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Item 3 of the provisional agenda
Nairobi work programme on impacts, vulnerability and adaptation to climate change

Relevant programmes, activities and views on the issues relating to climate related risks and extreme events

Submissions from Parties

Addendum

1. In addition to the 10 submissions contained in document FCCC/SBSTA/2007/MISC.4 and the one submission contained in document FCCC/SBSTA/2007/MISC.4/Add.1, one further submission has been received.

2. In accordance with the procedure for miscellaneous documents, this submission is attached and reproduced[*] in the language in which it was received and without formal editing.

[*] This submission has been electronically imported in order to make it available on electronic systems, including the World Wide Web. The secretariat has made every effort to ensure the correct reproduction of the text as submitted.

SUBMISSION BY THE
ALLIANCE OF SMALL ISLAND STATES (AOSIS)

on

Relevant programmes, activities and views on issues relating to climate related risks and extreme events

Background

At SBSTA 25, Parties adopted conclusions relating to the 'five-year programme of work on impacts, vulnerability and adaptation to climate change' (FCCC/SBSTA/2006/L.26). In paragraph 34 of these conclusions, under the heading '*climate related risks and extreme events'*, SBSTA invited Parties and relevant organizations to submit to the secretariat, by 23 February 2007, information on their relevant programmes, activities and views on the following issues:

(a) Experience with assessment and management of current and future climate-related risks and impacts, including those related to extreme events and in specific sectors;
(b) Ability, gaps, needs, opportunities, barriers and constraints to predicting climate variability, impacts and extreme events across regions and hazards;
(c) Contribution of traditional knowledge to understanding and managing climate-related risks;
(d) Implications for sustainable development in relation to paragraph 34 (a) to (c) above;
(e) Promoting understanding of impacts of, and vulnerability to, climate change.

SBSTA requested the secretariat to compile these submissions into a miscellaneous document to be made available to the SBSTA by its twenty-sixth session. SBSTA further requested the secretariat to organize a workshop on the issues, information and submissions referred to in paragraph 34 before SBSTA's twenty-seventh session, and prepare a report on the workshop to be made available to the SBSTA by its twenty-seventh session.

General remarks

The Alliance of Small Island States (AOSIS) welcomes this opportunity to present views on the above issues.

AOSIS would like to express its thanks the secretariat for organising the two-part *Expert meeting on adaptation for small island developing States* (SIDS), held from 5-7 February 2007 in Kingston, Jamaica, for Caribbean and Atlantic Ocean SIDS and from 26-28 February in Rarotonga, Cook Islands, for Pacific and India Ocean SIDS. Discussions at these two sessions are reflected in the secretariat's report of the

meeting (FCCC/SBI/2007/11, 2 April 2007) and have informed this submission. The recommendations of these workshops are incorporated herein by reference.

AOSIS also welcomes Working Group II's contribution to the *Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report* (Impacts, adaptation and vulnerability) and looks forward to discussions of this report at SB-26. This report underscores the extreme vulnerability of small island States to the negative impacts of climate change, including sea level rise and climate-related extreme events, and highlights a range of present and future climate change impacts.

AOSIS believes that the Nairobi Work Programme must continue to be informed by the latest scientific findings, including the IPCC's Fourth Assessment Report. To this end, AOSIS urges the research community to do its utmost to address the gaps in contemporary research identified in Chapter 16 (Small Islands) of this report with respect to SIDS. AOSIS calls for an IPCC Special Report on SIDS, to address both adaptation and mitigation issues - a key recommendation of the *Expert meeting on adaptation for small island developing States*.

Finally, AOSIS looks forward to full implementation of all elements of COP decisions 5/CP.7 and 1/CP.10 that address adaptation to the adverse effects of climate change.

(a) Experience with assessment and management of current and future climate-related risks and impacts, including those related to extreme events and in specific sectors

Ample evidence now demonstrates the particular vulnerability of SIDS to the adverse impacts of climate change. Key sectors that have already been affected by climate change and will be severely impacted in the future include:

Coastal zones and coral reefs;
Agriculture, fisheries and food security;
Marine resources;
Water resources;
Biodiversity;
Key infrastructure and settlements,
Health;
Economic, financial security;
Socio-cultural security.

The process of preparing first national communications resulted in national level vulnerability and adaptation assessments. This process was vital to increasing awareness of climate change impacts, and driving the assessment and management process for many small island States. Subsequent national communication processes are expected to provide similar benefits.

However, many AOSIS member States will require significant assistance in acquiring the human, technical and financial resources necessary to conduct in-depth vulnerability and adaptation assessments in the context of second national communications. Even though some capacity was created through the first national

communication process, the gap in timing between first and second national communications, and the lack of funding to implement adaptation projects on the ground during this period, has led to a loss of momentum in the process and in many cases a drain of expertise from AOSIS regions.

AOSIS strongly believes that the effective assessment and management of future climate impacts will be greatly assisted by:

- increasing access to national, regional and international technical expertise,
- strengthening regional centres of excellence so that ongoing training on assessment and management techniques can be offered, and
- creating greater opportunities for inter-regional and intra-regional cooperation, including among regional universities and other regional organizations, to enable personnel exchanges and the sharing of information among regions.

A number of additional risk and impact assessments, outside the national communication process, have been carried out through various programmes that have been funded bilaterally or multilaterally. While these studies have been useful, AOSIS members have experienced limitations with integrated assessment models, which tend to assess impacts on a sectoral basis, but do not take into account certain complex ecosystems and relevant economic sectors. As a result, there are significant information gaps that lead to an incomplete portrayal of climate change impacts in many countries. This in turn creates challenges for identifying and disseminating risk management options for adaptation. There is an urgent need for impact models that are suitable for small island States.

With regard to adaptation planning and implementation, AOSIS is of the view that a participatory bottom-up process similar to the one used to formulate National Adaptation Programmes of Action (NAPAs) for LDCs should be designed for non-LDC SIDS, to allow for important input from stakeholders and local communities. This will lead to the implementation of adaptation actions at the local level best-tailored to local needs and concerns. Community-based approaches will assist small island States in assessing current impacts with more precision and developing management methods that are practical and better targeted to potential future impacts. The incorporation of adaptation planning and implementation into national strategies or sustainable development plans is an important way to enhance the bottom-up process.

In connection with the assessment and management of extreme events, in many SIDS, and across some SIDS regions, it is extremely difficult to locate or access historical information on the physical, environmental, financial, social and economic effects of extreme weather events. Improving existing mechanisms, and establishing new mechanisms to support the gathering, collection, storage and sharing of data on the impacts of these events, at both the country and regional levels, would greatly facilitate risk management planning in anticipation of future climate- and climate change-related events.

Financial risks to SIDS from the adverse impacts of climate change will increase as climate change continues. AOSIS members have identified an urgent need for an

assessment of the economic impact of climate change on SIDS, as well as an assessment of the cost of adaptation measures. AOSIS members have also highlighted the need to identify appropriate mechanisms for the management of climate change-related financial risks and impacts on exposed sectors, including insurance-related mechanisms.

Two related recommendations from the SIDS Expert meeting are for: (1) establishment of a working group or forum within the Convention process to exchange and collect information on risk transfer mechanisms, including insurance (best practices and lessons learned); on international legal frameworks containing elements of loss sharing and risk managing; and on the feasibility of implementation of the original AOSIS insurance proposal; and (2) engagement of the insurance industry and finance experts on innovative approaches to address insurance and relief funding in the context of risks relating to climate change.

(b) Ability, gaps, needs, opportunities, barriers and constraints to predicting climate variability, impacts and extreme events across regions and hazards

AOSIS member States have identified a significant number of needs, gaps, barriers and constraints to predicting climate variability, impacts and extreme events across regions and hazards.

Among these are the need to improve technologies around climate modelling and the mapping of vulnerable areas and communities at improved resolutions. Technological improvements in the resiliency of physical infrastructure are also needed. In many jurisdictions there is an urgent need to increase the number of individuals trained to undertake predictions. Improved early warning and monitoring systems for extreme weather events are essential. There is also a need for comprehensive adaptation planning.

The ability to predict and plan for climate variability, and for the impacts of climate-related extreme events, will be greatly assisted by the creation of easily-accessible databases on historical climate variability, extreme events, and the impacts of extreme events within countries and regions. Enhanced human and technical capacity is needed to ensure effective management of these databases. Additional resources may be needed to assist in data recovery (where old data is maintained in incompatible formats), to ensure the robustness and compatibility of historical data, and to gather new data. These efforts will assist in planning for the future.

Improved public awareness and preparedness are also essential ingredients for ensuring effective adaptation planning and implementation. Secure long-term funding for training government personnel and enhancing co-ordination amongst government departments is also essential in this regard.

Predicting climate variability, impacts and extreme events across regions encompasses a broad spectrum of issues and stakeholders. AOSIS is of the view that addressing these issues and reaching the relevant stakeholders will require a comprehensive long-term approach that employs both top-down and bottom-up techniques. This will require additional financing and technical support.

(c) Contribution of traditional knowledge to understanding and managing climate-related risks

AOSIS is of the view that traditional knowledge can fill gaps where scientific data collection is sparse and global model resolution is too coarse. It can also provide valid input into vulnerability and adaptation assessments, and additionally assist in identification of resilient ecosystem components and biota based on generations of experience.

It may be very useful to take stock of traditional adaptive knowledge and technologies used in local and indigenous communities. In this context, traditional knowledge may require sensitive treatment. Where traditional knowledge is still intact and in use, intellectual property issues may arise if traditional adaptive capacities are transferred outside the local area or community. A methodology or set of guidelines for incorporating this knowledge into national assessments and eventually into adaptation on the ground would be extremely beneficial.

The rate of climate change is such that it is unlikely that traditional coping strategies alone will be able to keep pace with the increasing impacts of climate change. The loss of traditional knowledge, due to changing societal norms and structures, has already constrained the present adaptive capacity of many community groups.

(d) Implications for sustainable development in relation to paragraph 34 (a) to (c) above

Climate change has already had a significant negative impact on SIDS' natural resource base, and on the growth and development of major sectors of island economies, including tourism, fisheries and agriculture. Climate-related sea level rise, extreme weather events, coral bleaching and resulting loss of biodiversity can be expected to cause increasing damage to already fragile island economies, reversing years of development efforts, and threatening the achievement of the sustainable development objectives addressed in the Mauritius Strategy.

In the Pacific islands region, cyclones accounted for 76 per cent of reported disasters from 1950 to 2004, with an average damage cost of USD 75.7 million per cyclone. In 2004 the impact of Cyclone Heta resulted in damages estimated at three times Niue's GDP. There has also been an observed increase in the number of intense hurricanes in the Caribbean region. In 2004, Hurricane Ivan struck several countries in the Caribbean region. The hardest hit was Grenada where overall damages from this single extreme event that were calculated at twice the country's GDP.

Scientists have projected an increase in sea level rise in the South Pacific of between 25 to 58 centimeters by the middle of this century. Sea level rise together with coral bleaching from increasing temperatures will lead to coastal erosion and land loss, the salinisation and contraction of aquifers, more intense flooding events, and a decline in artisanal fish populations which are a key source of protein. It is also likely that maximum tropical cyclone and hurricane wind intensities could increase 5 to 10 percent

by 2050. This combination of climate-induced processes poses an enormous risk to the sustainable development of SIDS.

Delays in implementing adaptive strategies will only increase the cost of adaptation in SIDS. There is an urgent need to implement adaptation measures in small island States. Targeted financial support from the international community is needed and expected under the Convention, as the burden of climate-related impacts will far exceed what SIDS governments can bear and should be expected to bear. It is unlikely that the Adaptation Fund under the Kyoto Protocol will generate the level of funds necessary to adequately address the cost of adaptation.

(e) Promoting understanding of impacts of, and vulnerability to, climate change

Comprehensive public awareness programmes at the local, national and regional levels will help promote understanding of climate impacts and vulnerability to climate change.

AOSIS is of the view that an Adaptation Experts Group within the UNFCCC process, perhaps with a mandate similar to the Expert Group on Technology Transfer, could usefully assist in managing the adaptation process at the Convention level.

An IPCC Special Report on SIDS could greatly assist in promoting understanding of the impacts of, and vulnerability to, climate change among the international community.

Finally, the establishment of a special Work Programme for SIDS within the UNFCCC process, incorporating the Mauritius Strategy, to address current and future implementation of the Convention and Protocol would further promote understanding of the impacts of climate change in SIDS, and facilitate measures to address the particular vulnerabilities of SIDS to these impacts.

AOSIS appreciates this opportunity to present its views.

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