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RESEARCH AND SYSTEMATIC OBSERVATION

Third Assessment Report of the Intergovernmental Panel on Climate Change: Views on priority areas of research and questions for the scientific community relevant to the Convention

Submissions from Parties

Addendum

1. In addition to the 14 submissions included in document FCCC/SBSTA/2002/MISC.15, one further submission has been received.
2. accordance with the procedure for miscellaneous documents, this submission is attached and is 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.

PAPER NO. 1: SAMOA ON BEHALF OF THE ALLIANCE OF SMALL ISLAND STATES

Samoa, on behalf of the Alliance of Small Island States (AOSIS) welcomes the opportunity to submit some views on priority areas of research and questions for the scientific community arising from the Third Assessment Report (TAR) of the IPCC. AOSIS has already commented on the TAR at the 7th Conference of the Parties, and those views should be considered as complementary to this submission. AOSIS reserves the right to make further comments in light of views submitted by other Parties.

AOSIS wishes to express its warm appreciation to the outgoing Chairman and Members of the IPCC for the sterling work that they have carried out in recent years. AOSIS is confident that the new Chairman and Members will continue the fine tradition set by the IPCC of independent and well formulated scientific advice. AOSIS would again note that the TAR represents the culmination of the best scientific work available on climate change and its effects, and the elaboration of scientific findings in a manner that stakeholders and decision-makers can easily understand and relate to. It is imperative that this continue.

AOSIS experts have carefully studied the TAR, and have made certain recommendations on the basis of the reports of the three working groups. Following these sections AOSIS will make recommendations on possible activities that IPCC could undertake in support of the Convention and its Kyoto Protocol.

Working Group I, Climate Change 2001 - Scientific Basis

The WG I Report on the Scientific Basis highlights the fact that ‘an increasing body of information gives a collective picture of a warming world’.

AOSIS is particularly concerned about the implications of the following main conclusions from the Report.

- The global average surface temperature increased by 0.6 degrees centigrade over the twentieth century.
- Sea levels rose by between 0.1 and 0.2 meters over the twentieth century.
- Atmospheric concentrations of CO₂ have increased by 31% since 1750. The present concentrations have not been exceeded in 420,000 years and likely not in the past 20 million years. About three quarters of the anthropogenic emissions of CO₂ to the atmosphere in the last twenty years are due to fossil fuel burning, the rest due to LULUCF.
- Despite some reservations, confidence in the ability of complex physically based climate models to project future climate has increased.
- In the light of new evidence and taking into account remaining uncertainties, most of the observed warming over the last fifty years is likely to have been because of an increase in GHG concentrations due to human activities. Furthermore human influences will continue to alter the climate in the twenty-first century.
- The global average temperature is predicted to rise by 1.4 to 5.8 degrees centigrade
- The global sea levels are predicted to rise by 0.09 to 0.88 meters by 2100. (This is lower than earlier predictions, but has a stronger degree of certainty) and would continue to do so for many centuries after atmospheric greenhouse gas concentrations are stabilized.¹

¹ IPCC WGI TS page 77 *If greenhouse gas concentrations were stabilised (even at present levels), sea level would nonetheless continue to rise for hundreds of years. After 500 years, sea level rise from thermal expansion may have reached only half of its eventual level, which models suggest may lie within a range of 0.5 to 2.0 m and 1 to 4 m for CO₂ levels of twice and four times preindustrial, respectively. The long time-scale is characteristic of the weak diffusion and slow circulation processes that*

- For mid-range stabilization scenarios examined by the IPCC models project that the Greenland Ice sheet could melt yielding around 3 metres sea level rise in 1000 years².
- Anthropogenic climate change will continue for several centuries after atmospheric stabilization, as many long-lived GHGs have a lasting effect on atmospheric concentration, radiative forcing and climate.

These figures and findings highlight the need for immediate action from Annex 1 Parties, not only by ratifying the Kyoto Protocol and meeting their targets, but, most importantly, by taking action well beyond those targets. Many Small Island Developing States and low-lying coastal areas will be severely and dangerously affected by the effects of these scenarios. The recent presentation by the Maldives of its first National Communication to the FCCC impressively shows the destruction of its capital Male under these scenarios. These findings also invalidate the position taken by the largest emitter in regards to the notion that there is an incomplete state of scientific knowledge of the causes of, and solutions to, global climate change.

Working Group II, Climate Change 2001 - Impacts, Adaptation and Vulnerability

The WG II Report on Impacts, Adaptation and Vulnerability reiterates and reinforces the earlier conclusion that those with the least resources have the least capacity to adapt and are the most vulnerable. The effects of climate change are likely to be the highest in developing countries in terms of loss of life, land and other natural resources, and impacts on investment and the economy for any level of warming.

In relation to Small Island Developing States, the report underscores the following.

- Adaptive capacity is low; they are likely to be among the countries most seriously impacted by climate change
- The projected sea level rise would cause enhanced coastal erosion, loss of land and property, dislocation of people, increased risk from storm surges, reduced resilience of coastal ecosystems, impact on cultural sites, saltwater intrusions into fresh water resources and high resource costs to respond to and adapt to these changes.
- Future sea surface warming would increase stress on coral reefs, leading to increased frequency of coral bleaching events and result in increased frequency of marine diseases.
- Limited arable land and soil salination would make agriculture highly vulnerable to climate change.
- Tourism and other economic activities would face severe disruption.

AOSIS is concerned that the impacts of climate change will, with increasing scientific certainty, be very severe for Small Island Developing States and low-lying coastal areas. AOSIS countries are among those that will be most seriously impacted, and among those that will be impacted first. IPCC WGII shows that the level of greenhouse gas stabilization has important equity implications with the poorest countries and peoples suffering substantial damages at even low levels of warming with some richer countries not projecting net market damages until warming exceeds two degrees. In addition, the acknowledged lack of capacity for planning, research and adaptation in AOSIS countries raises great concerns about the ability to take effective adaptation response measures. A gigantic task lies ahead, not only for all AOSIS

² FROM WGI TECHNICAL SUMMARY PAGE 77 Models project that a local annual average warming of larger than 3°C, sustained for millennia, would lead to virtually a complete melting of the Greenland ice sheet with a resulting sea level rise of about 7 m. Projected temperatures over Greenland are generally greater than globally averaged temperatures by a factor of 1.2 to 3.1. For a warming over Greenland of 5.5°C, consistent with mid-range stabilisation scenarios (see Figure 26), the Greenland ice sheet is likely to contribute about 3 m in 1,000 years.

countries, but for the entire world, to provide the technical and financial assistance necessary to allow AOSIS countries to adapt.

Working Group III, Climate Change 2001 - Mitigation

The WG III Report on Mitigation stresses the fact that climate change mitigation activities will be affected by and have impacts on broader socio-economic policies and trends, such as those relating to development sustainability and equity. It recognizes and highlights an important issue of equity, that the challenge of addressing climate change can create or exacerbate inequities both within and across nations and regions.

The report outlines a series of options for mitigation, and concludes that:

- Significant technical progress has been made since the Second Assessment Report relative to GHG mitigation and this has been faster than anticipated.
- The choice of energy mix over the next decades and associated investments will determine, whether and if so at what level and cost greenhouse gas concentrations can be stabilized. Currently such investment is directed towards discovering and developing more conventional and unconventional fossil resources.
- Economically feasible technologies are available that could allow global emissions to be reduced below 2000 levels in 2010-2020 at zero net costs, with about half of this at negative cost. Hundreds of energy efficient technologies and practices can contribute to improving efficiency, but much of this potential will require Government policies.
- Forests, terrestrial ecosystems and agricultural lands offer significant GHG mitigation potential. Although not necessarily permanent, conservation and carbon sequestration may allow for time for other options to be developed.
- Social learning and innovation and changes in institutional structure could contribute to climate change mitigation.
- Some sources of GHG can be limited at no cost or no net negative cost to the extent that no-regrets policies can be exploited.
- On costs of compliance, the majority of global studies indicate that in the absence of emissions trading, there would be a estimated reduction in projected GDP in the range of 0.2 to 2% in 2010 for different Annex B regions. With full trading between Annex B Parties, the estimated reductions are likely to be between 0.1 and 1.1 % of projected GDP.
- Emissions constraints in Annex I countries will have spillover effects on non-Annex I countries. Estimates for the possible impact on the OPEC vary widely. One study estimates that with Annex B trading there will be less than 0.05% reduction in projected GDP for non-Annex I oil-exporting countries in 2010.

AOSIS is concerned that the major and most intense emitters have not taken appropriate note of these findings, nor has the recommendations of the report been adequately addressed by the SBSTA in its decisions. AOSIS has been aware for some time that there are readily available technologies and policy options at the present time that could significantly reduce the emissions of GHGs. The report has underscored that these can be implemented at relatively low costs, and that there are numerous win-win or no cost options available. In addition it is now clearly demonstrated that the projected doomsday losses of revenue are exaggerated. This vindicates the view held by AOSIS countries, and advocated at previous sessions of the FCCC, that such projections were spurious.

AOSIS is also concerned that these findings be seriously considered in the context of the review of articles 4.2 (a) and (b) of the Convention. These findings give added urgency to develop strategies that would reduce Annex 1 emissions well beyond the targets contained in the Kyoto Protocol.

IPCC TAR Synthesis Report

The IPCC included a synthesis report as part of the TAR. The purpose of the synthesis report is to provide a policy relevant, but not policy prescriptive, synthesis and integration of information contained within the TAR. The synthesis report is crafted around a series of policy relevant questions submitted by governments.

One of the questions, for instance, is, what can scientific, technical and socio-economic analysis contribute to the determination of what constitutes dangerous anthropogenic interference with the climate system as referred to in FCCC Article 2? The IPCC responds at some length to this question but essentially argues that the basis for determining what constitutes dangerous anthropogenic emissions will vary among regions and depends on adaptive and mitigative capacity. In so responding, the IPCC has collapsed together the two distinct issues of how dangerous climate change might be prevented with the question of what might constitute dangerous climate change.

AOSIS is of the view that this response does not adequately reflect the issue, and that in future sessions of the subsidiary bodies the IPCC may be asked to elaborate on these two topics separately.

Possible activities in support of the Convention and its Kyoto Protocol

As mentioned above, AOSIS is of the view that a consideration of the issues raised by the IPCC warrant consideration under the review of articles 4.2 (a) and (b). AOSIS would also be interested to hear the views of the IPCC experts in the discussions on adaptation and the generation and use of funds for adaptation, including those generated under the Clean Development Mechanism (CDM).

In conclusion, AOSIS is extremely interested in seeing the continuation of the relationship between the Convention processes and the IPCC, and would view with great concern any attempts to downgrade or invalidate the advice provided by the IPCC.
