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Executive Committee of the Warsaw International
Mechanism for Loss and Damage associated with
Climate Change Impacts

Date: 16 September 2016
Reference: RSO/JP/jc
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Dear Co-Chairs,

I refer to your letter from 10 March 2016 inviting the Subsidiary Body for Scientific and Technological Advice (SBSTA) to consider slow onset events as a topic for the eighth meeting of the SBSTA Research Dialogue on May 19th during SBSTA 44.

As you know, we were able to respond positively to your request and, indeed, slow onset events was the second of the two themes of the meeting, namely “The risks and impacts of slow-onset events as a result of climate change, particularly including temperature and those that occur in the cryosphere (sea level rise and ocean acidification) and hydrological cycle (drought).”

I wish to thank the ExCom for their input and attendance at this meeting which was extremely valuable to its success and would like to take the opportunity to highlight some of the main points and messages from the meeting, which I hope will be of use for the work of the ExCom. A detailed summary of the event is available at <http://unfccc.int/9475> and is also attached to this letter.

In regards to your activity (b) of AA3, the dialogue provided the opportunity for relevant organizations and experts to share scientific knowledge and understanding of slow onset events and approaches to them, including on modelling efforts on analysis of a temperature rise of 1.5 °C by the end of the century and its impacts.

Relevant scientific findings and emerging information on slow onset events included:

- a) Mr. Zhai, IPCC, presented on the science that has emerged since AR5 in regards to the understanding and the gaps in knowledge on temperature change (paragraph 27-30);
- b) Ms Masson-Delmotte, IPCC, presented two posters updating information from AR5 in regards to global sea level rise and drought (paragraph 15 of the report);
- c) Mr. Carlson, WCRP presented several slides on new research (paragraphs 24-26), including evidence of a long-term slowdown of the deep ocean circulation due to climate change and the negative impacts this will have on ecosystems in all oceans. He encouraged delegates to consider slow onset events not as individual events but within a framework (figure 4);
- d) Ms. Masson-Delmotte presented, on behalf of Mr. Philippe Ciais, FutureEarth, information on the global carbon budget which shows that although emissions are still increasing, there is evidence that the increase is slowing down and even stalling;
- e) Mr. Lindo, AOSIS, highlighted recent research assessing the differences between climate impacts of slow onset events at 1.5 and 2 °C (see figure 14).



Activities supporting scientific knowledge and capacity-building on slow onset events included:

- a) Mr. Magnan, France, showed the contrasting futures for ocean and society as a result of slow-onset climate-related changes (paragraph 18a);
- b) Mr. Castellanos, IAI, showed the results of recent research on how capacity-building combining local and scientific knowledge increases adaptive capacity to global changes for farmers in Mesoamerica (paragraph 18b);
- c) Mr. Oakes, UNU-EHS, introduced the latest results from the Pacific Climate Change and Migration (PCCM) project in Kiribati, Tuvalu and Nauru (paragraph 18c);
- d) Mr. Jennings, RAMSAR, examined the wise use of wetlands to help mitigate the impacts of climate change and reduce the risk of slow-onset drought events (paragraph 18d);
- e) Ms. Richter, GCOS, highlighted the work on the new implementation plan which is considering how to address all requirements under the Paris Agreement, including loss and damage (paragraphs 31-33);
- f) Mr. Dilley, WMO, spoke on the Global Framework for Climate Services (GFCS) and its activities including the use of climate information to support decision making in the face of drought (paragraph 56);
- g) Ms. Anderson, IAI, spoke on the importance of connecting science to stakeholders at three levels: high-level decision makers, including political leaders; practitioners in supporting organizations and mid-level technical officers in governments; and local people directly impacted by multiple stressors (paragraph 60);
- h) Mr. Andrews, APN, detailed a range of projects in the Asia-Pacific region being undertaken to support capacity building on slow onset events to better understand them and to adapt to their impacts, such as raising awareness on the vulnerability of home-garden systems and on food security (paragraphs 62-65);
- i) Mr. Ronneberg, SPREP, emphasized the importance of regional knowledge but that information in his region on slow onset events was limited due to limitations on the availability of long term observations for decision making and indeed of options to address slow onset events (paragraphs 66-69).

In regards to your activity (c) of AA3, to invite relevant organizations and experts to collaborate with the ExCom to facilitate access to information, I would like to invite the ExCom to continue to attend the relevant meetings of the research dialogue in the summer session and to other relevant events to support your engagement with the scientific community within our process.

In regards to your activity (d) of AA3, to assess and develop recommendations to improve the state of knowledge, an important message from the dialogue is the need to translate climate information into useful products and services for all users and this information needs to be tailored to suit the audience. Organizations are developing climate services and indicators as highlighted at the research dialogue including GCOS (paragraphs 31-34), WMO (paragraphs 55-58), EC (paragraphs 71-73) and NOAA (paragraphs 74-75). Other organizations work at more local levels to raise awareness including APN (paragraphs 62-65) and IAI (paragraphs 18(b) and 59-61).



In regards to needs for research on slow onset events that the ExCom could consider in order to develop recommendations:

- a) Mr. Ronneberg, SPREP, stressed the need for regional capacity-building, sector/national assessments and risk analysis, ongoing training programmes, in-country expertise, and establishment and expansion of observation and monitoring; and a major requirement for technical and financial support for the long- term. There is also need for improved long term observation (paragraphs 66-70);
- b) In regards to drought risk, Mr. Post, UN-SPIDER, highlighted the need to establish systematic information and documentation on drought events and integrate this into drought risk and impact assessments so as to improve knowledge on losses and damages; move from drought hazard assessment approaches and indicators towards providing drought risk knowledge and impact indicators; improve early warning systems with impact-based information and enhanced monitoring; establish national, inter-sectoral drought policies; and provide capacity-building and knowledge management (paragraph 16b);
- c) In regards to supporting farmers to understand slow onset events, Mr. Castellanos, IAI, highlighted that scientific teams must work together with communication specialists and that this additional expense should be supported by funding organizations (paragraph 18b);
- d) In regards to Pacific climate change and migration, Mr. Oakes, UNU-EHS, highlighted the need to address the issues which are triggering migration; further build resilience and put climate change adaptation into development planning (paragraph 18c);
- e) In regards to the wise use of wetlands, Mr. Jennings, RAMSAR, highlighted the need to manage and restore wetlands, take action across a number of sectors, monitor slow onset events through a range of tools, incentivize sustainable agriculture, and preserve peatlands (paragraph 18d).

In addition to the research dialogue report, I would like to draw your attention to the report from the SBSTA–IPCC special event on advice on how the assessments of the IPCC can inform the global stocktake (available at <<http://unfccc.int/9535.php>>). In regards to needs of the global stocktake, in paragraph 26 of this report, Ms. Masson-Delmotte requests further clarification on information needs in regards to the water cycle (e.g. for slow-onset events like desertification); and impacts, vulnerability and adaptation (e.g. mass loss from glaciers and ice sheets, regional climate and extreme events). She stressed the importance of monitoring large-scale ocean dynamics (a change in the Atlantic Meridional Overturning Circulation may decouple the local and regional impacts from global mean surface temperature) and modes of variability (El Niño and its influence on the year-to-year surface temperature variability).

In regards to your activity (a) of AA3 and the development of a database of institutions working on slow onset events, I would like to encourage the ExCom to include in the database our colleagues from the science community who attended the research dialogue.



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Next year's meeting of the research dialogue may focus on how the science community are addressing regional climate research and data information and gaps. This could provide an opportunity to look at needs for mitigation, adaptation and loss and damage.

I would be happy to discuss further any aspect of the above and provide further information if required.

I look forward to our continued collaboration.

Yours sincerely,

Carlos Fuller
SBSTA Chair

Attached: Summary report on the eighth meeting of the research dialogue