a better understanding. For instance, discussions on ocean acidification and loss of biodiversity as a result of slow onset events drew attention to the permanence of the loss of biodiversity and its impact on livelihoods for current and future generations, which conventional adaptation measures, often project-based approaches, have limited effectiveness in tackling.

26. The relatively short-term cycle of donor funding, as noted by some meeting participants, poses challenges in this regard in terms of enabling the long-term nature of the action often required to address slow onset events.

27. Some foreseeable loss and damage related to slow onset events, as pointed out at the expert meeting for SIDS, can be ‘transformational’ to countries like SIDS.²² Innovative approaches, supported by financial and technological resources, are required in considering issues such as: how to address loss of livelihoods and cultural values; what social safety nets are needed; how to preserve the culture of relocated communities; what will happen to country sovereignty; and how the definition of economic zones will change.

28. Potential approaches to address slow onset events proposed include: land zoning; integrated water management; integrated coastal zone management; utilizing indigenous and community knowledge; transferring and sharing risk through the possible development of new types of insurance measures;²³ using financial instruments such as social and environmental bonds; and enhancing regional collaboration, such as integrated regional coastal management and integrated water resource management, among others.

the current practices and lessons learned presented at each of the expert meetings, is provided in more detail in document FCCC/TP/2012/7.

²¹ Examples of successful practices include: current work on climate proofing infrastructure being carried out with local communities to address salinization in Bangladesh; and mangrove planting in Senegal and parts of East Africa, which helps to reduce the risk of loss and damage through ecological restoration and enhancing fishery activities.

²² Examples given for such cases include when the implication of loss and damage is losing several percentage points of GDP, or when public assets are located in risk-prone areas.

²³ Conventional insurance tools are often considered to be inadequate in protecting assets against the impacts of slow onset events. For further details on the limitations of the currently available insurance tools, see chapter III.C below.

29. There was broad consensus that, in order to prepare effectively for the impact of slow onset events, strengthening cooperation across sectors and ministries is fundamental, taking into account different urban and rural experiences.

30. In addition, the expert meeting for SIDS stressed that the impacts of climate change pose intergenerational challenges for countries like SIDS, which calls for the further raising of public awareness in relation to slow onset events, particularly increasing youth engagement, including more investment in education and further information-sharing to show how traditional and local societies and communities in SIDS are managing and addressing climate change related loss and damage.

C. Comprehensive risk management toolkits

31. There was broad consensus that addressing loss and damage requires taking into account diversity of circumstances, such as different levels of preparedness and existing institutions in place, socioeconomic profile and the specific needs and concerns of every country and region in relation to climate change impacts. Accordingly, technical support for developing comprehensive risk management toolkits that apply to the specific context of their country is widely sought after by government representatives.

32. Common principles to guide the design of approaches at the subnational and national levels, as discussed at the expert meetings, include: identifying threats and assessing assets; developing longer-term plans; and moving on from ad hoc responses and project-based approaches to ensure coherent and multidisciplinary consideration when planning action. Risk financing aspects, such as subsidiarity and risk-based pricing, also constitute an integral part of such guidance.

33. There is also a continued need for better information systems, as understanding vulnerability is essential to enacting a comprehensive risk management approach.

34. While the volume of literature on existing risk retention practices is comparatively small, at the expert meetings it was confirmed that there is a wealth of knowledge in local communities on social risk retention against climate change impacts. In addressing loss and damage, to ensure that they are not operating in isolation, local risk retention methods (e.g. traditional coping mechanisms) need to be synergized into existing institutions at the subnational and national levels. Better understanding the role of social safety nets and sharing information across regions on existing risk retention practices were also considered to be useful.

35. The SIDS expert meeting emphasized that the ability to retain risk at the country level is dependent upon the size of the country's economy and the scale of the potential loss and damage. Some countries, such as the Cook Islands, expecting to incur major loss and damage resulting from the adverse effects of climate change, have put in place a trust fund as part of their risk retention measures.²⁴ However, it was reported that the level of funding is proving not to be sufficient as the impacts of climate change are accelerating.

36. The expert meetings facilitated information-sharing on a number of innovative risk transfer practices, including weather index insurance for the agriculture sector at the subnational level and risk pooling at the regional level.²⁵ In general, regional-level risk

²⁴ Other examples of national-level disaster funds were shared at the expert meeting, such as FONDEN. See the presentation made by the Natural Disasters Fund of Mexico.

²⁵ Regional schemes presented at the expert meetings include CCRIF, ARC and the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI). For information on the existing insurance-related practices shared at the expert meetings, see the tables contained in annex II to this report, as well as the presentations and information sheets available on the meetings' webpages.

pooling is advanced in the Caribbean region and similar initiatives are emerging in the Pacific Islands and in selected countries in Africa.

37. However, concerns were raised that the risk transfer option is currently not available to all communities and regions, owing partially to limited private-sector presence. In this regard, further efforts are needed to enhance enabling environments, including the allocation of budgets by governments at the national level, to facilitate capacity required to implement insurance schemes and to incentivize the further engagement of the private sector, especially in countries with low levels of insurance penetration.

38. This necessitates a better understanding of the role of national governments in creating enabling environments for minimizing loss and damage associated with the adverse effects of climate change. In addition, the allocation of funding by external donors can also facilitate the enhancement of enabling environments at the national level.

39. Similarly, a need to develop a global architecture as well as a multi-institutional architecture (e.g. including the private sector and different line ministries) to address loss and damage was frequently mentioned throughout the expert meetings.

40. Lessons learned from regional experiences with risk transfer, such as the Caribbean Catastrophe Risk Insurance Facility (CCRIF) and work by the World Bank, include:²⁶

(a) The need to identify specific needs of countries in order to determine whether risk transfer is an appropriate approach;

(b) That wide-ranging consultations and donor support are essential for innovative insurance initiatives;

(c) That private-sector involvement and expert knowledge on relevant markets is vital;

(d) That designing an integrated disaster risk financing and insurance strategy is key, which includes: budget planning against natural disasters, a risk-layering approach, national disaster funds and post-disaster budget disbursement;

(e) The need to institutionalize disaster risk financing within the disaster risk management (DRM) and adaptation agenda;²⁷

(f) The importance of managing expectations (e.g. the value proposition for countries and donors).

41. While risk transfer approaches such as insurance provide a potential solution in terms of managing the risk of loss and damage resulting from extreme weather events, the meeting participants recognized the importance of ensuring the coherence of comprehensive risk management toolkits. One way to ensure coherence, as indicated by several meeting participants, is to require a beneficiary of an insurance scheme (e.g. a country or household) to put in place a risk reduction and management system before buying in, and/or to require payouts to be invested in further disaster risk reduction (DRR) measures. Establishing criteria for participation in an insurance scheme was also viewed as important, so as to target specific support to recipient countries.

Limitations on existing insurance products

42. With recurring, higher-intensity and more frequent extreme weather events, some countries, especially SIDS, are facing difficulties in obtaining insurance coverage to protect

²⁶ For further information, see the presentations made by CCRIF, given at the SIDS expert meeting, and the World Bank, given at the regional expert meeting for Asia and Eastern Europe.

²⁷ For instance, use disaster risk financing and insurance as a way of bringing the ministry of finance into the DRM and adaptation agenda.

their assets against the adverse effects of climate change, as the premium is increasing. The narrow scope of most of the current insurance schemes presents another hindrance to some countries effectively insuring their assets.²⁸

43. It was generally acknowledged at the expert meetings that the available risk transfer approaches do not cater to slow onset events. Existing regional-level risk transfer approaches, such as CCRIF, are largely designed to address liquidity issues. There is a need to bring climate change considerations into insurance models. While parametric insurance may not be the right mechanism for slow onset events, it was noted that a life insurance model (i.e. where the element of uncertainty is different – knowing an event will happen, but not when) could assist in modelling insurance for slow onset events.

44. In addition, the meeting participants noted a need to further consider the institutionalization of ex-ante disaster risk financing as a last-resort measure to address loss and damage, by exploring various risk financing instruments that could be made available at the country level (e.g. emergency trust/reserve funds). Associated challenges include understanding the cost of the entire programme, designing an effective delivery mechanism, and knowing how to catalyse the support required to make such a measure available.

45. The point was made at the SIDS expert meeting that, even with the successful deployment of new and existing risk transfer mechanisms, vulnerable countries will still be at risk from the impacts of slow onset events, such as sea level rise. Similarly, the risk of the loss of human life cannot be transferred, which calls for other types of innovative solutions, including rehabilitation and compensation.

Learning-by-doing approach

46. The expert meeting for the African region emphasized that adaptation is a process in which solutions are embedded in a learning-by-doing approach and in an iterative process of ‘trial and error’: learning lessons, monitoring and evaluation through practice, and upscaling successfully implemented pilot actions is vital to the success of adaptation.

47. The expert meetings for the African and Latin American regions also drew attention to the importance of considering discrepancies in the readiness of each country in the region, in terms of existing capacity and institutions, when addressing action on loss and damage at the regional level. Some countries have already established institutions dealing with risk management,²⁹ while others have national climate change focal points but no effective links to risk reduction, risk retention or risk transfer.

48. The expert meeting for the Latin American region highlighted a need to find ways of incentivizing action at different levels; for instance, rewarding countries or communities that invest in DRR and risk management measures that address public goods, such as biodiversity and ecosystems. Incentives for decision makers are viewed as important, as decision makers tend to focus on activities that provide them with short-term benefits, income and attention, whereas risk prevention will only be recognized in the long term.

D. Capacity

49. Risk prevention and reduction are generally considered to be fundamental to reducing loss and damage. Current practices indicate that converting early warnings into preparedness requires a complex set of institutional relationships between different actors

²⁸ For instance, in the Cook Islands, insurance may cover flooding due to rainfall but not due to storm surges.

²⁹ For instance, Ethiopia; see <http://unfccc.int/files/adaptation/application/pdf/kumar_session3.pdf>.

as well as raised awareness towards creating a ‘culture of prevention’, which take time to build up and need to be resourced.

50. It was reported that information on possible solutions is often available to policymakers, on the basis of which actions should be prioritized. However, policymakers’ limited capacity to use information effectively prohibits appropriate action being taken. There is a need to raise the awareness of policymakers at the national level, by improving the communication of the benefits of preparedness, in order to utilize the available tools for managing climate variability (such as early warning services). Similarly, the enhancement at the national and subnational levels of the capacity to turn information into policy and informed decisions is urgently needed.

51. While it was widely acknowledged that risk is often best addressed where it is experienced, it was frequently reported that communities in developing countries generally lack sustainable solutions to climate-related problems and often end up with their resources in a state of deterioration.³⁰ The selection of solutions requires climate change impacts to be addressed in an integrated manner in order to avoid maladaptation.

52. The pressing needs for strengthening capacity at the national level identified at the expert meetings include those related to technical aspects, such as developing baseline information, especially economic data, and capturing non-economic loss and damage.³¹ Further investment in capacity-building was viewed as particularly pressing for the African region in relation to meteorological services, in order to facilitate the generation of necessary data and projections.

53. Insufficient institutional arrangements at the national level result in fragmented decision-making processes. At the expert meeting for the Latin American region, the importance of taking climate change concerns into consideration in fiscal planning was stressed;³² however, the challenge of integrating data relating to loss and damage into national development processes remains.

54. Annual budget cycles in the policymaking process are another factor hindering long-term programmatic approaches to adaptation, especially in countries with federal and local levels of government.

55. The importance of regulatory support was highlighted at the expert meeting for the Latin American region, where risk management preparedness is comparatively advanced. Necessary policies are often endorsed by government or regional entities, but their implementation could be hampered by limited institutional and technical capacity, as well as by financial needs. In order to ensure compliance with and the enforcement of policies at the national and subnational levels, enhanced institutional capacities supported by technical and financial assistance were deemed necessary. In the case of countries with small populations, the shortage of human resources adds to the challenge of building the appropriate institutional capacity and implementing necessary measures.

56. Predictable sources of funding are required to support relevant national-level activities. The majority of the developing countries represented at the expert meetings expressed a need for external support in order to invest in risk reduction efforts, although it was observed that different countries have different needs for support.

³⁰ Examples shared at the expert meeting for the African region include: the pastoralist communities whose resources (cattle) are reported to be in decline after every drought; and the improper and unregulated implementation of groundwater extraction in some parts of Africa, resulting in salt intrusion due to overexploitation.

³¹ For instance, converting intangible values of biodiversity (ecosystem services) into visible values.

³² For further details, see the presentations made by UNDP International Institute for Environment and Development and UNECLAC.

57. Taking varying national circumstances into account, there is a need to identify the broad key climate-related issues at a regional level and then to translate this information into regional frameworks, in order to target specific areas or issues in need of support. Individual national governments can then translate this knowledge or enhanced capacity into their own initiatives and thus ultimately support their communities.

E. Data and information from current practices³³

58. There was broad acknowledgement that understanding what is at risk of incurring the loss and damage that a country or region is facing is a fundamental step in the consideration of possible ways of preventing, reducing and managing such risks,³⁴ and that improving the inadequate availability of data and information currently observed at all levels is critical to identifying such risks. Collecting more data and monitoring trends in order to understand the underlying causes of such risks (e.g. land-use change, socioeconomic changes and climate-related data) was also called for in this regard.

59. As identified during the course of the implementation of activities under thematic area 1 of the work programme on loss and damage, climate change loss and damage assessments require knowledge of future climate (e.g. climate change scenarios) as well as knowledge of future vulnerability, adaptive capacity, scientific and technological advances, socioeconomic data, such as on demography, and the outlook for the energy sector, as well as the capacity to use modelling tools. Participants at all of the expert meetings reiterated the importance of: ensuring ongoing, systematic and consistent observations of environmental parameters for defining hazards and climatic and environmental trends; integrating climate change data into weather data; and consistently integrating climate change impacts into historical data.³⁵

60. Having insufficient data adds to the level of uncertainty, which inhibits the mobilization of resources for taking action in many cases. However, the urgency and importance of taking action to address loss and damage rather than waiting for certainty was stressed at all of the expert meetings.

61. The needs and gaps commonly identified in all regions in relation to data and information from current practices employed to address loss and damage are wide ranging, requiring multiple technical and policy responses at every level, including:

- (a) The need to improve the accessibility of data and information, which calls for the increased sharing of existing data and information;
- (b) Gaps in the existing data and information, necessitating further efforts in terms of the collection of data and information;
- (c) Challenges related to making data available in a useable format and making information applicable to users, so as to enable the implementation of evidence-based strategies.

³³ The data and information required to understand loss and damage and current gaps, needs and challenges are detailed in the documentation developed under thematic area 1 of the work programme on loss and damage; see documents FCCC/SBI/2012/INF.3 and FCCC/TP/2012/1.

³⁴ Understanding the loss and damage associated with the adverse effects of climate change requires wide-ranging data and information, from hydrometeorological data to socioeconomic and ecological information, along with the capacity to turn those data and information into action.

³⁵ Participants at the expert meeting for the African region highlighted that, owing to limited availability of data and information, weather- and climate-related disasters and regional average impacts (including non-economic losses, such as cultural losses and loss of life) are underestimated for Africa.

Sharing

62. In order to enhance access to accurate data and enable effective data- and information-sharing between countries, treating data as a public good was viewed as important. In this context, there is a need to facilitate the availability of open-access data across countries, regions and the world.³⁶ Further efforts to harmonize data sets in order to increase comparability and interoperability are necessary. Establishing a central information depository at the regional level was viewed as a way to facilitate effective data-sharing across countries and regions. Similarly, governments could act as information facilitators, ensuring that data and information are channelled to lower levels and vice versa.

63. While recognizing that much existing literature and a number of information portals related to adaptation and DRR provide ample information in different regions, the meeting participants expressed a need for coordination so as to allow for systematic knowledge-sharing, with a view to enabling further learning from empirical cases which integrate practices, including post-disaster needs assessments, as well as tools and measures for adaptation and DRR at different levels.³⁷

64. Further information-sharing on successful cases would also provide national and regional stakeholders with a clearer idea of the associated capacity needs. In addition, further improvements are called for in relation to enabling stakeholders to learn from relevant knowledge produced in non-English languages.³⁸

65. Ongoing DRR activities presented at the expert meetings highlighted the need to make available detailed information about losses as a crucial step towards improving the system for addressing loss and damage associated with the adverse effects of climate change.³⁹ Existing databases, such as DesInventar,⁴⁰ which systematically record losses on a homogenous spatial scale, enable the visualization of overall trends in the magnitude of losses. However, further efforts are needed in terms of improving quality assurance and the archiving of data into temporally and geographically referenced and consistently catalogued observational data sets.

F. Increasing synergies

66. Ongoing work in the DRR and DRM domains provides vast potential for synergies in addressing loss and damage associated with climate change impacts, in particular those related to extreme weather events. Recognizing that there are different institutional frameworks for DRR and adaptation, which are often not linked with development policies and planning,⁴¹ a challenge remains in integrating adaptation, DRR and DRM at the national and local levels.

³⁶ Some participants cautioned that obtaining knowledge on the entire spectrum of loss and damage could be considered sensitive for some countries.

³⁷ Current practices reported by the Pacific Island countries indicated that facilitating greater interaction between DRR and adaptation-planning communities at the national level can result in cost-efficiencies and synergies.

³⁸ For example, participants at the expert meeting for the Latin American region noted that, because it is mostly in Spanish, information from the region is not adequately taken into account in the Intergovernmental Panel on Climate Change reports.

³⁹ As described in the presentations made by the Climate Prediction and Applications Centre of the Intergovernmental Authority on Development and UNISDR, among others.

⁴⁰ For further information on DesInventar, see the presentations given at the expert meeting for the Latin American region and at the SIDS expert meeting.

⁴¹ For instance, adaptation is often covered by environment ministries, and DRR by civil defence.

67. In order to avoid creating parallel structures for addressing loss and damage and to explore linkages and synergies, a careful mapping of existing institutional frameworks at different levels and across the United Nations system was deemed useful.⁴²

68. Further guidance and coordination is required at all levels in relation to developing practical ways of bringing together the vast amount of knowledge on and institutions developed for managing the risk of extreme weather events, in order to develop a more comprehensive and coherent approach to addressing all climate change related risks. Similarly, further guidance and modalities are required, as frequently pointed out, to draw out the wealth of data and expertise available in the private sector.

69. In increasing synergies with existing work, institutions and frameworks, there is a need to clarify the role that the Convention could play in terms of finance, technology and capacity-building.

70. The discussion of existing practices at the SIDS expert meeting drew attention to South-South collaboration for information exchange and technology cooperation as a useful modality for increasing synergies with work across the region.⁴³

G. Enhancing regional and international cooperation

71. Information on a number of current regional-level practices in relation to addressing climate-related risks was shared at all of the expert meetings, including those developed around shared resources,⁴⁴ those carried out in line with regional political priorities⁴⁵ and those organized around networks. The focus of these regional initiatives is wide ranging, such as data collection, systematic observations and modelling; integrated land and water management; education, awareness-raising and capacity-building; and policy support and pooling and transferring risk.

72. Lessons learned from current activities affirmed that there is value in further developing regional expertise and sources of information to help countries in building up the capacity of their national policymakers and conducting research relevant to regional priorities with national ownership.⁴⁶

73. While regional centres were widely considered to be key players in enhancing mutual knowledge and avoiding duplication of efforts, it became clear that there is no one regional institution that can respond to all needs related to loss and damage. An overview of the regional initiatives (purpose and functions, lessons learned, improvements needed, experiences, etc.) of existing centres and networks was viewed as being useful, in order to move beyond the current scope of work towards addressing specific needs regarding loss and damage.

74. A regional initiative in the Pacific, the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), reported that regional risk management, transfer and assessment tools have many useful applications at the country level, including for

⁴² An example of parallel structures includes, for instance, creating separate processes for climate change impact assessment and the assessment of the risk of loss and damage.

⁴³ For instance, CCRIF has a memorandum of understanding with the Caribbean Community Climate Change Centre (CCCCC) as well as with the Caribbean Disaster and Emergency Management Agency on DRR activities; and PCRAFI promotes peer-to-peer information exchange and cooperation between countries.

⁴⁴ For example, transboundary water resources management, such as work undertaken by the Mekong River Commission (for further details see its presentation and table 4 contained in annex II to this report).

⁴⁵ For example, work undertaken by the Caribbean Community.

⁴⁶ For example, in the Caribbean, the work undertaken by the 'clearing house' for regional climate change data of CCCCC.

macroeconomic and urban planning, infrastructure design, and professional and institutional capacity development.

75. Though regional approaches were viewed as key to addressing loss and damage, challenges related to regional and transboundary cooperation were noted, including in relation to addressing impacts associated with slow onset events. Setting up regional initiatives is a long-term commitment, with significant costs incurred by the countries in the region. As national buy-in is critical, it is important to examine existing macro-level mechanisms and the needs and concerns of the countries in the region, in order to clarify the role and aim of the regional-level activity in addressing loss and damage in the future.

76. At the expert meeting for the Latin American region, the objectives of regional approaches were considered to revolve around collaboration on: increasing understanding and capacity in specific areas (e.g. shared natural resources and data collection); coordination of policies; and joint funding initiatives, among others. In the Pacific, a number of regional agencies already provide capacity and regional modalities, thus considerable expertise has been retained in the region, but not at the national level. Taking into account the regional context, regional networks at the expert meeting for the Asian and Eastern European region reported on the benefits of working at a small scale in terms of countries meeting to arrange potential collaboration.

77. It was affirmed that the level of regional coordination mechanisms and modalities varies in different regions. For example, among SIDS, while the Caribbean and the Pacific have a number of established regional initiatives, the Atlantic, Indian Ocean, Mediterranean and South China Seas group does not have a similar level of coordination mechanisms.

Institutional arrangements at the macro level

78. Developing country meeting participants, particularly at the expert meetings for the African region and SIDS, repeatedly expressed concerns that preparedness is insufficient to enable countries to cope in the face of the foreseeable scale of future climate change impacts, and they drew attention to the fact that impacts felt in poor and vulnerable countries and regions will have cascading impacts on the international community, which would call for international responses.

79. An urgent need was expressed at the SIDS expert meeting to set up an international mechanism, as part of an integrated and comprehensive approach to minimizing and addressing loss and damage.⁴⁷

80. The need for the further clarification of the operational aspects of the international mechanism proposed by the Alliance of Small Island States was expressed, such as how it would interact with other levels and institutions, including its linkages to capacities and corresponding structures required to be implemented at the national level in order to benefit from the opportunities that such a mechanism will provide.

H. Other relevant issues

81. In addition to the key common issues in relation to addressing loss and damage already mentioned, the following are some of the key region-specific issues of importance identified at each of the expert meetings:

(a) In Africa institutional capacity and institutional coordination and cooperation, particularly across borders and between public entities, are needed on multiple fronts, including for strengthening information-sharing (e.g. hydrometeorological data and

⁴⁷ The international mechanism proposed by the Alliance of Small Island States includes components of insurance, risk management and rehabilitation.

information on water resources⁴⁸) in solving climate-induced transboundary problems and scarcity of resources. Agriculture is a very vulnerable sector in Africa, with a high dependency on rain-fed agriculture, which necessitates special attention when considering priority actions at the regional level, though different strategies are needed for commercial and subsistence agriculture, when addressing loss and damage associated with the adverse effects of climate change. The widespread dependency on rain-fed agriculture heightens Africa's vulnerability to drought and ecosystem damage, which could lead to internally displaced persons, urban migration and the rise of shanty towns, with a corresponding impact on sociocultural values;

(b) Some countries in the Latin American region have made significant advances in risk management related to extreme weather events; yet risk management in relation to slow onset events at the national level needs much more work. The continued promotion of legal reforms was strongly supported, in order to incorporate the disaster risk management concept into national public policy and plans, as well as programmes and projects for public and private infrastructure, in order to achieve a higher level of risk-proof investment. In addition to agriculture and water resources management, the health sector and the risk of increased urbanization were highlighted as important components of risk management in the region;

(c) In Asia the development of early warning systems is seen as a regional priority, along with methods for properly providing information to communities to prompt early action. Issues related to glacial retreat and its related impacts, along with transboundary river basin management, were noted as needing to be prioritized for action in the regional climate change policy for most countries;

(d) In the Eastern European region insufficient relevant legislation and regulation, coupled with limited capacity, expertise and data availability, were noted to hinder the ability to manage climate change impacts effectively. Enhanced support to countries for them to develop their own national adaptation priorities was viewed as a useful way to raise the profile of relevant climate change impacts and associated adaptation options. Priorities for regional cooperation include: the creation of hydrometeorological databases, including setting common formats to enable effective data-sharing; and the sharing of experiences and lessons learned. The identification of institutions that could champion regional cooperative efforts was deemed useful in this regard;

(e) Predominantly SIDS-specific needs centred around: support for undertaking the transformation to new economies, away from monoculture economies, in the face of the scale of the potential loss and damage resulting from climate change; innovative approaches to climate finance; investment in energy efficiency and marine-based technologies (e.g. tidal energy), in order to secure energy, reduce import costs and build new technologies of the future; and the provision of international-level support in the form of debt relief and international funding modalities for technical support.

IV. Possible areas for further action

82. Possible areas for action identified which may address key gaps, needs and challenges discussed at the four expert meetings include:⁴⁹

⁴⁸ Examples given include water use for agricultural irrigation schemes and hydropower programmes, which could be solved by sharing information within the water basin. By properly making use of the shared resources, incidences of drought and vulnerability to climate change could be reduced.

⁴⁹ These possible areas for further action were identified by participants at the expert meetings; however, this does not imply that they were supported by all participants at all meetings. The order in which

- (a) **Slow onset events.** Improving the knowledge base on impacts related to slow onset climate change, including on the linkages with extreme weather events and the assessment of related non-economic loss and damage, with a view to identifying possible ways to address such impacts, including necessary institutional arrangements at different levels;
- (b) **Linkages between mitigation and adaptation.** Enhancing the understanding of potential synergetic action between mitigation and adaptation in order to minimize future climate change impacts in the context of a holistic approach to sustainable development;
- (c) **Data.** Promoting the availability of and access to appropriate data and information, including the establishment of:
- (i) An international protocol around data standardization and a central depository of data in regions;
 - (ii) A database of good practices and lessons learned for sharing at all levels and across regions;
- (d) **Capacity development.** Enhancing support for capacity development at the national and regional levels, with the aim of reducing vulnerability and addressing the impacts of climate change, including, inter alia, for:
- (i) The identification of the risk of loss and damage at the country level, including the development of national baselines and the analysis of the cost-effectiveness of available adaptation options, with a view to developing comprehensive risk management toolkits that are tailored to national and regional circumstances;
 - (ii) Mainstreaming loss and damage into national development planning;
 - (iii) Cross-sectoral cooperation at the national level to facilitate an integrated risk management approach;
 - (iv) An inclusive approach, paying particular attention to the loss and damage of the most vulnerable;
- (e) **Regional strategies.** Developing regional strategies, where needed, to enhance cooperation in addressing the impacts of climate change, that are coherent among the countries in the region, including, inter alia:
- (i) Assessing existing relevant regional schemes;
 - (ii) Enhancing regional facilities to provide technical support to countries;
- (f) **Global strategy.** Developing a strategy at the international level to enhance support, inter alia, for:
- (i) Relevant national and regional actions, as well as interregional cooperation, in a coherent and synergetic manner, including for the consistent and systematic sharing of information on good practices at all levels and across regions;
 - (ii) The long-term planning of actions to address loss and damage and the implementation of such actions with sustainable finance at all levels;
 - (iii) The coordination of work undertaken by regional centres and networks in addressing the impacts of climate change;

they are presented does not imply prioritization or sequence in taking action.

(g) **Pilot initiatives.** Promoting and supporting pilot actions on innovative approaches to address loss and damage associated with the adverse effects of climate change at all levels and across regions.

Annex I

[English only]

Background, structure and proceedings of the expert meetings on approaches to address loss and damage associated with climate change

A. Background

1. Under the Cancun Adaptation Framework, which was adopted as part of the Cancun Agreements at the sixteenth session of the Conference of the Parties (COP), the COP established a work programme 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 change¹ (hereinafter referred to as the work programme on loss and damage), and it requested the Subsidiary Body for Implementation (SBI) to agree on activities to be undertaken under that work programme² and to make recommendations on loss and damage to the COP for consideration at its eighteenth session.³

2. The SBI, at its thirty-fourth session, took note of the importance of addressing the following three thematic areas in the implementation of the work programme on loss and damage:⁴

(a) Thematic area 1: Assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge on the same;

(b) Thematic area 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;

(c) Thematic area 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.

3. At COP 17 Parties agreed on activities to be undertaken in the course of 2012 under the work programme on loss and damage.⁵ Under thematic area 1, an expert meeting took place in March 2012⁶ and a technical paper⁷ was developed on current knowledge on relevant methodologies and data requirements as well as lessons learned and gaps identified at different levels. In the context of thematic area 2, the secretariat was requested to organize four expert meetings, three at the regional level and one for small island developing States (SIDS), reflecting regional priorities and experiences, as well as to conduct a literature review of existing information and case studies on the topics in the context of that thematic area and to develop a technical paper on slow onset events.⁸

¹ Decision 1/CP.16, paragraph 26.

² Decision 1/CP.16, paragraph 27.

³ Decision 7/CP.17, paragraph 1.

⁴ FCCC/SBI/2011/7, paragraph 109.

⁵ Decision 7/CP.17.

⁶ For the report on the meeting, see document FCCC/SBI/2012/INF.3, and for other documentation related to the meeting, see <<http://unfccc.int/6597>>.

⁷ FCCC/TP/2012/1.

⁸ Decision 7/CP.17, paragraph 8.

4. The expert meetings under thematic area 2 of the work programme on loss and damage were to take into consideration experience at all levels, as well as the outcomes of the expert meeting held in the context of thematic area 1 of the work programme on loss and damage referred to in paragraph 3 above and the inputs from relevant organizations and other stakeholders within and outside the Convention.⁹

5. The expert meetings also took into account the following questions, in accordance with the mandate:¹⁰

(a) What is 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? 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 thematic area 2 of the work programme on loss and damage, especially those driven by the multiplying, magnifying and intensifying effects of climate change at the national, subnational and local levels. What is known about the relative cost-effectiveness of these tools?

(b) What are the foundational resource requirements (e.g. budget, infrastructure, and technical capacity for implementation) in order for different strategies and tools to be effectively applied?

(c) What are the lessons learned from existing efforts within both the public and private sectors, considering elements of design, limitations, challenges and best practices?

(d) What are the links and synergies between risk reduction and other instruments such as risk transfer? How can comprehensive risk management portfolios or toolkits be designed?

(e) How can risk management approaches be tailored to national contexts? How can Parties and other stakeholders evaluate which tools might be most appropriate for their particular risks and circumstances?

6. Furthermore, the SBI requested¹¹ the secretariat, in organizing the four expert meetings, to take into account inviting representatives of regional centres and networks, as well as a wide range of experts, including those involved in the development of the Intergovernmental Panel on Climate Change (IPCC) assessments and special reports, and experts in disaster risk reduction and in financial approaches to risk management, to attend the expert meetings.

B. Structure and proceedings

7. In line with the mandate for the expert meetings, a draft literature review, prepared in collaboration with the United Nations University and detailing existing information and case studies on the topics in the context of thematic area 2 of the work programme on loss and damage, served as input to all four of the meetings.¹² The meetings also benefited from the input of relevant key findings from IPCC assessments and special reports.¹³

⁹ Decision 7/CP.17, paragraph 8(a).

¹⁰ Decision 7/CP.17, paragraph 2, and annex, chapter II.

¹¹ FCCC/SBI/2012/15, paragraph 154(a).

¹² Decision 7/CP.17, paragraph 8(d).

¹³ Copies of the *Summary for Policymakers* of the IPCC Special Report *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation* in different languages were made available to all of the meeting participants.

8. A survey was distributed after each expert meeting to solicit participants' feedback, in order to improve the structure of the discussions at the subsequent meetings.¹⁴ The expert meetings followed a common structure, including:

(a) Starting with a framing session, in which presentations were made on the objective of the expert meeting, an overview was provided of the work programme on loss and damage and information on the relevant climate-related risks to the region as well as key findings from the draft literature review referred to in paragraph 7 above were provided. In addition, the participants shared their views on the expectations for and outcomes of the meeting;

(b) One session being dedicated to considering approaches to address impacts related to slow onset events;

(c) The questions listed in paragraph 5(a–c) above were addressed throughout the substantive sessions of the meetings, in particular the sessions in which a range of approaches to address loss and damage from the risk management continuum and at different levels was considered;

(d) Ending with a session of which the aim was to contextualize the key discussion points by focusing on links and synergies between approaches and the role of different stakeholders and by addressing the questions listed in paragraph 5(d) and (e) above.

9. The expert meeting for the African region was held in Addis Ababa, Ethiopia, on 13–15 June 2012 and was hosted by the Ministry of Environment of Ethiopia in collaboration with the African Climate Policy Centre of the United Nations Economic Commission for Africa. It was attended by 27 representatives of Parties and 44 representatives of relevant organizations and stakeholders.¹⁵

10. A range of approaches to address loss and damage associated with the adverse effects of climate change was considered at the meeting, from the perspective of different types of risk management approaches: risk prevention, risk retention and risk transfer, as well as approaches to address slow onset events. One breakout group discussion session was held, in which the meeting participants were divided into subregional groups, with the aim of addressing the questions listed in paragraph 5(a–c) above.

11. The expert meeting for the Latin American region was held in Mexico City, Mexico, on 23–25 July 2012 and was hosted by the National Water Commission of the Ministry of Environment and Natural Resources of Mexico. It was attended by 30 representatives of Parties and 36 representatives of relevant organizations and stakeholders.¹⁶

12. Taking into consideration the feedback on the previous expert meeting, the discussion at the second expert meeting on a range of approaches to address loss and damage associated with the adverse effects of climate change was structured according to different levels: local and subnational; and national, regional and international, with the aim of looking at managing risk from an overall perspective rather than considering each type

¹⁴ The survey was not undertaken at the expert meeting for SIDS as that was the last meeting under the same mandate.

¹⁵ The relevant documentation related to the expert meeting for the African region is available on the UNFCCC website at <<http://unfccc.int/6872>>. For information on the examples of measures and tools currently employed to address loss and damage shared at the meeting, see table 2 in annex II to this report.

¹⁶ The relevant documentation related to the expert meeting for the Latin American region is available on the UNFCCC website at <<http://unfccc.int/6952>>. For information on the examples of measures and tools currently employed to address loss and damage shared at the meeting, see table 3 in annex II to this report.

of approach (risk prevention, retention and transfer) in isolation. One breakout group discussion session was held, in which the group was divided by different levels, with the aim of sharing existing relevant experiences and identifying priority areas for action in the region with regard to both extreme weather events and slow onset events.

13. The expert meeting for the Asian and Eastern European region was held in Bangkok, Thailand, on 27–29 August 2012. It took place at the United Nations Economic and Social Commission for Asia and the Pacific and was attended by 48 representatives of Parties and 41 representatives of relevant organizations and stakeholders.¹⁷

14. The substantive discussions at the third regional expert meeting started with a session focusing specifically on approaches to address slow onset events that are currently undertaken in the region, followed by a discussion on good practices at different levels. With the aim of learning lessons from the existing work on managing the risk of loss and damage, the participants were requested to provide, prior to the meeting, ‘information sheets’ on a wide range of approaches currently undertaken to address loss and damage.¹⁸ The meeting included three breakout group discussion sessions, with the aim of: (a) sharing experiences and lessons learned in addressing loss and damage associated with slow onset events; (b) sharing experiences at the national and subnational levels; and (c) identifying priorities for addressing loss and damage in the region.

15. The expert meeting for SIDS was held in Bridgetown, Barbados, on 9–11 October 2012 and was hosted by the Ministry of Environment and Drainage of Barbados. It was attended by 41 representatives of Parties and 36 representatives of relevant organizations and stakeholders. The Executive Secretary of the UNFCCC provided opening remarks at the meeting. The structure for the discussions at the meeting, including the breakout group discussions, followed that of the previous expert meeting. Similarly, information sheets on a range of current work to manage climate-related risks in the region were provided by the meeting participants.¹⁹

16. At all of the expert meetings, information and lessons learned were shared on a range of current practices undertaken to address loss and damage associated with climate change impacts at all levels and in a broad range of sectors and ecosystems, by means of presentations, plenary sessions, and panel and breakout group discussions, as well as through the distribution of information sheets in the case of the expert meetings for the Asian and Eastern European region and SIDS.²⁰

¹⁷ The relevant documentation related to the expert meeting for the Asian and Eastern European region is available on the UNFCCC website at <<http://unfccc.int/6993>>. For information on the examples of measures and tools currently employed to address loss and damage shared at the meeting, see table 4 in annex II to this report.

¹⁸ In total, 23 information sheets were provided by the meeting participants. They are available on the meeting’s webpage at <<http://unfccc.int/6993>>.

¹⁹ The relevant documentation related to the expert meeting for SIDS, including the 28 information sheets provided, is available on the UNFCCC website at <<http://unfccc.int/7058>>. For information on the examples of measures and tools to address loss and damage shared at the meeting, see table 5 in annex II to this report.

²⁰ In total, 23 and 28 information sheets were prepared for the Asian and Eastern European regional expert meeting and the SIDS expert meeting, respectively, by the participants prior to the meetings. They are available on those meetings’ webpages.

Annex II

English only]

Relevant examples of measures and tools for addressing loss and damage, presented at the expert meetings on approaches to address loss and damage associated with climate change

Table 2
Relevant examples of measures and tools for addressing loss and damage, presented at the expert meeting for the African region¹

<i>Measure/tool^a</i>	<i>Description^b</i>	<i>Information provided by/further information available at</i>
Risk reduction		
Integration of indigenous knowledge	The enhancement of the resilience of vulnerable communities to the negative impacts of climate variability through the integration of indigenous knowledge and western climate risk management science. Project implemented in western Kenya by the Intergovernmental Authority on Development (IGAD), including: <ul style="list-style-type: none"> • The interpretation of forecasts, incorporating government officers from different sectors and other users • The dissemination of information • Capacity-building 	IGAD Climate Prediction and Applications Centre < http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/ouma_session2.pdf >
Transboundary water management	The improvement of climate resilience in Southern Africa through integrated and adapted water resources management at the regional, river basin and local levels through: <ul style="list-style-type: none"> • Participatory community planning • Minimizing the risk of asset destruction • Building resilience • Structural disaster reduction 	United Nations International Strategy for Disaster Reduction Africa (UNISDR/AUC) < http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/cadribo_session2.pdf >
Risk retention		
National food security strategy	The Ethiopian Government, the World Food Programme and Oxfam	World Food Programme

¹ The definitions of types of approach used for the purpose of the tables in this annex are based on the literature review contained in document FCCC/SBI/2012/INF.14. Some measures and tools could be categorized under several types of approach; however, they have been included here only under the most relevant type of approach.

<i>Measure/tool^f</i>	<i>Description^b</i>	<i>Information provided by/further information available at</i>
	<p>America created a social safety net through:</p> <ul style="list-style-type: none"> • Achieving food security through the use of early warning systems • Making use of African satellite technology • Simple insurance schemes • Village-based design processes 	<p><http://unfccc.int/files/adaptation/application/pdf/kumar_session3.pdf></p>
Flood risk management	<p>A project was coordinated by the Natural Disaster Management Institute, the National Institute of Water and the National Institute of Meteorology of Mozambique to create an early warning system for floods, including:</p> <ul style="list-style-type: none"> • Monitoring the situation • Assessing and analysing the situation and recommending responses • Ensuring collaboration and coordinating activities • Preparing a seasonal forecast for flood prediction 	<p>UNISDR/AUC <http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/cadribo_session2.pdf></p>
<i>Risk transfer</i>		
Micro and meso index insurances	<p>Providing insurance for farmers, banks, co-ops and communities, in order to reduce risk enough to be able to unlock their productivity. The insurance is:</p> <ul style="list-style-type: none"> • Engineered to enhance production • Science based • Farmer driven 	<p>International Research Institute for Climate and Society <http://unfccc.int/files/adaptation/application/pdf/osgood_session3.pdf></p>
Sovereign disaster risk solutions	<p>The African Risk Capacity (ARC) supports vulnerable groups dealing with risks, by:</p> <ul style="list-style-type: none"> • Pooling risk across African nations • Transferring risk from vulnerable communities • Bulking the burden to the pool so that international financial markets can handle it • Transferring ownership of disaster risk to African governments • Creating incentives for risk reduction • Ensuring objectivity, transparency, accountability and fairness 	<p>ARC <http://unfccc.int/files/adaptation/application/pdf/kassam_session3.pdf></p>

<i>Measure/tool^a</i>	<i>Description^b</i>	<i>Information provided by/further information available at</i>
	<ul style="list-style-type: none"> • Providing financial management of weather-related risks through the software tool Africa RiskView Macro 	
Addressing slow onset events		
Software tool, ArcGIS, for coastal management	<p>Senegal has integrated climate change considerations into its mainstream national development priorities. It is making use of non-structural measures, such as:</p> <ul style="list-style-type: none"> • Training and awareness-raising • Strengthening the protection and development of the littoral area (i.e. beach and fish processing areas) • Developing, strengthening and implementing the regulation on coastal protection and adaptation to climate change • The revision of the Environment Code and the formulation of the law on coastal zones, which are at a very advanced stage • Communication 	Centre de Suivi Ecologique < http://unfccc.int/files/adaptation/application/pdf/sall_session4.pdf >

^a The titles of the measures and tools are derived from the presentations given at the expert meeting as well as from the information sheets provided by the meeting participants.

^b The description of the measures and tools is based on the information provided by the meeting participants.

Table 3
Relevant examples of measures and tools for addressing loss and damage, presented at the expert meeting for the Latin American region²

<i>Measure/tool^f</i>	<i>Description^g</i>	<i>Information provided by/further information available at</i>
Risk reduction		
Climate risk management at the subnational level in the agriculture sector	<p>To reduce the risks of reduction and variability in yields due to multiple hazards, such as temperature increase and glacial retreat, in Junin and Piura in Peru, the United Nations Development Programme (UNDP) and the International Institute for Sustainable Development (IISD) have developed solutions for agriculture in the two focus regions, involving:</p> <ul style="list-style-type: none"> • Agricultural practices and ancestral knowledge around water and irrigation; organic fertilizers; crop diversification; topographical planning • Irrigation, reservoirs, use of groundwater and reforestation • Access to finance, insurance and markets • Improved collection and processing of and access to data and information on climate hazards and risks • Diversification of livelihoods away from agriculture 	<p>UNDP and IISD http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/rajeev_isaar_undp-bcpr_marius_keller_iisd.pdf</p>
Climate risk management at the national level in the agriculture sector	<p>To deal with the risks of increased water scarcity, decreasing crop yields and greater variation, and the destruction of crucial infrastructure, UNDP and IISD have developed several solutions to reduce the risks involved in smallholder agriculture in Honduras:</p> <ul style="list-style-type: none"> • Strengthening local governance and social organization • Territorial planning and land titles • Protecting water resources and managing water use efficiently • Soil management and crop diversification • Access to credit and insurance • Climate-proof infrastructure • The collection, processing and accessibility of climate data 	<p>UNDP and IISD http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/rajeev_isaar_undp-bcpr_marius_keller_iisd.pdf</p>
Climate risk management in the health sector	<p>To deal with the risk of disease closely related to rainfall and extreme weather events, UNDP and IISD have developed solutions for the health sector in Nicaragua:</p> <ul style="list-style-type: none"> • Universal and secure access to water and sanitation 	<p>UNDP and IISD http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/rajeev_isaar_undp-bcpr_marius_keller_iisd.pdf</p>

² The definitions of types of approach used for the purpose of the tables in this annex are based on the literature review contained in document FCCC/SBI/2012/INF.14. Some measures and tools could be categorized under several types of approach; however, they have been included here only under the most relevant type of approach.

<i>Measure/tool^f</i>	<i>Description^b</i>	<i>Information provided by/further information available at</i>
	<ul style="list-style-type: none"> • Water conservation, flood controls and reforestation • Expanded coverage of health services • Awareness-raising campaigns • Increased support for community disaster committees • Climate and health monitoring and early warning systems 	<p>bcpr_marius_keller_iisd.pdf<</p>
Integrated risk management framework	<p>In order to address loss and damage associated with climate change, Peru has implemented several actions to reduce risk:</p> <ul style="list-style-type: none"> • The determination of hazards and risks • The development of a vulnerability model • The development of hazard and risk models • The preparation and maintenance of infrastructures to withstand extreme weather events • The development of a financial risk management strategy 	<p>Deutsche Gesellschaft für Internationale Zusammenarbeit</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/philine_of_giz.pdf></p>
Funding for disaster-preventive actions	<p>FOPREDEN is a federal fund that supports disaster prevention by channelling resources to the public sector at the federal level, states and municipalities for activities related to risk assessment, risk reduction and capacity-building for disaster prevention in Mexico:</p> <ul style="list-style-type: none"> • Promotes informed decision-making on investment in risk reduction • Promotes and replicates model prevention projects • Actions focused on the identification and evaluation of hazards, vulnerabilities and risks • Actions focused on risk reduction and mitigation of the damage caused by the impact of natural phenomena, as well as on avoiding the social construction of risks • Actions focused on strengthening the preventive capacities of the population and self-protection before risk situations develop 	<p>National Center for Disaster Prevention</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/enrique_guevara_cenapred.pdf></p>
Risk retention		
Contingency funding for natural disaster	<p>In response to the Mexican Government's concern about increasing its capacity to attend to the damage caused by natural phenomena without altering the public finances, the natural disaster fund FONDEN was created. It serves to:</p> <ul style="list-style-type: none"> • Create databases of the main public assets and infrastructure, including aspects like geographical location, building characteristics and replacement cost • Analyse risk, in order to support the design of risk transfer 	<p>Natural Disasters Fund Director General</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/rubem_hofliker_fonden.pdf></p>

<i>Measure/tool^a</i>	<i>Description^b</i>	<i>Information provided by/further information available at</i>
approaches		
Risk transfer		
El Niño insurance scheme	<p>The El Niño insurance in Peru was developed on the basis of a public index that is periodically released by the National Oceanic and Atmospheric Administration. The insurance:</p> <ul style="list-style-type: none"> • Pays in January before significant flooding starts in February • Improves opportunities for the mitigation of losses • Reduces financial vulnerability to El Niño 	<p>GlobalAgRisk <http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/victor_cardenas_globalagrisk.pdf></p>
Addressing slow onset events		
Regional climate information systems	<p>The Centro Internacional para la Investigación del Fenómeno de El Niño (CIIFEN) has established a regional climate information system for sectoral risk management to address loss and damage associated with slow onset events</p>	<p>CIIFEN <http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/juan_jose_nieto_ciifen.pdf></p>

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^b The description of the measures and tools is based on the information provided by the meeting participants.

Table 4
Relevant examples of measures and tools for addressing loss and damage, presented at the expert meeting for the Asian and Eastern European region³

<i>Measure/tool^f</i>	<i>Description^b</i>	<i>Information provided by/further information available at</i>
Risk reduction		
Enhancement of national coping capacity	<p>A series of studies under the Loss and Damage in Vulnerable Countries Initiative aimed at increasing Bangladesh's capacity to cope with loss and damage, by:</p> <ul style="list-style-type: none"> • Understanding the science of loss and damage through, for example, a series of technical papers • Enabling discussions that further ideas on loss and damage • Examining the legal, policy and institutional aspects of loss and damage at the national level; determining the national context and next steps • Enhancing the knowledge base at the national level; engaging stakeholders and encouraging more research and activities • Engaging in international discourse 	<p>International Centre for Climate Change and Development</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/compilation_of_range_of_approaches_to_loss_and_damage_bangkok_2012_rev.pdf></p>
Pilot programme for climate-resilient national development planning	<p>A pilot project of the Asian Development Bank (ADB) for integrating the consideration of climate resilience into national development planning and providing incentives for scaled-up action:</p> <ul style="list-style-type: none"> • Country-led project, built on national adaptation programmes of action or equivalent, and aligned with other donor-funded activities • Technical assistance to integrate climate resilience into national and sectoral development plans • Public- and private-sector investments addressing climate resilience • At the time of the expert meeting seven pilot programmes in Asia and the Pacific existed (in Bangladesh, Cambodia, Nepal, Papua New Guinea, Samoa, Tajikistan and Tonga) 	<p>ADB</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/unfccc_charles_adb.pdf></p>
Assessment of damage to river basin	<p>Estimations and tools for addressing loss and damage in the Mekong River Basin related to the adverse effects of climate change, which are prioritized for issues of a transboundary nature and those affecting the most vulnerable populations. Components include:</p>	<p>Mekong River Commission Secretariat</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/bkk_expertmeeting_anthony_mkrc.pdf></p>

³ The definitions of types of approach used for the purpose of the tables in this annex are based on the literature review contained in document FCCC/SBI/2012/INF.14. Some measures and tools could be categorized under several types of approach; however, they have been included here only under the most relevant type of approach.

<i>Measure/tool^f</i>	<i>Description^b</i>	<i>Information provided by/further information available at</i>
	<ul style="list-style-type: none"> • The development of shared predictive tools for assessing hydrological changes in the river regime due to climate and development scenarios • The collection and collation of tools and data, including on flood and drought damage, fisheries, and social and environmental impacts • Capacity-building in member countries for assessing climate change impacts and vulnerabilities, using the available tools and supporting pilot adaptation projects • Fostering cooperation and providing high-quality information to allow climate change adaptation to be integrated into development policies 	<p>⤴</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/info_sheet_mekongrivercommission.pdf></p>
<p>Reduction of vulnerability to floods</p>	<p>The work carried out in the Dniester River Basin aims at reducing security risks resulting from flooding by improving the adaptive capacity of Ukraine and the Republic of Moldova, including by:</p> <ul style="list-style-type: none"> • Strengthening cooperative management to address the cross-border management of floods • Processing collected data and information to use as a basis for developing an agreed assessment of climate change impacts, focusing on flood problems • Assessing vulnerability: identifying the most vulnerable areas, economic activities, ecosystems and population groups and jointly planning and prioritizing risk reduction measures accordingly • Producing flood risk maps • Improving the monitoring and forecasting of transboundary floods • Enhancing knowledge through workshops for national and local experts and the production of local early warning plans and information material for the general population 	<p>ZOI Environment Network</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/info_sheet_floods_dniester_nikolayeva.pdf></p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/bangkok.reg.expert_nikolayeva_last.pdf></p>
<p>Risk retention</p>		
<p>Contingency loans</p>	<p>The Catastrophe Risk Deferred Drawdown Option is a type of contingent loan and forms part of the World Bank Disaster Risk Financing and Insurance products and services, providing immediate liquidity following a natural disaster, in the form of a contingent loan with associated risk framework reforms</p>	<p>World Bank</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/unfccc_wb_drft_mahul.pdf></p>
<p>Risk transfer</p>		

<i>Measure/tool^a</i>	<i>Description^b</i>	<i>Information provided by/further information available at</i>
Weather derivatives	<p>The Malawi Drought Hedge is the first weather risk management contract to protect against the risk of severe drought and forms part of the World Bank Disaster Risk Financing and Insurance products and services. The weather derivatives provide insurance against weather-related losses, on the basis of an index</p>	<p>World Bank http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/unfccc_wb_drft_mahul.pdf</p>
Disaster risk financing and insurance programme	<p>The World Bank Disaster Risk Financing and Insurance Program is a World Bank partnership to increase the fiscal resilience of States against natural disasters through the mainstreaming of disaster risk financing and insurance in national disaster risk management strategies, including:</p> <ul style="list-style-type: none"> • Policy dialogue and knowledge management • Technical assistance and advisory services • Product development 	<p>World Bank http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/unfccc_wb_drft_mahul.pdf</p>
Catastrophe bond	<p>The catastrophe bond provides insurance-linked securities and forms part of the World Bank Disaster Risk Financing and Insurance products and services. A multi-country, multi-peril catastrophe bond platform was recently launched in order to pool and transfer risk to the capital markets</p>	<p>World Bank http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/unfccc_wb_drft_mahul.pdf</p>
<i>Addressing slow onset events</i>		
Assessment and reduction of the risk of glacial lake outburst floods	<p>To reduce the risk of loss and damage due to glacial lake outburst floods from the Tsho Rolpa glacial lake in Nepal, the International Centre for Integrated Mountain Development (ICIMOD) has commenced a project addressing the issue. The experience gained from the project is expected to be used by the Government of Nepal, as well as other governments in the region, to formulate and implement other risk reduction measures. The implementation strategy of the project included:</p> <ul style="list-style-type: none"> • Risk assessment • A detailed geophysical study of the lake and the downstream environment • The formulation of the detailed project • Detailing the engineering design, planning and contracting • The implementation of the engineering work • Regular monitoring and controlling of the engineering structure 	<p>ICIMOD http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/info_sheet_templateglof_ishorolpa_ici_mod.pdf</p>

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^b The description of the measures and tools is based on the information provided by the meeting participants.

Table 5
Relevant examples of measures and tools for addressing loss and damage, presented at the expert meeting for small island developing States⁴

<i>Measure/tool^a</i>	<i>Description^b</i>	<i>Information provided by/further information available at</i>
Risk reduction		
Early warning systems	<p>To reduce casualties and impacts on human life and livelihoods resulting from the adverse effects of climate change, the United Nations Development Programme (UNDP) put forward several projects to implement and increase the accessibility of early warning systems, including:</p> <ul style="list-style-type: none"> • The Dewetra Platform, a forum for discussion between hydrometeorological and disaster-management communities, establishing a decision-support system that provides information on the nature and scale of the event and the likelihood of the occurrence of the event • Risk communication, public education and multi-hazard early warning systems in multiple languages, using several media to put out information 	<p>UNDP Barbados</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/ms_mcdonnough_undp_oecs_session_3_barbados_2012.pdf></p>
Disaster loss databases	<p>DesInventar is an inventory of databases on disasters of all magnitudes, especially on small and medium-sized disasters, which includes:</p> <ul style="list-style-type: none"> • An emphasis on the spatial disaggregation of large-scale disasters • The collection of data on small disasters • A focus on local entities • Free open-source code software, distributed under the General Public License 	<p>Corporación OSSO</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/ms_rosales_climent_corporacion_osso_session_3_barbados_2012.pdf></p>
Risk transfer		
Disaster risk financing and insurance solutions	<p>In order to increase financial resilience against natural disasters, the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) provides several risk transfer measures, including:^c</p> <ul style="list-style-type: none"> • Institutional building of the capacity to develop an integrated disaster risk financing strategy and risk-based financial planning • Financial disaster risk management • Fiscal risk exposure • Regional risk pooling • The development of a Pacific disaster risk insurance market 	<p>PCRAFI</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/ms_cook_sopac_session_4_barbados_2012.pdf></p>

⁴ The definitions of types of approach used for the purpose of the tables in this annex are based on the literature review contained in document FCCC/SBI/2012/INF.14. Some measures and tools could be categorized under several types of approach; however, they have been included here only under the most relevant type of approach.

<i>Measure/tool^f</i>	<i>Description^b</i>	<i>Information provided by/further information available at</i>
<ul style="list-style-type: none"> • A Pacific disaster risk insurance pilot <p>The risk information system of PCRAFI provides:</p> <ul style="list-style-type: none"> • Macroeconomic planning and disaster risk financing • Integration of climate change projections • Professional and institutional capacity development • Urban planning and infrastructure design 	<p>The Caribbean Catastrophe Risk Insurance Facility was launched as a public-private partnership and is the World Bank's response to Caribbean governments. The facility:^d</p> <ul style="list-style-type: none"> • Covers sovereign risk via parametric insurance • Is designed to offset the financial impact of hurricanes and earthquakes by providing quick liquidity • Is capitalized by donors (Bermuda, Canada, European Union, France, Ireland, United Kingdom, Caribbean Development Bank and World Bank) and the 16 member governments (via an initial membership fee) • Is further financed by governments, which pay a premium related to the amount of risk that they transfer to the facility • Allows total objectivity and transparency and rapid payouts (14 days after an event), which are based on the coverage conditions and the parameters of the event 	<p>CaribRM, Risk Managers to the Caribbean</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/mr_young_ccrif_session_4_barbados_2012.pdf></p>
Addressing slow onset events		
<p>Water resources management addressing sea level rise</p>	<p>In order to address sea level rise associated with the adverse effects of climate change, Kiribati has implemented a strategy for water management to protect, expand and manage the water resources on low-lying coral atolls, including:</p> <ul style="list-style-type: none"> • The assessment of the water distribution system • Foreshore protection • The provision of an enabling environment for the general public to increase the capacity for water catchment • The encouragement of water conservation practices 	<p>Strategic National Policy Unit and the Kiribati Adaptation Program, Office of the President, Kiribati</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/info_sheet_water_conservation_kiribati.pdf></p>
<p>Relocation</p>	<p>As part of its development agenda and climate change adaptation policy, Kiribati is preparing its population for the event that it wishes to migrate, through:</p> <ul style="list-style-type: none"> • The introduction and improvement of internationally accredited technical and vocational programmes • Seasonal employment programmes in Australia and New Zealand 	<p>Strategic National Policy Unit, Office of Te Beretitenti, Kiribati</p> <p><http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/info_sheet_new_relocation_kiribati.pdf></p>

<i>Measure/tool^f</i>	<i>Description^b</i>	<i>Information provided by/further information available at</i>
	<ul style="list-style-type: none"> The adaptation of the skills of the population to better meet the demands of the international employment market, especially focusing on English-language training 	f
Other^e		
Awareness-raising and education	<p>The youth programme of UNDP was established to engage young people by increasing their understanding of climate change impacts and extreme weather events and to train them as volunteers to respond to crises, while building national capacities for climate proofing the development process, through:</p> <ul style="list-style-type: none"> Youth participation in climate change negotiations Youth advocacy of climate-resilient development (various media) The participation of youth volunteers in disaster response and community vulnerability assessments 	UNDP Barbados < http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/ms_mcdonnough_undp_oecs_session_3_barbados_2012.pdf >
South–South cooperation	<p>The UNDP Pacific Caribbean South–South Project to strengthen resilience in the Caribbean was established to:</p> <ul style="list-style-type: none"> Organize additional opportunities for the continued exchange of ideas Share experience of vulnerability reduction replicable in the Pacific and Indian Ocean States Promote continued partnership with international and bilateral partners to strengthen States’ disaster risk reduction capabilities 	UNDP Barbados < http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/ms_mcdonnough_undp_oecs_session_3_barbados_2012.pdf >

^a The titles of measures and tools are derived from the presentations given at the expert meeting as well as from the information sheets provided by the meeting participants.

^b The description of the measures and tools is based on the information provided by the meeting participants.

^c Measure was also presented by the World Bank at the regional expert meeting for the Asian and Eastern European region. For further information, please see the World Bank’s presentation, available at <http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/unfccc_wb_drft_mahul.pdf>.

^d Measure was also presented by CaribRM, Risk Managers to the Caribbean, at the expert meeting for the Latin American region and by the World Bank at the expert meeting for the Asian and Eastern European region. For further information, please see

<http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/ekhosuehi_iyahen_ccrif.pdf> and <http://unfccc.int/files/adaptation/cancun_adaptation_framework/loss_and_damage/application/pdf/unfccc_wb_drft_mahul.pdf>.

^e Measures that could not be assigned to any of the four types of approach.