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Subsidiary Body for Scientific and Technological Advice

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Item X of the provisional agenda

Further views and information on the effectiveness of the Nairobi work programme on impacts, vulnerability and adaptation to climate change in fulfilling its objective, expected outcome, scope of work and modalities

Submissions from Parties and relevant organizations

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its thirty-third session, requested Parties and relevant organizations to submit to the secretariat, by 28 March 2011, supplementary to inputs received for its thirty-third session, further views and relevant information on progress made and gaps as well as views on new activities that may be needed to achieve the objective and expected outcomes of the Nairobi work programme on impacts, vulnerability and adaptation to climate change, in order to inform the review.¹
2. The SBSTA requested the secretariat to compile these submissions into a miscellaneous document by SBSTA 34.
3. The secretariat has received 12 such submissions. In accordance with the procedure for miscellaneous documents, the six submissions from Parties and the four submissions from United Nations organizations are attached and reproduced* in the language in which they were received and without formal editing. In line with established practice, the two submissions from non-governmental organizations have been posted on the UNFCCC website.²

¹ FCCC/SBSTA/2010/13, paragraph 18.

* These submissions have been electronically imported in order to make them available on electronic systems, including the World Wide Web. The secretariat has made every effort to ensure the correct reproduction of the texts as submitted.

² <<http://unfccc.int/3689.php>>.

FCCC/SBSTA/2011/MISC.3

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Contents

	<i>Page</i>
1. Australia (Submission received 28 March 2011)	3
2. Grenada on behalf of the Alliance of Small Island States (Submission received 12 April 2011)	5
3. Hungary and the European Commission on behalf of the European Union and its member States* (Submission received 16 March 2011)	9
4. Japan (Submission received 25 February 2011)	11
5. Sri Lanka (Submission received 28 March 2011)	12
6. Uzbekistan (Submission received 25 March 2011)	13
7. United Nations Development Programme (Submission received 29 March 2011)	15
8. United Nations Human Settlements Programme (Submission received 19 March 2011)	18
9. United Nations International Strategy for Disaster Reduction (Submission received 30 March 2011)	21
10. World Meteorological Organization (Submission received 28 March 2011)	23

* This submission is supported by Bosnia and Herzegovina, Croatia, Iceland, Montenegro, Serbia, the former Yugoslav Republic of Macedonia and Turkey.

Submission under the Cancun Agreements | March 2011

The Nairobi work programme on impacts, vulnerability and adaptation to climate change | SBSTA

I. Overview

This submission contains the views of the Australian Government on the progress of the Nairobi work programme on impacts, vulnerability and adaptation to climate change (NWP), as requested by SBSTA under paragraph 18 of FCCC/SBSTA/2010/13. Australia also draws attention to its previous submissions on the NWP¹.

The Cancun Agreements delivered a balanced package of decisions across all UNFCCC bodies. Guided by the Cancun Agreements, it will be important to use the negotiating forums at our disposal to progress work in a coordinated way, utilising the bodies best suited and consider joint work programmes where useful.

Australia welcomes the opportunity to submit its views under the Cancun Agreements on the NWP. In summary, Australia considers that:

- the NWP has resulted in useful collaboration and information products on impacts, vulnerability and adaptation to climate change and it would be valuable to continue this work, pending results of the review; and
- any further activities should remain within current mandate and agreed areas of work, and support a coherent approach to the adaptation agenda under the UNFCCC .

II. Nairobi work programme on impacts, vulnerability and adaptation to climate change

Australia considers that the Nairobi work programme has made good progress towards its objectives. It has played a useful role in facilitating collaboration, knowledge sharing and linking expertise, and has made a valuable contribution to Parties' understanding and assessment of impacts, vulnerability and adaptation to climate change.

Australia supports the continuation of the NWP under its current mandate, pending the results of the review to be completed by SBSTA 34. We support a continuing focus on information-sharing and networks, to the extent that this continues to be useful to the target groups for whom information exchange, technical workshops and dissemination of information products on impacts, vulnerability and adaptation to climate change are aimed under the programme.

¹ SBSTA/2007/MISC.4; SBSTA/2008/MISC.3/Add.2

Pending consideration of the review, Australia considers that continuing work could usefully advance progress towards the NWP's existing objectives – to improve Parties' capacity to make informed adaptation decisions. Any further activities under the NWP should remain within the current nine areas of work, recognising that these were agreed upon after extensive negotiations:

- Methods and tools;
- Data and observations;
- Climate modelling scenarios and downscaling;
- Climate related risks and extreme events;
- Socio-economic information;
- Adaptation planning and practices;
- Research;
- Technologies for adaptation; and
- Economic diversification.

To maximise synergies and support a coherent approach to the adaptation agenda under the UNFCCC, the potential for future interaction between the NWP and Adaptation Committee should be given further consideration to ensure that any duplication of effort is avoided. More broadly, and for the same reasons, we would like to see explicit discussion between the Parties on how NWP would fit into the newly established Cancun Adaptation Framework overall.

**Submission of Grenada on behalf of
The Alliance of Small Island States (AOSIS)**

Views and relevant information on progress made and gaps as well as views on new activities that may be needed to achieve the objective and expected outcomes of the Nairobi work programme (NWP), in order to inform the review

April 2011

Grenada welcomes the opportunity to present the views of the 43 members of the Alliance of Small Island States (AOSIS), in response to the invitation to Parties to submit to the Secretariat, by 28 March 2011, their views and information on progress made and gaps as well as new activities that may be needed to achieve the objective and expected outcomes of the Nairobi Work Programme (NWP).

As small island developing states, particularly vulnerable to the adverse effects of climate change, and already feeling these effects, AOSIS would like to emphasise the need to move from information sharing and assessment activities to substantial implementation of adaptation actions on the ground.

In the five years since the beginning of the NWP, much of the work developed under the thematic areas has evolved to a more practical and results-oriented level. In the context of the review of the NWP, AOSIS favours the continuation of work under the Convention on impacts, vulnerability and adaptation to climate change but in the course of the review would like to consider whether the SBSTA is the best place to house it.

Possible Areas for Future Action

- (a) *Enhanced capacity at international, regional, national, sectoral and local levels to further identify and understand impacts, vulnerability, and adaptation responses, and to select and implement practical, effective and high priority adaptation actions;*

It is difficult to determine whether capacity has been enhanced without baseline studies of existing capacity at the beginning of the NWP. Anecdotal evidence is insufficient for assessing the degree to which this outcome has been achieved. Capacity needs differ at each level/region, and SIDS have specific capacity constraints which requires a direct focus in the work of the Convention as agreed in 2/CP11.

Recommendation for implementation: A programme of support for strengthening national institutional arrangements, especially in SIDS be established. A monitoring mechanism to evaluate where capacities have been enhanced and where gaps and needs continue to exist would be useful.

- (b) *Improved information and advice to the Conference of the Parties (COP) and its subsidiary bodies on the scientific, technical and socio-economic aspects of impacts, vulnerability and adaptation, including facilitating the implementation of decision 1/CP.10, where relevant;*

On improved information to COP and the SBs – the NWP has done well, including the helpful specific consideration of SIDS issues in workshops; however, facilitating the implementation of relevant interim activities as agreed at SBI-33 (see FCCC/SBI/2010/L.34/Rev.1 excerpt in Annex) remains, and should provide more evidence of the NWP's effectiveness under this expected outcome.

Recommendation for implementation: A mechanism for facilitating the flow of information and advice on adaptation to the SBI. This could be coordinated by the Adaptation Committee established at COP 16 as part of the Cancun Agreements.

- (c) *Enhanced development, dissemination and use of knowledge from practical adaptation activities;*

Practical adaptation activity implementation is still limited. Therefore, development, dissemination and use of knowledge from practical adaptation activities has not been significantly enhanced. There have been challenges with the usefulness and relevance of web based interfaces in SIDS, and difficulties of application of methods and tools to SIDS contexts.

Recommendation for implementation: Enhancing the development, dissemination and use of knowledge from practical adaptation activities, especially for SIDS and LDCs should be one of the priorities of the newly established Adaptation Committee.

NB: An interim activity agreed at SBI-33 (see Annex), takes this outcome into consideration by inviting developed country Parties and relevant organisations to assist developing country Parties in enhancing their efforts to integrate adaptation into the planning process, drawing on existing literature, including the relevant documents developed under the NWP.

- (d) *Enhanced cooperation among Parties, relevant organizations, business, civil society, and decision makers, aimed at enhancing their ability to manage climate change risks;*

Some enhanced cooperation has been facilitated by the action pledges initiated through the Secretariat, but perhaps less amongst Parties than organizations outside the Convention.

Recommendations for implementation: Formalise the action pledge process, including an information dissemination component that takes information technology constraints of developing countries, especially SIDS and LDCs into account. One of the goals of a formalised action pledge process could be to focus on feeding information on the management of climate change risks into the Work Programme on Loss and Damage established at COP16 as part of the Cancun Agreements.

(e) *Enhanced integration of actions to adapt to climate change with sustainable development;*

There has been some integration of sustainable development with adaptation concepts, but these are not always systematic. Actions to adapt to climate change should be based on country priorities. There is an urgent need to strengthen national institutional arrangements for adaptation to enable enhanced integration to take place in line with country priorities including through national adaptation planning processes. Small Islands Developing States face particular challenges and capacity limitations which require targeted approaches.

Recommendations for implementation: Develop a programme for support of national institutional arrangements including technical backstopping, where available through regional centres and the UNFCCC Secretariat. Provide a mechanism to prepare methodologies and guidelines for facilitating integration of adaptation actions with sustainable development plans and programmes at the national and subnational levels, especially for SIDS, noting the NAPA process already in place for LDCs. This should be one of the functions of the newly established Adaptation Committee with input from the Least Developed Countries expert group.

In the context of the review of the NWP at SBSTA-34, the recommendations for implementation set out above could provide a basis for discussions of possible areas of future action on impacts, vulnerability and adaptation to climate change under the Convention.

ANNEX

Relevant Interim Activities agreed to by the SBI United Nations FCCC/SBI/2010/L.34/Rev.1

The SBI underlined the importance of engaging a broad range of stakeholders in planning, preparing and implementing adaptation action, as appropriate, in particular those responsible for investment and planning decisions across relevant sectors in developing countries, in particular in the least developed countries and small island developing States.

The SBI requested the secretariat to enhance the web-based interface with a view to improving the availability of information on accessing existing funds for adaptation, including for the implementation of national adaptation programmes of action. It also requested the secretariat to develop, in collaboration with Parties and relevant organizations, user-friendly outputs and accessible forms of disseminating the relevant information, including information contained in the web-based interface, with the aim of building capacity for the identification and preparation of project proposals and for project implementation, and reaching adaptation practitioners at the national and subnational levels, in particular in developing countries.

The SBI invited developed country Parties and relevant organizations to assist in the efforts to deepen the understanding of policymakers in developing country Parties, inter alia, of the costs and benefits of adaptation options, with a view to enhancing the efforts to integrate adaptation into the planning process, drawing on existing literature, including the relevant documents developed under the Nairobi work programme on impacts, vulnerability and adaptation to climate change.

The SBI requested the secretariat to organize a workshop, subject to the availability of resources, to identify challenges and gaps in the implementation of risk management approaches to the adverse effects of climate change, building on the lessons learned and practical experience of international, regional and national organizations and the private sector. The SBI further requested the secretariat to make the report of the workshop available for consideration by the SBI at its thirty-fifth session.

Paper no. 3: Hungary and the European Commission on behalf of the European Union
and its member States

Submission by Hungary and the European Commission on behalf of the European
Union and its Member States

**This submission is supported by Bosnia and Herzegovina, Croatia, Iceland, the Former
Yugoslav Republic of Macedonia, Montenegro, Serbia and Turkey.**

Budapest, 16 March 2011

**Subject: Nairobi Work Programme on impacts, vulnerability, and adaptation to climate
change
Submission on further views and relevant information on progress made and
gaps as well as views on new activities that may be needed to achieve the
objective and expected outcomes of the Nairobi Work Programme**

Introduction and General Comments

1. The SBSTA invited Parties and relevant organizations to submit to the secretariat, by 28 March 2011 views and information on the topic as specified above. The EU welcomes the opportunity to share its views on such important subject. This submission supplements the submission of the EU included in document FCCC/SBSTA/2010/MISC.8.
2. The EU noted the richness of recommendations as included in reports related to workshops scheduled during the 2nd phase of the Nairobi Work Programme (NWP) and addressing and reflecting progress made and gaps in the context of very relevant topics such as the role of regional centres and networks, climate modelling, scenarios and downscaling, costs and benefits as well as economic diversification.
3. The EU also notes that those recommendations address mainly organisations, Parties and improvements of the NWP itself. The EU feels that recommendations targeted to the SBI and the AWG-LCA have been adequately addressed by decisions and conclusions made in Cancun and at previous sessions.
4. Moreover, the EU sees added value in continuation of the consideration of calls for action, which summarize gaps and needs identified in workshops and expert meetings organized under the NWP and would like to ask the UNFCCC secretariat to ensure improved interaction of Parties before its final publication.

Views on new activities

5. The EU acknowledges that the review of the NWP is still on-going and is yet to be completed. This review should be the basis for discussions on what further areas of work will be undertaken in the next phase of the programme. In this context the EU looks favourably to a continuation of the programme that builds on the lessons learned and experiences to date, that will include the definition of areas to focus on as well as modalities for improving the delivery of the outputs from the programme to the relevant stakeholders.
6. However, as action on adaptation continues, there is a need to continue the exchanges in particular on areas where there is a need to build the knowledge and understanding among Parties and stakeholders. Thus without prejudging the result of the review, the EU could see merits in continuing some activities in the short term that fit into the current nine areas of work . These might include:
 - Sharing of information related to the consideration of the ecosystem services in adaptation approaches as well as the synergies between adaptation to climate change and sustainable land management, which might be of mutual benefit for Rio Conventions (UNCBD, UNCCD),
 - Exchange of information with the WMO on the development of the Global Framework for Climate Services (after its establishment) in order to inform the efforts on adaptation undertaken by all Parties,
 - Further consideration of experiences in adaptation planning and practices in and across sectors (e.g. water, food security, health, coastal zones).
7. The EU looks forward to considering these ideas as well as working with other Parties to secure a continuation of the programme.

Japan's submission on the Nairobi Work Program

Japan welcomes its opportunity to submit its view on the Nairobi Work Program.

1. Japan welcomes the activities so far conducted under the Nairobi Work Program, and would like to support its continuation with the same working area.
2. Recognizing the mandate of the SBSTA, the Nairobi Work Program should enhance the activities in an efficient and effective manner, including;
 - regional networks to share information (e.g. UNEP Adaptation Network),
 - cost-benefit analysis
 - collaborative activities with private sector.

Nairobi work programme on impacts, vulnerability and adaptation to climate Change (SABSTA)

As a highly vulnerable countries like Sri Lanka need to strengthen its adaptive capacity with the support of global community in the assessment of and planning for adaptation. Therefore, it is very important to have a strong network among Parties, relevant organizations, communities, experts, regional centres to implement the current practices and sharing experience to adapt the climate change impacts.

Assessing the costs and benefits of adaptation options is very important aspect and Sri Lanka has an issue in having inadequate data available for this. Therefore, we need support to carry out further research programmes.

Opinion of Republic Uzbekistan concerning achievements and lacks and new activity within the limits of the Nairobi program of actions

Republic of Uzbekistan acknowledges the importance and supports the activities of Secretariat in implementation and further development of Nairobi work program in the area of impact, vulnerability and adaptation to climate change.

The assessment of vulnerability and consequences of climate change for environment, resources and social-and-economical conditions of life conducted in the framework of Nairobi action plan revealed the necessity of adoption of relevant measures to diminish negative aftereffects and adaptation to new conditions.

The range of impact and adaptation capacities of the environment, social-and-economical sectors and population of the country to climate change depend on the degree of awareness of conditions of all social-and-economical sectors. Scientific grounding of assessment of climate change impact requires the relevant system of climate observation and availability of “non-climatic” social-and-economical data which serve as the base for any sectoral assessment and analysis of adaptation measures.

Before adoption of adaptation measure for realization it is necessary to assess the potential damage from the climate change and to compare it with the cost of elaboration and realization of the measure itself. In this regard the necessary modalities for adoption of strategy on adaptation measures to climate change are as follows:

- availability of reliable data on the current and future damages from climate change in different social-and-economical sectors;
- economical assessment (assessment of losses and benefits).

Conduction of assessment of vulnerability to climate change and analysis of adaptation measures are impeded by:

- lack and often absence of reliable social-and-economical data from different sectors;
- absence of data on the economical losses almost in each sector;
- insufficiently worked out sectoral and complex indices and vulnerability criteria;
- high uncertainty in the creation of social-and-economical scenarios.

Study and assessment of linkages of the “impact-response-damage-selection of measure” type should be based on actual data differentiated by the sectors, territories, separate nature or anthropogenic objects.

For the more reliable assessment of vulnerability of economy sectors to the climate change and elaboration of the more well-founded adaptation measures for the countries with economy in transition in the framework of Nairobi program it is necessary to:

- develop the methodical approach for the social-and-economical assessment of vulnerability;
- to elaborate/select sectoral and complex indices and vulnerability criteria;
- to work out and introduce the international standards for statistical reporting on vulnerability with the account of the assessment needs;
- participation of experts in training seminars.

Inputs to Subsidiary Body for Scientific and Technological Advice (SBSTA) on matters relating to the Nairobi Work Programme for its thirty-third session, including further views and relevant information on progress made and gaps as well as views on new activities that may be needed to achieve the objective and expected outcomes of the Nairobi Work Programme, as referred to in document FCCC/SBSTA/2010/L.20, paragraph 5.

The United Nations Development Programme (UNDP) thanks the SBSTA for the opportunity to comment on the important work of the Nairobi Work Programme on impacts, vulnerability and adaptation to climate change (NWP) in 2011.

UNDP recognizes the value of the NWP in bringing Parties and other stakeholders together to analyse existing adaptation work, document lessons learned on effective adaptation approaches, and develop knowledge products to disseminate this information. In this context, the NWP has provided a valuable opportunity for UNDP to share lessons learned from its extensive adaptation portfolio while also learning from the experiences of other stakeholders. UNDP is currently supporting over 75 countries to access and programme funds for adaptation, including both vertical funds and bilateral sources. UNDP supports over 50% of all Least Developed Countries (LDCs) to access financing for implementation of adaptation priorities, which includes 22 countries which are implementing adaptation projects.

Building on these experiences, UNDP has been directly engaged in supporting and accelerating the NWP through submissions to regular publications, participation in regional and global events, and making substantive action pledges based on its adaptation-related work.

UNDP has made six action pledges in support of the NWP. Through the *Adaptation Learning Mechanism*, UNDP in collaboration with the partners World Bank, the GEF Secretariat, UNEP, UNFCCC, FAO, is **supporting evolving efforts to integrate climate change adaptation into development planning** by providing a knowledge sharing platform that accelerates the process of learning. UNDP also supported the development of *country-level climate profiles* which include historic trends and projected future changes using outputs from the most up to date GCM experiments and robust analytical tools. Also, given the vulnerability of small communities, UNDP is engaged in supporting countries to implement **community-based adaptation projects and programmes** that seek to enhance the resiliency of communities (especially women and children), and/or the ecosystems on which they rely, to climate change impacts. These initiatives will essentially create small-scale 'project/policy laboratories' and generate knowledge about how to achieve and sustain adaptation at the local level. Further, UNDP's **Climate Risk Management Technical Assistance Support Programme** aims to develop and apply a methodology that integrates risk over short and longer-term time scales to arrive at an assessment of risk associated with both climate variability and change. Finally, through a programme entitled **Capacity Development for Policy Makers to Address Climate Change**, UNDP is enhancing national capacity to raise awareness and coordinate Ministerial and stakeholder views on climate change to create enhanced participation in the UNFCCC process, as well as supporting long-term climate

change planning and priority setting, using assessments of investment and financial flows to cost climate change adaptation actions in nationally identified key sectors.

UNDP has and will continue to support governments to prepare gender sensitive adaptation policy and programmes, through capacity building, awareness raising and technical advice. Addressing the gender dimensions of climate change is seen as an integral part of all UNDP's activities that support the implementation of the NWP.

UNDP strongly supports the request to continue the efforts of the NWP and further engage relevant organizations, particularly those from developing countries, including the LDCs and Small Island Developing States (SIDS), and from vulnerable communities and groups, with a view to supporting the objectives of the NWP.

In terms of gaps, UNDP recommends to focus further on the links between climate change adaptation and development, particularly poverty eradication and the Millennium Development Goals (MDGs). The NWP offers an opportunity to engage the Parties and the broader adaptation community to identify, analyse, and measure the increasingly important relationship between adaptation and development. The NWP efforts could include identifying key indicators and monitoring and evaluation guidelines for adaptation interventions with regards to development priorities (including MDGs).

Further, UNDP supports the need to identify and optimize synergies between the NWP and the agreed Cancun Adaptation Framework. Given the components of the Cancun Adaptation Framework, there are several opportunities for NWP to engage and provide a mechanism for organizing work -- particularly around assessments, research, data, information and knowledge systems, education and public awareness.

¹ In addition, there is an opportunity to strengthen the NWP to address the planning, prioritizing and implementing of adaptation actions, including projects and programmes.

¹ Components of the Cancun Adaptation Framework include:

- (a) Planning, prioritizing and implementing adaptation actions, including projects and programmes, and actions identified in national and subnational adaptation plans and strategies, national adaptation programmes of action of the least developed countries, national communications, technology needs assessments and other relevant national planning documents;
- (b) Impact, vulnerability and adaptation assessments, including assessments of financial needs as well as economic, social and environmental evaluation of adaptation options;
- (c) Strengthening institutional capacities and enabling environments for adaptation, including for climate-resilient development and vulnerability reduction;
- (d) Building resilience of socio-economic and ecological systems, including through economic diversification and sustainable management of natural resources;
- (e) Enhancing climate change related disaster risk reduction strategies, taking into consideration the Hyogo Framework for Action, where appropriate, early warning systems, risk assessment and management, and sharing and transfer mechanisms such as insurance, at the local, national, sub regional and regional levels, as appropriate;
- (f) Measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate, at the national, regional and international levels;
- (g) Research, development, demonstration, diffusion, deployment and transfer of technologies, practices and processes, and capacity-building for adaptation, with a view to promoting access to technologies, in particular in developing country Parties;
- (h) Strengthening data, information and knowledge systems, education and public awareness;
- (i) Improving climate-related research and systematic observation for climate data collection, archiving, analysis and modelling in order to provide decision makers at the national and regional levels with improved climate-related data and information;

Further, UNDP supports the use of existing knowledge platforms and is prepared to engage through the work of the Adaptation Learning Mechanism (ALM)². Given its long-standing role in facilitating online knowledge sharing and learning on adaptation, and a wealth of adaptation resources accumulated over the past 4-5 years, the ALM represents a great opportunity for the NWP to dovetail its planned expansion of online presence and activities.

² <http://www.adaptationlearning.net>

Submission of views or information by Parties to the UNFCCC (Ref: ODES/COP 16/10): response prepared by UN-Habitat.

13. Nairobi work programme on impacts, vulnerability and adaptation to climate change (SBSTA)

Further views and relevant information on progress made and gaps as well as views on new activities that may be needed to achieve the objective and expected outcomes of the Nairobi work programme, to inform the review. (See FCCC/SBSTA/2010/L.20, paragraph 5) Deadline 28th March 2011

UN-Habitat informs the UNFCCC secretariat of the Cities and Climate Change Initiative (CCCI) being implemented in cities in Africa, Asia and Latin America. Through this Initiative UN-Habitat has built local capacity to carry out vulnerability assessments and develop city wide mitigation and adaptation plans and strategies. It has also developed tools and knowledge products to assist countries in integrating climate change related issues into national, city and local level plans and policies.

In a separate communication UN-Habitat intends to submit an application to join the NWP.

BACKGROUND:

UN-Habitat's climate change activities are being developed in line with the agency's **Climate Change Strategy 2010-2013** and supported by the UN-Habitat **Governing Council's Resolution 22/3** on Cities and Climate Change, which was adopted at the UN-HABITAT Governing Council on 1 April 2009.

The above paragraphs relate to the UN-Habitats' Climate Change Strategy, work, mandate and climate change resolution, where the following paragraphs are of particular relevance.

A. UN-Habitat's Climate Change Strategy:

1.3 Cities are affected by Climate Change

Severe weather events, including tropical storms and related storm surges whose frequency, severity and location may differ significantly from past experience, are likely to have serious consequences for cities, including by contributing to an increase in local and inter-urban migration and by adding new challenges for urban development including, for example, issues of land use and land tenure.

The strategy also foresees addressing land degradation and desertification in connection with droughts, floods, erosion, sea level rise and inundation. Identifying causes of, and seeking solutions to, climate change induced migration leading to land degradation; and developing new and appropriate technologies for building materials, efficient energy production and use and renewable energy resources.

3.2 UN-Habitat's work related to Cities in Climate Change

Land issues:

Developing a legal framework of land use aimed at balancing the need for construction with the protection of the environment, minimizing risk and diversifying uses.

A recent GLTN e-discussion on Land, Environment and Climate Change revealed a wide range of areas where land legislation and policies impact on climate change.

In addition, UN-Habitat supports the UNCCD ten-year strategy and recognizes its important role in helping cities and urban areas to combat desertification and land degradation, in particular that related to climate change.

Water and Sanitation:

Urban rivers and wetlands that have been neglected or misused must be recognised as essential elements of the environmental health of cities. Campaigns to clean and protect these important water resources provide opportunities to citizens to become active partners with local authorities in environmental protection.

The treatment and disposal of Municipal Solid Waste (MSW) is another issue requiring attention. Careless disposal of MSWs contributes to air, land and water pollution and can be a source of GHGs. Safe disposal and recycling processes offer a contribution to climate change mitigation strategies as well as to overall environmental wellbeing.

Finance:

Adequate finance should be available to support city governments in developing countries to leverage international support for clean energy development and sustainable land-use practices. All these measures must aim at reducing greenhouse gas emissions and energy waste of cities.

B. Resolution HS 22/3: Cities and climate change

Recognizing also that cities are one of the major contributors of greenhouse gas emissions and that they have a key role to play in promoting energy efficiency, through more appropriate urban planning, management and building practices for sustainable urban development,

Recognizing that efforts to enhance sustainable urbanization also offer opportunities to enhance climate change strategies, including mitigation and adaptation, through promoting participatory planning, management and governance; pro-poor land and housing; and environmentally sound basic infrastructure and services,

3. *Invites* Governments to undertake further concerted and coordinated action to include the issue of cities and climate change as an integral part of their national climate change strategies, including mitigation and adaptation, in view of continuous urbanization and the fact that over half of humankind lives in urban areas and are particularly vulnerable to the effects of climate change;

4. *Invites* parties to the United Nations Framework Convention on Climate Change at the fifteenth session of its Conference of the Parties in Copenhagen to take into account the crucial role of cities and towns in climate change strategies, including adaptation and mitigation;

6. *Invites* Governments and other relevant partners to support developing countries through the appropriate mechanism in each country to strengthen their capacities in promoting, among other things, pro-poor clean and affordable technological options, innovative approaches to urban planning and management and education and training on climate change strategies, as they pertain to sustainable urban development, while encouraging all other national and local authorities to strengthen their capacities in the manner set out above;

7. *Invites* Governments which are in a position to do so to provide technical and financial support to the Cities and Climate Change Initiative, to widen the geographical scope of the initiative and to expand the range of capacity-development approaches in order to support local authorities in addressing climate change.

SUBMISSION BY THE UNITED NATIONS INTERNATIONAL STRATEGY FOR DISASTER REDUCTION TO THE NAIROBI WORK PROGRAMME ON IMPACTS, VULNERABILITY AND ADAPTATION TO CLIMATE CHANGE

Geneva, 30 March 2011

Subject: Submission of further views and information on the effectiveness of the Nairobi Work Programme on progress made and gaps, as well as new activities that may be needed to achieve the objective and expected outcomes of the Nairobi Work Programme.

Background

Pursuant to the Thirty-third session of the Subsidiary Body for Scientific and Technological Advice, Parties and relevant organizations were invited to submit views and relevant information on the following issues in order to inform the review of the Nairobi Work Programme:

- progress made and gaps; and
- new activities that may be needed to achieve the programme's objective and expected outcomes.¹

UNISDR has supported this mechanism directly and by serving as a conduit between DRR experts and the UNFCCC Parties. The views and suggestions below are informed by UNISDR's experience as a coordinating entity, as well as the findings of the 2011 *Global Assessment Report on Disaster Risk Reduction* (GAR), the 2009-2011 *HFA Progress Review* and drafts of the IPCC Special Report "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation" (SREX). These views reflect the objective of the Nairobi Work Programme: "to assist all Parties, in particular developing countries, including the least developed countries and small island developing States, to improve their understanding and assessment of impacts, vulnerability and adaptation, and to make informed decisions on practical adaptation actions and measures to respond to climate change on a sound scientific, technical and socio-economic basis, taking into account current and future climate change and variability."²

The Nairobi Work Programme was intended to be a five-year initiative (2005-2010) with nine work areas, some of which are directly related to DRR. The suggest inputs below refer to UNISDR's and the DRR community's engagement in the planning and implementation of adaptation under the UNFCCC. They are specifically geared to the broader question: How can the knowledge captured by the UNFCCC Parties through the Nairobi Work Programme be both enriched and used more effectively by the Parties to implement adaptation?

¹ UNFCCC SBSTA Thirty-third session, Nairobi Work Programme on impacts, vulnerability and adaptation to climate change, Draft conclusions proposed by the Chair. FCCC/SBSTA/2010/L.20.

² Report of the Subsidiary Body for Scientific and Technological Advice on its twenty-fifth session, held at Nairobi from 6 to 14 November 2006 (FCCC/SBSTA/2006/11).

Views on progress made and gaps:

1. Reviews of progress in the implementation of the Hyogo Framework by Governments and local authorities, available in the GAR and on preventionweb, show that some Governments — such as Viet Nam, Philippines and Cook Islands — have successfully incorporated DRR into adaptation planning processes and are building upon DRR expertise.
2. Despite Parties' progress incorporating DRR into adaptation planning, there is a general gap in the implementation of adaptation based on pragmatic and concrete measures and capacities that are available in disaster risk reduction. In order to close the gap, developing country Parties will need to develop adaptation funding proposals for cost-effective projects based on well established approaches to deal with climate extremes.
3. The Nairobi Work Programme has provided an opportunity to highlight a number of disaster risk reduction programmes and their relevance to climate change adaptation. For example, at least 21 countries have developed national disaster loss databases for disasters, a critical tool for estimating risk and vulnerability to climate change impacts at the national and sub-national level. Understanding of risk is essential for prioritizing development funding and the effective establishment of early warning systems.
4. Impacts of climate change, variability and extreme events on human health, agricultural productivity, ecosystems, etc., are not well documented. Furthermore, there are significant gaps in data that necessary to understand the impacts of climate change (e.g., soil maps, stream flow, etc.).

Proposed new activities and the work areas they would strengthen:

Based on the experience of the UNISDR secretariat and its partners, the Nairobi Work Programme could be made more effective if it were more focused on emerging priorities in disaster risk reduction, emerging from the reviews of progress and risk in the ISDR/GAR and by systematically linking UNFCCC mechanisms to existing institutions both under and outside of the Convention. The six suggestions below indicate how the Nairobi Work Programme can better leverage these existing capacities within the context of the Cancún Adaptation Framework.

1. Strengthen understanding of risk to extreme events as basis for prioritizing adaptation financing based on loss databases and better integration of climate change scenarios in developing countries, especially SIDS and LDCs (NWP Work Area 2—Data and observations; Work Area 3—Climate modelling, scenarios and downscaling; Work Area 4—Climate related risks and extreme events)
2. Better understanding and exchanges of experience on effective institutional frameworks for addressing disaster risk and climate change adaptation in development (NWP Work Area 6—Adaptation planning and practices)
3. Better understanding of drought risk modeling to systematize knowledge of drought on multiple sectors of the economy and upon human well-being (NWP Work Area 1—Methods and tools; Work Area 3—Climate modelling, scenarios and downscaling; Work Area 4—Climate related risks and extreme events; Work Area 5—Socio-economic information)
4. Systematize results of the Nairobi Work Programme, their use by Parties and the effectiveness of different activities including relevant disaster risk reduction activities (NWP Work Area 6—Adaptation planning and practices)
5. Better understanding on implementation challenges for the application short and medium forecast for effective decision-making for immediate and longer-term development decisions that reduce risk (NWP Work Area 6—Adaptation planning and practices)

**Input on Nairobi Work Programme (NWP) from World Meteorological Organization
(FCCC/SBSTA/2010/L.20, para. 5)**

1. Introduction

Climate information at various time scales, and projections of future climate at regional, national and local scales, form the essential knowledge base for adaptation and disaster risk management. Availability of climate information and its effective use by converting information into applicable knowledge helps prevent disasters that can result from climate extremes and support long term adaptation and mitigation strategies. The infrastructure for weather and climate observation and research built over the years should be used to synthesize information streaming from the observation, research and modelling through a network of global, regional and national institutions and to ensure the development and delivery of user oriented climate information and prediction services. National Meteorological and Hydrological Services (NMHSs) of WMO Member countries play a crucial role in this delivery mechanism and there is an urgent need to strengthen human resources and develop new skills in the NMHSs. Integrating climate information into decision making in all socioeconomic sectors, through an effective two way dialogue between providers and users on the range, timing, quality and content of climate products and services, will ensure that decisions relating to managing climate risks are well informed and taken into action.

2. Progress made and gaps of the Nairobi Work Programme (NWP)

2.1 Progress

Since its inception, the NWP has helped delegations better understand the key issues on adaptation, through engaging wide-ranging stakeholders, catalysing targeted adaptation action, developing and disseminating knowledge outputs and products. In 2010, before COP 16, WMO renewed its Action Pledges toward the NWP and submitted 14 new Actions which are being implemented and making progress as originally designed. In the meantime, WMO welcomes adoption of 'Enhanced Action on Adaptation' of the Cancun Agreements and believes that it provides a good basis for adaptation actions aimed at reducing vulnerability and building resilience, especially in developing countries. In this process, WMO contributes to knowledge and expertise for adaptation to ensure that it is guided by the best available science. The current efforts under the UNFCCC have been successful in bringing adaptation forward on policy agendas and making it as one of the five key building blocks. WMO will make every effort through implementation of the Global Framework for Climate Services (GFCS) to contribute to the newly growing convergence on the following elements: vulnerability assessments; national adaptation plans; enabling policy environments; arrangements for sharing knowledge (e.g. through regional centers and the UNFCCC's Nairobi Work Programme (NWP)); and tools for risk reduction as well as risk transfer and sharing, such as insurance.

2.2 Gaps

At the national level, climate risk management strategies, plans and programmes have to be built using the dispersed institutional and administrative mechanisms, projects, human and financial resources. There is a need to clearly define the roles of various institutions involved and set up a mechanism for effective coordination in the development of the climate information and products

and translating them into a suite of climate services. Various sectoral users at national and local level, along with universities, research institutions and civil society, should be effectively engaged through such a mechanism.

NWP covers nine broad areas of activities, some of which (e.g. Research and Observations) and other relevant issues such as NAPAs are discussed as separate blocks in different documents. Furthermore, the scope of the NWP captures overall issues such as capacity building which is also negotiated in parallel under the LCA and SBI. It will be useful to clarify as to how negotiations and decisions on these areas in different streams complement each other and stay closely interconnected to the objectives of the NWP. The 'Enhanced Action on Adaptation' of the Cancun Agreements provides a good basis for adaptation actions aimed at reducing vulnerability and building resilience, especially in developing countries, based on and guided by the best available science and traditional and indigenous knowledge. Nevertheless, smooth working mechanisms should be in place between the newly emerged adaptation actions and already existing programmes such as the NWP in order to promote synergy based on experience gained and engage with national, regional and international organizations, centres and networks. The catalytic role of the NWP has been successful in identifying best practices, tools as well as mobilizing wealth of science and knowledge among participating organizations for adaptation actions. However, the role of Parties in the implementation of the NWP is not yet fully clear and needs to be further elaborated.

One of the objectives of the NWP is to assist all Parties, in particular developing countries, including the LDCs and SIDSs. In this aspect, the importance and potential of this programme has remained somehow, unknown or not well-known to the Parties and user community, particularly in climate sensitive sectors such as water, agriculture, health and risk management. WMO believes that the implementation of the NWP should be further extended to make it more action oriented for the benefit of adaptation practitioners in the field at national and sub-national levels. In fact, the national-level decision makers, as well as the private sector, are interested in being engaged in the NWP but the information flow either does not reach practitioners on the ground and vulnerable communities at the local level or they lack the capacity to take advantage of data and information packages for adaptation activities. Noting that national authorities need to identify the appropriate knowledge nodes, WMO will strengthen the role and operation of such affiliated centres, e.g. Regional Climate Centres (RCCs). This initiative will allow to propose more action oriented Action Pledges and on the ground projects on data, observations, climate modelling and downscaling, especially for LDCs and SIDS.

3. Views on new activities needed to achieve the objective and expected outcomes of NWP

3.1 Global Framework for Climate Services

Following the legacy of the first and the second World Climate Conferences, the World Meteorological Organization (WMO), in partnership with other UN Agencies, organized the World Climate Conference-3 (WCC-3), from 31 August to 4 September 2009 in Geneva with the theme "Climate prediction and information for decision making". The Heads of State and Government, Ministers and Heads of Delegations present at the WCC-3, through the Conference declaration, decided to establish a Global Framework for Climate Services (GFCS) to strengthen the production, availability, delivery and application of climate monitoring and prediction services. Indeed the decision of WCC-3 to establish the GFCS defined the directions towards "better climate information for a better future" in order to accelerate global action on adaptation and management of climate related risks while capitalizing on the associated opportunities. The Framework is being

designed by a High level Taskforce (HLT), established through an Intergovernmental mechanism in January 2010, to mainstream climate science into decision making at all levels and help ensure that every country and every climate sensitive sector of society is well equipped to access and apply the relevant climate information. In two side events, organized during the COP 16, in Cancun, Mexico, WMO and its co-sponsored bodies viz., WCRP and GCOS, provided information and progress report on the GFCS, research and systematic observations. Implementation of the GFCS will help generate a better understanding of the climate system; fill information gaps at global, regional, national, and local scales; enable use of such information in various socioeconomic sectors and help in climate risk assessment and develop mitigation and adaptation measures. Implementation of the Framework will reinforce and further develop, existing institutions, their infrastructure and mechanisms to generate and deliver climate information.

Despite very significant advances made by NMHSs and their partners in providing climate information, much work remains to be done to strengthen the capacity to generate climate information and further reduce the uncertainty in global, regional and local climate predictions. Climate change is a global phenomenon, and understanding of climate systems requires partnership across geographical, political and disciplinary boundaries. Given the complexity of, and requirements for, climate services, addressing the immense variety of user needs is beyond the capacity of any single country. Accordingly, the GFCS is proposed as a long term cooperative arrangement through which the international community will work together to facilitate generation and access to operational climate services at all levels. The Framework is conceived to have five major components: Observation and Monitoring; Research, Modelling and Prediction; a Climate Services Information System; a User Interface Programme and Capacity Building, with the objective to:

“Enable better management of climate risks due to climate variability and change and adaptation to climate change at all levels, through development and incorporation of science based climate information and prediction into planning, policy and practice.”

The Framework is being designed to be an effective, efficient and economically viable mechanism for the generation, delivery and application of climate services. It will build on and strengthen existing local, national, regional and global networks of climate observation, monitoring, research, modelling as well as operational structures and service programmes, and is conceived as an integrating set of international arrangements into an end to end product generation, service provision and application system. Many of these elements (systems, programmes, projects, institutions, etc.) are either already in place or are in the process of being established.

The coordinated Climate Services Information System (CSIS) of GFCS, which, through a network of collaborating institutions would ensure that climate information and products are generated at the global level (through a range of global climate centres) to adequately incorporate the global-scale aspects of the climate system; incorporate the regional and local climate information at a finer scale (through RCCs); and ensure that they are available and easily accessible for the application to various sectoral uses at the national and local levels. In this regard, the RCCs will play an important role in tailoring global climate products to regional needs on a sustainable operational mode, and also in supporting national requirements of NMSs where needed through mutual arrangements. Support to such centres by Parties in the context of NWP would ensure global coverage of climate services.

GFCS will facilitate collaboration between NMSs, Universities, climate research institutions, and regional and national training centres. Hence Parties are encouraged to support establishment of

sustainable mechanisms for education and training for climate science and services, and appropriate credentials and good practices for the operational climate providers and ensure application of quality management framework. Partnerships with intermediary organizations that transmit information from providers such as NMHSs to end-users, as well as the various sectoral users within the countries, will undoubtedly supplement these efforts.
