

Outcomes of completed activities under the Nairobi work programme on impacts, vulnerability and adaptation to climate change

Background paper for the informal meeting of representatives from Parties, experts and representatives of relevant organizations

7 to 9 April 2008, Bangkok, Thailand

Summary

This paper provides an overview of the outcomes of activities under the Nairobi work programme on impacts, vulnerability and adaptation to climate change completed by 28 March 2008. The paper elaborates on the approach taken to implement the work programme and contains information on the outcomes of completed activities undertaken in each of the nine areas of work, on how organizations, institutions, experts, communities and the private sector are engaged in the implementation of the work programme and on how the deliverables of completed activities have been disseminated. The paper concludes with potential next steps and issues for further consideration resulting from the outcomes of the activities completed so far.

CONTENTS

	<i>Paragraphs</i>	<i>Page</i>
I. INTRODUCTION.....	1–11	3
A. Purpose and scope of the background paper	1–2	3
B. Background	3–9	3
C. Approach to implementation of activities under the Nairobi work programme	10–11	4
II. OUTCOMES OF COMPLETED ACTIVITIES UNDER THE NAIROBI WORK PROGRAMME	12–49	5
A. Methods and tools	14–18	5
B. Data and observations	19–22	6
C. Climate modelling, scenarios and downscaling	23–25	7
D. Climate related risks and extreme events	26–30	7
E. Socio-economic information	31–34	8
F. Adaptation planning and practices	35–38	9
G. Research	39–41	10
H. Technologies for adaptation.....	42–46	10
I. Economic diversification.....	47–48	11
J. Potential next steps.....	49	12
III. ENGAGEMENT OF ORGANIZATIONS, INSTITUTIONS, EXPERTS, COMMUNITIES AND THE PRIVATE SECTOR IN THE ACTIVITIES OF THE NAIROBI WORK PROGRAMME.....	50–63	12
IV. DISSEMINATION OF OUTPUTS OF COMPLETED ACTIVITIES UNDER THE NAIROBI WORK PROGRAMME.....	64–69	15
V. CONCLUSIONS.....	70–71	16
ANNEX 1: OVERVIEW OF MANDATED ACTIVITIES AND DELIVERABLES		17
ANNEX 2: ORGANIZATIONS ENGAGED IN THE NAIROBI WORK PROGRAMME		19
ANNEX 3: ORGANIZATIONS THAT HAVE PROVIDED VIEWS IN SUBMISSIONS, CONCEPT NOTES AND ACTION PLEDGES		21
A. Submissions.....		21
B. Concept notes		22
C. Action Pledges		22
ANNEX 4: CALLS FOR ACTION		24
ANNEX 5: OVERVIEW OF ADAPTATION ACTIVITIES IN THE NAIROBI WORK PROGRAMME AND THE BALI ACTION PLAN		25

I. Introduction

A. Purpose and scope of the background paper

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA) requested the secretariat to organize, under the guidance of the Chair of the SBSTA, an informal meeting of representatives from Parties before its twenty-eighth session to consider the outcomes of the activities under the Nairobi work programme on impacts, vulnerability and adaptation to climate change (Nairobi work programme) completed prior to this meeting. The SBSTA further requested the secretariat to strive to engage experts and representatives of relevant organizations in the informal meeting.

2. This background paper seeks to provide input to the above-mentioned meeting. It presents an overview on the outcomes of the activities undertaken up to 28 March 2008 as part of the implementation of the Nairobi work programme. It draws upon completed activities and deliverables. The information is structured as follows:

- (a) Outcomes of completed activities undertaken in each of the nine areas of work (section II), including:
 - (i) Analysis of issues addressed in each area of work, including current status and lessons learned;
 - (ii) Summary of identified gaps, needs, opportunities, barriers and constraints; and
 - (iii) Summary of recommendations;
- (b) Engagement of organizations, institutions, experts, communities and the private sector in the implementation of the Nairobi work programme (section III);
- (c) Dissemination of outputs of completed activities (section IV);
- (d) Conclusions, including an overview of how the activities have contributed to the achievement of the objective and the expected outcomes as well as issues for further consideration (section V).

B. Background

3. Following consideration of the IPCC Third Assessment Report and the acknowledgement that adaptation is a necessity for all countries, Parties in 2003 agreed to initiate work on the scientific, technical and socio-economic aspects of adaptation to climate change (Decision 10/CP.9). In 2004, at the tenth session of the Conference of the Parties (COP), Parties decided to elaborate a five-year work programme under the SBSTA (Decision 1/CP.10). After additional deliberations at COP 11 Parties adopted the Five-year programme of work of the SBSTA on impacts, vulnerability and adaptation to climate change and specified its objective, expected outcomes and scope of work (Decision 2/CP.11).

4. The overall objective of the work programme is 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.¹

5. A comprehensive plan of activities up to mid-2008 was agreed upon at COP 12 in Nairobi (FCCC/SBSTA/2006/11, paragraphs 13–71) and the programme was renamed the Nairobi work programme on impacts, vulnerability and adaptation to climate change.

¹ Decision 2/CP.11, annex, paragraph 1.

6. The implementation of the activities up to 28 March 2008 has been supported by financial contributions provided by the governments of Australia, Canada, the Czech Republic, Germany, Japan, the Netherlands, New Zealand, Norway, Spain, Switzerland, the United Kingdom and the United States of America. The governments of Egypt, Mexico, and Trinidad and Tobago, and the Food and Agriculture Organization of the United Nations (FAO) also contributed through hosting activities under the Nairobi work programme.

7. The SBSTA agreed to consider, at its twenty-eighth session, the identification of further activities, as well as appropriate timing and modalities, for inclusion in the Nairobi work programme taking into account views of Parties on further activities, the outcomes of activities completed by that session, information presented in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) and other new scientific information, as well as relevant activities from international and regional institutions.

8. The secretariat will, in line with the SBSTA mandate,² prepare a summary report consolidating the results of the implementation of the Nairobi work programme for the period up to its twenty-eighth session, to be made available to Parties and relevant organizations by its twenty-ninth session.

9. The SBSTA may provide information and advice on the scientific, technical and socio-economic aspects of impacts, vulnerability and adaptation to climate change arising from the implementation of the Nairobi work programme for consideration by the Subsidiary Body for Implementation (SBI), following consideration by the SBSTA of the outputs from preceding activities and consideration of further activities at its twenty-eighth session.

C. Approach to implementation of activities under the Nairobi work programme

10. The overall approach to the implementation of the Nairobi work programme taken by the secretariat under the guidance of the Chair of the SBSTA focuses on catalysing actions on adaptation at all levels, and ensuring that the activities and deliverables target stakeholders at all levels and across all sectors.

11. The implementation of the Nairobi work programme has included three components:

(a) **Undertaking specific activities mandated by the SBSTA**

These activities include the sharing of information and experience through submissions from Parties and relevant organizations, technical and synthesis reports and web-based information sources. Activities also include workshops and expert meetings, where the current status and lessons learned in the various areas of work were discussed and recommendations were made on how to address identified gaps, needs, opportunities and constraints.

(b) **Catalyzing new and innovative adaptation action in support of the Nairobi work programme**

Such actions have been catalysed through engaging a wide range of organizations in the different Nairobi work programme activities, through the nomination of special focal points, dedicated meetings with involved organizations and small technical preparatory meetings for each work area. Organizations and the wider adaptation community were also encouraged to undertake their own activities towards the Nairobi work programme objectives.

(c) **Disseminating outputs of the Nairobi work programme**

This includes the wide dissemination of Nairobi work programme deliverables to all relevant stakeholders through brochures, electronic newsletters, and on-line databases and interfaces.

² FCCC/SBSTA/2006/11, paragraphs 23.

II. Outcomes of completed activities under the Nairobi work programme

12. As of 31 March 2008, activities have been undertaken under all nine focal areas, each of which covers a specific aspect of adaptation to climate change.³ What follows below is an overview of outcomes for each area of work, including a summary of the current status and lessons learned; gaps and needs; and recommendations, where a workshop or expert meeting has been held. Where no workshop or expert meeting was held, an overview of the current status and upcoming mandated activities is provided, where appropriate. The overview is not meant to be exhaustive, more details can be found in the specific documents of each area of work.

13. Parties, including through their representatives, national experts and financial contributions, have contributed to the outcomes as described below. 23 Parties, including those on behalf of the Alliance of Small Island States and the European Union and its Member States, shared their knowledge and views through submissions, and 114 representatives and experts from Non-Annex I and 48 from Annex I Parties participated in the workshops and expert meetings. The contribution of organizations, institutions, communities and the private sector is elaborated in section III.

A. Methods and tools

14. Activities in the area of methods and tools were undertaken with a view to developing and disseminating methodologies and tools for impact and vulnerability assessments and adaptation planning, measures and actions. Activities included submissions by Parties (FCCC/SBSTA/2007/MISC.12 and Add.1) and relevant organizations (FCCC/SBSTA/2007/MISC.13); a synthesis report on the information and views contained in the submissions and the relevant outputs from the work of the Least Developed Countries Expert Group (LEG), the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention (CGE) and the Expert Group on Technology Transfer (EGTT) (FCCC/SBSTA/2007/8), as well as an expert meeting held in Mexico City, Mexico, 4–7 March 2008 (FCCC/SBSTA/2008/3).

15. In line with decision 2/CP.11⁴ and taking into account the information provided by Parties and organizations, the secretariat updated the UNFCCC Compendium on methods and tools to evaluate impacts of, and vulnerability and adaptation to, climate change.⁵ The compendium is a web-based resource that provides key information on available frameworks, methods and tools, and their special features. It is designed to assist Parties and other potential users in selecting the most appropriate methodology for assessments of impacts and vulnerability, and for preparing for adaptation to climate change.

Current status and lessons learned

16. Currently there is a multitude of methods and tools available for impact, vulnerability and adaptation assessment and for adaptation planning. These range from complete frameworks and general tools for adaptation planning to sector-specific assessment tools. Methods and tools are generally well received when they can be used to address adaptation at different temporal and spatial scales; are developed and applied in a transparent, flexible and participatory manner, taking into account multiple perspectives and interests, in particular those of end users; and require little input data or specialist knowledge. Integrated assessments are viewed as a useful way to comprehensively assess social, economic and environmental impacts of climate change, accounting for the interaction between climate change and other processes.

³ A complete list of activities and deliverables for each area of work can be found in Annex 1.

⁴ Decision 2/CP.11, Annex, paragraph 6(c).

⁵ The updated compendium can be found at <www.unfccc.int/2674.php>.

Gaps and needs

17. Numerous gaps and needs remain that prevent methods and tools from being widely disseminated and applied. Gaps include lack of sufficient data, capacity, proper information and guidance on available methods and tools, including associated uncertainties and limitations. Needs identified include improving capacity for local and sectoral assessments; integrated assessments at the subnational and national levels; integration of bottom-up and top-down approaches; better quantification of the costs and benefits of adaptation; and the need to provide user-specific guidance on the application of the multitude of available methods and tools.

Recommendations

18. In order to improve the application of methods and tools, it is recommended to develop guidance and interactive mechanisms to enable users to share information on different methods and tools, including their application and usefulness for different types of tasks. In order to enhance the dissemination, recommendations include establishing and strengthening existing user-networks to share expertise and experiences on the application of methods and tools; and establishing mechanisms to enable the comparison of methods and tools. In order to further the development of methods and tools, it is recommended to improve the communication between users and developers to allow for more demand- and stakeholder-driven methods and tools, which increase applicability. It was also recommended to increase the user-friendliness of the UNFCCC compendium referred to in paragraph 15 above and allow for an interactive feedback mechanisms on the applicability of the methods and tools contained in the compendium.

B. Data and observations

19. Activities in the area of data and observations were undertaken with a view to improving collection, management, exchange, access to and use of observational data and other relevant information on current and historical climate variability and change. Activities included submissions by the World Meteorological Organization (WMO) and its member States and other relevant organizations (FCCC/SBSTA/2007/MISC.23) as well as an expert meeting held in Mexico City, Mexico, 4–7 March 2008 (FCCC/SBSTA/2008/3).

Current status and lessons learned

20. Properly functioning climate observing systems and networks are important for monitoring the climate system and supporting adaptation. Accumulation of basic, reliable and high-quality climate data is vital to understand past and current climate and climate variability, to support research and modelling, improve projections of future climate and to develop effective adaptation strategies. There is a general understanding that the major constraint with regards to data and observations is not necessarily establishing an observation network, but rather maintaining it on a long-term and sustained basis once external funding is terminated, and sharing the resulting data. The regional workshop programme of the Global Climate Observing System (GCOS) has been useful in developing Regional Action Plans aimed at improving regional observing systems; some of these action plans are in the process of being implemented. The WMO, in particular as concerns its recently adopted Strategic Plan, is undertaking a number of activities for improving climate data, observations, forecasts and assessments relevant for adaptation.

Gaps and needs

21. Needs identified, in particular in developing countries, include supporting data collection and recovery of historical data, improving the observation network, including expanding coverage and increasing density; improving the collection, management and use of data at the regional level; enhancing access to global, regional and national data; raising awareness amongst policymakers of the need for sustained systematic observations and monitoring systems for use in understanding climate change impacts and of the need to strengthen national meteorological and hydrological services (NMHS); and building human capacity in data analysis and generation through training and education programmes, including improving understanding of the uncertainties associated with the use of data and models.

Recommendations

22. Exchange of and access to observational data and information can be improved through providing high-level political impetus to improve exchange and free access to data; promoting partnerships between users and providers of data; and improving awareness of available data and information through creating interactive forums to enable the exchange of experiences. In order to promote the implementation and improvement of data and observations it was recommended to establish and operate a minimum adaptation-specific national network and define an authoritative set of data and information needs for adaptation. In order to improve the capacity for collection, management and use of observational data it was recommended to undertake a comprehensive stocktaking of the climatic and non-climatic data holdings at the national level, and based on this assessment to develop integrated management and collection systems capable of providing the information required for adaptation.

C. Climate modelling, scenarios and downscaling

23. Activities in the area of climate modelling, scenarios and downscaling were undertaken with a view to promoting the development of, access to, and use of information and data on projected climate change. Activities included submissions by relevant organizations (FCCC/SBSTA/2007/MISC.24 and Add.1) and a planned in-session workshop in June 2008 in conjunction with SBSTA 28 in Bonn, Germany.

Current status

24. Among others, the IPCC in its Fourth Assessment Report (IPCC AR4) states that current climate models are based on well-established physical principles and have been demonstrated to reproduce observed features of recent climate and past climate changes. The IPCC AR4 further states that there is considerable confidence that Atmosphere-Ocean General Circulation Models provide credible quantitative estimates of future climate change, particularly at continental and larger scales. Confidence in these estimates is higher for some climate variables (e.g. temperature) than for others (e.g. precipitation). In addition, increasingly reliable regional climate change projections are available for many regions due to advances in modelling and understanding of the physical processes of the climate system. Advances have been made in downscaling methods, model resolution, the simulation of processes of importance for regional change and the expanding set of available simulations. While global models have improved, the quality of regionalized model projections is often inadequate to support the specific and detailed information needed for adaptation purposes.

Upcoming mandated activities

25. An in-session workshop will take place during SBSTA 28 in Bonn, Germany with the participation of experts from Parties and representatives from the IPCC and other relevant organizations to consider the development, availability and use of climate models; development of, access to, and use of climate change scenarios; enhanced capacity and experience with the use of these different models, statistical approaches and outputs, and any available training opportunities; and the identification and reduction of uncertainties. It is expected that participants at the workshop will identify lessons learned, gaps and needs and recommendations for further action.

D. Climate related risks and extreme events

26. Activities in the area of climate related risks and extreme events were undertaken with a view to promoting understanding of impacts and vulnerability, emphasizing current and future climate variability and extreme events, and implications for sustainable development. Activities included submissions from Parties (FCCC/SBSTA/2007/MISC.4, Add.1 and Add.2) and relevant organizations (FCCC/SBSTA/2007/MISC.5) as well as a workshop held in Cairo, Egypt, 18–20 June 2008 (FCCC/SBSTA/2007/7).

Current status and lessons learned

27. Currently approaches, methods and tools to assess and predict climate-related risks and impacts, including those related to extreme events, exist in areas such as agriculture, water resources, coastal zones and health and can be of great importance in assessing and dealing with the additional risks posed by climate change. Lessons learned include taking the disaster risk reduction approach to risk assessment and prediction as it focuses on the prediction and reduction of impacts. While climate-related risk management is advanced in some countries, many, including developed and developing countries, are still at a preliminary stage. Traditional knowledge can complement other scientific sources of knowledge. Greater integration and use of such knowledge in the assessment and management of climate-related risks, particularly through partnerships with grass-roots organizations is needed

Gaps and needs

28. Gaps remain relating to the assessment, prediction and management of climate-related risks and impacts, including uncertainties in the prediction of climate variability and extreme events as well as a lack of response systems for identified risks. Needs identified include better integration of disaster risk reduction and adaptation to climate change into national sustainable development policies and plans and better methods and tools to predict, manage and reduce impacts. Another gap is the limited availability and accessibility of risk-sharing mechanisms, such as insurance, in the most vulnerable countries.

Recommendations

29. In order to address gaps and needs, the adoption of a cross-cutting and interdisciplinary approach to reducing climate-related risks, in which stakeholders are actively engaged, was recommended. With regards to assessing and predicting climate-related risks and impacts, general recommendations include better provision of data at the national, regional and global levels by data providers, and continuous access to relevant data archives and databases necessary for risk assessment and prediction.

30. In order to improve the management of climate-related risks and impacts it was recommended that national and sectoral planners identify and build on existing initiatives to improve communication of, and capacity-building related to, climate-related risks; and that research institutes at the national, regional and global levels undertake research to understand better the role of insurance. In order to ensure better integration of issues relating to climate-related risks and extreme events into national policies and sustainable development planning, recommendations included the sharing of information on the use and availability of data, information and tools for reducing hazards, risks and vulnerability across all sectors by national focal points for climate change and disaster risk reduction; and for national climate change and planning teams within sectoral ministries to include all appropriate sectoral and disaster risk reduction stakeholders.

E. Socio-economic information

31. Activities in the area of socio-economic information were undertaken with a view to improving knowledge of the socio-economic aspects of climate change and promoting the integration of socio-economic information into impact and vulnerability assessments. Activities included submissions from Parties (FCCC/SBSTA/2007/MISC.21 and Add.1) and relevant organizations (FCCC/SBSTA/2007/MISC.22) as well as an expert meeting held in Port of Spain, Trinidad and Tobago, 10–12 March 2008 (FCCC/SBSTA/2008/2).

Current status and lessons learned

32. Socio-economic information is an integral part of assessing impacts and vulnerability to climate change, as well as in adaptation planning. Socio-economic information can highlight the different exposure to climate threats and adaptive capacities of regions, countries and communities. To date, many of the socio-economic scenarios used in impact and vulnerability assessments adopted the storylines and scenarios developed by the IPCC Special Report on Emissions Scenarios as a basis for developing quantitative scenarios at national and sub-national levels.

Gaps and needs

33. Socio-economic information lags behind biophysical and meteorological information in terms of quality, availability and accessibility. A major gap is the lack of spatially differentiated socio-economic information especially at the subnational scale. Even when socio-economic information is available, its applicability for adaptation planning is limited. Data is often collected in inconsistent formats, disseminated at aggregate scales, dispersed in terms of its location, and not available in formats usable for vulnerability and impacts assessments and adaptation planning. In addition, further efforts are needed to improve the integration of qualitative socio-economic information into assessments.

Recommendations

34. In order to improve the information on socio-economic aspects of climate change, it was recommended to prioritize the data needs; standardize the format for data collection and storage, geo-reference existing data; and facilitate generation of data specific to climate change adaptation purposes including local empirical knowledge, good practices, trends in key indicators, and time-series data; and to provide incentives to data providers to make their data widely accessible. Recommendations for integrating socio-economic information into impact and vulnerability assessments include developing an open dialogue between providers and users of information in order to tailor information to specific data needs; developing guidance on the use of existing data and properly packaging the information to increase relevance in decision making processes; developing information on costs and benefits of response to climate change impacts, and establishing appropriate channels to link the climate change community to leverage existing knowledge, data, and experiences.

F. Adaptation planning and practices

35. Activities in the area of adaptation planning and practices were undertaken with a view to collect, analyse and disseminate information on past and current practical adaptation actions and measures, including projects, short- and long-term strategies, and local and indigenous knowledge. Activities included submissions by Parties (FCCC/SBSTA/2007/MISC.10 and Add.1) and relevant organizations (FCCC/SBSTA/2007/MISC.11); a synthesis report based on the information contained in the submissions (FCCC/SBSTA/2007/9); a synthesis report on the outputs of the work of the LEG, the CGE and the EGTT, relevant to adaptation planning and practices (FCCC/SBSTA/2007/10); and a workshop held in Rome, Italy, 10–12 September 2008 (FCCC/SBSTA/2007/15). In addition, the secretariat is preparing a web-based interface providing information on existing adaptation practices and local coping strategies for adaptation, building upon the secretariat's database on local coping strategies.

Current status and lessons learned

36. The status of adaptation planning and practices varies across sectors such as agriculture and food security, water resources, coastal zones and health, and across different levels, including the subnational, national, regional and international level. Lessons learned include using current exposure to natural hazards and climate variability as an entry point for adaptation; using case studies and guidelines to engage stakeholders; and the importance of understanding, valuating and incorporating indigenous and local knowledge and technologies.

Gaps and needs

37. Despite some advances many gaps and needs remain. For example, there is a gap between adaptation assessment and planning, on the one hand, and implementation on the other. This is due to a number of constraints including lack of capacity, data, information and resources. Uncoordinated sectoral responses can be ineffective or even counterproductive since responses in one sector can increase the vulnerability of another sector and/or reduce the effectiveness of adaptation responses taken in that sector. Hence there is a need for taking a cross-sectoral approach to adaptation as part of an overall sustainable development strategy.

Recommendations

38. In order to promote adaptation planning and practices at all levels and across all sectors, general activities were recommended including: to undertake more targeted research aimed at identifying and assessing practical adaptation options, including their costs, benefits and possible trade-offs; to develop a conceptual framework for adaptation that would assist in identifying the range of available adaptation practices while at the same time providing for flexibility and redesign of practices as more clarity emerges regarding the level of change or impacts to which different sectors and levels need to adapt; to take stock of adaptation databases and share the results of the stocktaking to raise awareness of sources of shared knowledge and validate good practices; to enhance the engagement of the private sector in adaptation by promoting a business charter on adaptation, in which the private sector highlights good practices in integrating adaptation into their operations; and to enhance the integration of adaptation into development and budgetary planning and policies across all sectors and at all levels.

G. Research

39. Activities in the area of research were undertaken with a view to promoting research on adaptation options and the development and diffusion of technologies, know-how, and practices for adaptation. Activities included a synthesis report on ongoing and planned adaptation research and associated needs (FCCC/SBSTA/2007/12).

Current status

40. Since 2002, Parties have indicated research on impacts, vulnerability and adaptation to climate change as a priority. The release of the IPCC AR4, and in particular the contribution of its Working Group II, provides a comprehensive assessment of the current situation and a rationale to do more research in order to address the identified gaps and needs and to undertake more research relevant to adaptation. A workshop in 2007 jointly organized by the GCOS, the World Climate Research Programme (WCRP), and the International Geosphere-Biosphere Programme (IGBP) on future climate change research and observations identified issues to address further research needs and priorities resulting from the IPCC AR4. The workshop suggested areas for further research, including: better connections between global circulation models and regional model to improve the performance of regional climate change models; enhanced cooperation between the climate modelling community and those involved in climate change impact assessment and response; and more rigorous validation of climate models with observations of essential climate variables. The synthesis report mentioned in paragraph 39 above includes some issues for further consideration when discussing ways to promote further research on adaptation in the context of the Nairobi work programme.

Upcoming mandated activities

41. The SBSTA at its 26th session agreed to develop and maintain a dialogue between Parties and research programmes and organizations. Hence, an informal meeting on research will be held during SBSTA 28 with representatives of Parties, relevant international and regional climate change research programmes and organizations, which will address developments in research activities relevant to the needs of the Convention, including those undertaken in response to key uncertainties and research needs identified by the IPCC or raised by Parties. This meeting may also provide important input to the Nairobi work programme.

H. Technologies for adaptation

42. Activities in the area of technologies for adaptation were undertaken with a view to promoting research on adaptation options and the development and diffusion of technologies, know-how, and practices for adaptation. Activities included submissions by Parties and relevant organizations as part of their submissions on adaptation planning and practices, and a synthesis report based on the information contained in the submissions (FCCC/SBSTA/2007/6).

Current status

43. The EGTT has undertaken much work on technologies for adaptation, including a 2005 seminar on the development and transfer of environmentally sound technologies (EST) for adaptation to climate change in 2005 and a technical paper⁶ and a brochure on the application of technologies for adaptation. The technical paper provides a comprehensive overview of a framework for assessing technologies for adaptation to climate change, the process of technology development and transfer as relevant to adaptation, and examples of important technologies for adaptation in five sectors (coastal zones, water resources, agriculture, public health and infrastructure).

44. Technologies for adaptation most commonly reported in the submissions mentioned in paragraph 42 above were in the agriculture and fisheries sector, followed by those in the water resources sector, cross-cutting technologies, coastal zones, biodiversity, and those in the health and infrastructure sectors. Technologies for adaptation include hard technologies, such as drought-resistant crop varieties, seawalls and irrigation technologies, or soft technologies, such as crop rotation patterns. Many technologies have both hard and soft characteristics, and successful adaptation action would typically combine both. Traditional technologies and know-how are key to technologies for adaptation as such technologies exist already and are suitable for many developing countries and they can potentially be improved by local communities.

Upcoming mandated activities

45. The COP at its thirteenth session requested the secretariat to organize, as an input to the Nairobi work programme, a meeting on technologies for adaptation with experts involved in this work and in the activities of the Nairobi work programme and national adaptation programmes of action, to be held before the twenty-eighth session of the SBSTA. The meeting will take place on 5 April 2008 in Bangkok and will seek to identify next steps that could be undertaken to continue previous work on technologies for adaptation that could provide input to the Nairobi work programme.

46. Activities on technologies of adaptation that will be discussed at the meeting include further consideration of needs, concerns, experiences and lessons learned for successful development and deployment of technologies for adaptation; enhancing the technological cooperation to address technologies for adaptation to climate change; and exploring ways to encourage extensive communication and sharing of experiences using current technology. It is expected that the meeting will focus on developing a programme of work that will include future activities to be undertaken on technologies for adaptation under the agenda item of development and transfer of technologies.

I. Economic diversification

47. Activities in the area of economic diversification were undertaken with a view to promoting the understanding and the development of measures, methodologies and tools aimed at increasing economic resilience and reducing reliance of vulnerable economic sectors, especially in developing countries. Activities included submissions by Parties (FCCC/SBSTA/2007/MISC.15 and Add.1) and relevant organizations (FCCC/SBSTA/2007/MISC.16) and a synthesis report based on the information contained in the submissions (FCCC/SBSTA/2007/14).

Current status

48. Economic diversification takes place at various levels and in different sectors. At the national level, economic diversification entails reducing overdependence on a narrow economic base. At the sectoral level, economic diversification entails adapting existing practices to reduce exposure to risk. At the community level, livelihood diversification has been a long-standing strategy to cope with external shocks including those that are climate-related. Understanding how those have evolved and what lessons and good practices can be derived is important in moving forward the economic diversification discourse. In ascertaining the potential

⁶ FCCC/TP/2006/2.

benefits of economic diversification an assessment of whether it contributes to alleviating vulnerability to climate change is needed, on a case-by-case basis.

J. Potential next steps

49. In the area of mandated activities under the Nairobi work programme, potential next steps could include:

- (a) Continuing the nine areas of work and identifying further activities, as well as appropriate timing and modalities, for inclusion in the Nairobi work programme, in accordance with decision 2/CP.11, paragraph 6 (d);
- (b) Promoting the implementation of recommendations resulting from the workshops and expert meetings in the context of the UNFCCC, and by a wide range of organizations, institutions, experts and communities.

III. Engagement of organizations, institutions, experts, communities and the private sector in the activities of the Nairobi work programme

50. The successful implementation and achievement of the objectives of the Nairobi work programme depends to a large degree on involving organizations and stakeholders active in adaptation at all levels and in all sectors. The SBSTA thus requested the secretariat to strive to engage a wide range of organizations, institutions, experts, and communities in the implementation of the Nairobi work programme. To this end, the SBSTA invited relevant organizations and other stakeholders to participate in the implementation of the activities under the Nairobi work programme and urged them to undertake their own activities in support of the objective and themes identified in decision 2/CP.11 and to share the outcomes of these activities with the SBSTA at subsequent sessions, as appropriate.⁷

51. As of 31 March 2008, a number of organizations, institutions, experts, communities and the private sector have actively participated in the implementation of mandated activities under the Nairobi work programme. 25 organizations and institutions shared their knowledge and views through submissions (Annex 3, A) and representatives from 87 organizations participated in the workshops and expert meetings.

52. The secretariat organized small technical preparatory meetings with representatives from specialized organizations and institutions with the purpose of brainstorming around the areas of work. These small meetings contributed to the organization of the workshops and expert meetings as well as engaging organizations, institutions and experts in the implementation of Nairobi work programme.

53. Expert input to the mandated activities has been provided through the constituted bodies under the Convention namely the LEG, the CGE and the EGTT. The LEG has been providing advice to LDC Parties on strategies and technical aspects for preparing and implementing national adaptation programmes of action. The chair of the LEG expressed the group's readiness to support non-LDCs in developing adaptation plans. The CGE provided technical advice and support through hands-on training and examination of national communications by non-Annex I Parties in the area of tools, methodologies and process for vulnerability and adaptation assessments. The EGTT has been contributing by providing technical advice and guidance on technologies for adaptation in order to improve understanding of, and identify prioritised needs for these technologies. It has also sought to improve the process of technology development and transfer as relevant to adaptation.

54. With regard to additional expert input, the SBSTA at its twenty-seventh session considered the possible need for a group of experts and the role that this group could play in the implementation and further development of the Nairobi work programme. It noted the views by Parties⁸ and agreed to reconsider the possible need for a group of experts at its twenty-ninth session.

⁷ FCCC/SBSTA/2006/11, paragraph 17

⁸ The views are included in document FCCC/SBSTA/2007/MISC.25.

55. In an effort to engage a wider range of expertise in the implementation of the Nairobi work programme, the SBSTA also agreed to invite Parties to update the UNFCCC roster of experts⁹ to ensure that all areas of expertise relevant to impacts, vulnerability and adaptation are represented in the roster. As of 31 March 2008 the roster includes a total of 228 experts in vulnerability assessment, climate change impacts, and adaptation. Experts represent 61 Non-Annex I and 29 Annex I Parties.

56. In terms of engagement as of 31 March 2008, 102 organizations and institutions worldwide had offered to take part in contributing to the objective of the Nairobi work programme and had nominated a focal point with whom the secretariat can coordinate (Annex 2). Some organizations, including FAO, IPCC, the Interagency Secretariat of the United Nations International Strategy for Disaster Reduction (UN/ISDR), the Organisation for Economic Cooperation and Development (OECD), the United Nations Development Programme (UNDP), the World Bank, the World Health Organization (WHO) and WMO, have taken the opportunity to provide information on relevant activities, and to make proposals for their involvement in the implementation of the Nairobi work programme, through statements at SBSTA sessions and concept notes (Annex 3, section B).

57. At their first meeting, held in Bali on 10 December 2007, 42 focal points discussed with the UNFCCC secretariat the current state and future evolution of the Nairobi work programme. Following a stock-taking of activities under the Nairobi work programme many organizations moved to pledge action in the areas of work of the work programme in order to facilitate achieving the objective of the Nairobi work programme, i.e. to assist Parties to improve their understanding and assessment of impacts, vulnerability and adaptation, and to make informed decisions on practical adaptation actions and measures.¹⁰

58. Organizations have also been increasingly committing themselves to undertake their own activities towards the objective and expected outcomes of the Nairobi work programme under specific areas of work as reflected in submissions and concept notes.

59. As of 28 March 2008, 32 pledges from 14 organizations have been received (Annex 3, section C). Pledged activities span all nine areas of work and include for example developing and disseminating tools to evaluate and reduce agricultural risks, piloting projects on the uses of plant genetic resources; as well as educating and training the next generation of vulnerability and adaptation researchers and practitioners.

60. During workshops and expert meetings held under the Nairobi work programme, the Chair of the SBSTA requested participants to highlight practical actions that could be undertaken. The secretariat then prepared Call for Action sheets, taking into account questionnaires distributed to workshop participants, and submissions by Parties and organizations, aimed to facilitate the implementation of the recommendations of workshops and expert meetings by a wide range of stakeholders. The Call for Action sheets are intended to communicate the identified practical actions to all relevant stakeholders in order to stimulate a response, including in the form of the above-mentioned action pledges. The formulation of Calls for Action, therefore, represents the “demand” for activities that enhance and promote adaptive capacity, whereas action pledges form the “supply” of initiatives and actions that help achieve the goals of the Nairobi work programme (see Figure 1).

⁹ <www.unfccc.int/534.php>.

¹⁰ The outcome of the meeting is available on the UNFCCC NWP website <www.unfccc.int/3633.php>.

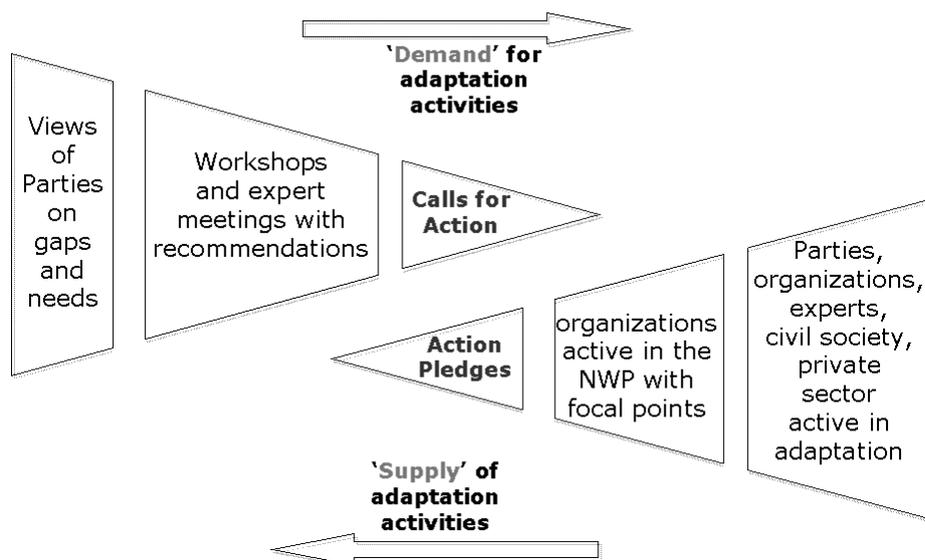


Figure 1: The relationship between Calls for Action and Action Pledges

61. The Calls for Action could evolve as new input is provided in the context of Nairobi work programme activities. These inputs, and consideration of them, will define any content and format of the Call for Action sheets, in order that they fulfil better the objectives and purposes of the Nairobi work programme, including enhancing adaptation at all levels and across all sectors. To date, 12 Call for Action sheets have been developed within the work areas of climate-related risks and extreme events, and of adaptation planning and practices. A list of the Calls for Action as of 31 March 2008 is provided in Annex 4.

62. Since the beginning of 2008, the secretariat has begun to further its engagement with the private sector in line with decision 2/CP.11, and is developing an initiative to open up relations with businesses and integrate adaptation actions by the private sector into the rest of adaptation efforts under the Convention. As a first stage in this process the secretariat is developing a central information resource at the UNFCCC that can inform businesses, governments and others of the work relating to adaptation being carried out by the private sector. To this end, the secretariat is contacting businesses, particularly business leaders in sustainability, and requesting them to register their interest in being linked to the UNFCCC work and inform on the work that they are doing on adaptation via a dedicated website¹¹ and a questionnaire.

63. In order to enhance the engagement of organizations, institutions, experts, communities and the private sector in the activities of the Nairobi work programme, potential next steps could include:

- (a) Continuing and enhancing the engagement of organizations, institutions, experts, communities and the private sector with the view to assisting Parties in achieving the objective of the Nairobi work programme;
- (b) Encouraging organizations, institutions, experts, communities and the private sector to periodically inform the SBSTA on the results achieved;
- (c) Continuing the development of Call for Action sheets and Action Pledges and refining their concepts in accordance with the views of Parties;
- (d) Considering the establishment of a mechanism to follow up the implementation of the Calls for Action and Action Pledges and disseminating the outcomes to Parties and other adaptation stakeholders;

¹¹ <www.unfccc.int/4291.php>.

- (e) Exploring with Nairobi work programme partners that have national and regional representation the development of specific Nairobi work programme activities at national and regional level.

IV. Dissemination of outputs of completed activities under the Nairobi work programme

64. The SBSTA agreed that the deliverables resulting from the implementation of the Nairobi work programme should be widely disseminated, as appropriate, to relevant stakeholders through effective means, including by the secretariat.
65. The secretariat used different means to disseminate the deliverables and outcomes of the Nairobi work programme to different stakeholders. Based on submissions from Parties and organizations, information on the current status of the areas of work, including lessons learned, gaps and needs, was disseminated through miscellaneous documents, synthesis reports and a user-friendly on-line database in the field of adaptation practices. In addition, recommendations on how to address the gaps and needs are contained in workshop and meeting reports and in the Call for Action sheets.
66. To reach a wide range of stakeholders, the secretariat developed brochures, which introduced the work programme and detailed progress in its implementation. 4000 brochures were disseminated at SBSTA 26 and 27 respectively, alongside meetings under the work programme and related adaptation events. The secretariat also developed an electronic newsletter to update engaged organizations on progress in the implementation of the work programme.¹² In addition, most of the workshops and expert meetings held under the Nairobi work programme were covered by the Earth Negotiations Bulletin - the International Institute for Sustainable Development's reporting service, to ensure a wide dissemination of their discussions and results.
67. Organizations have also used their own means to disseminate the outcomes of activities undertaken in support of the Nairobi work programme. For example, WMO and FAO provided concept papers at the sessions and the secretariat of the Global Change SysTem for Analysis, Research, and Training (START) produced a brochure highlighting its work.
68. One of the expected outcomes of the Nairobi work programme is improved information and advice to the COP and its subsidiary bodies on the scientific, technical and socio-economic aspects of impacts, vulnerability and adaptation to climate change, including facilitating the implementation of decision 1/CP.10, where relevant. In this light, comprehensive oral reports on the progress in the implementation of the work programme were provided by the Chair of the SBSTA and the secretariat at the 26th and 27th sessions of the SBSTA and are planned for the 28th and 29th sessions of the SBSTA as well.
69. In order to enhance the dissemination of outcomes of completed activities under the Nairobi work programme, potential next steps could include:
- (a) Continuing the development of reader friendly Nairobi work programme deliverables and increasing the user-friendliness of the Nairobi work programme website;
 - (b) Enhancing outreach and fostering a dialogue among adaptation stakeholders, including through developing interactive information resources such as the Compendium on methods and tools;
 - (c) Promoting an exchange of Nairobi work programme information through existing adaptation networks and a sharing of web resources and information with other Nairobi work programme partners and Parties that wish to do so.

¹² The brochures and the newsletter are available at <<http://unfccc.int/3633.php>>.

V. Conclusions

70. In spite of the fact that the first comprehensive plan of activities of the Nairobi work programme was agreed upon by Parties only 15 months ago, the outcomes of the completed activities in the first phase constitute an effective initial contribution to the objective of the Nairobi work programme and its expected outcomes as laid out in decision 2/CP.11, including:

- (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;
- (b) Improved information and advice to the 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;
- (c) Enhanced development, dissemination and use of knowledge from practical adaptation activities;
- (d) Enhanced cooperation among Parties, relevant organizations, business, civil society and decision makers, aimed at enhancing their ability to manage climate change risks;
- (e) Enhanced integration of actions to adapt to climate change with sustainable development.

71. In order to enhance the achievement of the objective and expected outcomes of the Nairobi work programme until 2010, potential issues for consideration in its second part could include:

- (a) Considering the outlined potential next steps for:
 - (i) Further activities under the Nairobi work programme (see paragraph 49),
 - (ii) Further engagement of organizations, institutions, experts, communities and the private sector in the activities of the Nairobi work programme (see paragraph 63),
 - (iii) Further dissemination of outcomes of completed activities under the Nairobi work programme (see paragraph 69);
- (b) Ways and means to enhance complementarity between SBSTA's Nairobi work programme and other adaptation-related activities under the UNFCCC, including the provision of relevant information or other possible inputs to:
 - (i) The adaptation work under the Ad hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA)'s Bali Action Plan,¹³ including any requests of further implementation,
 - (ii) The adaptation work under the SBI, including the implementation of national adaptation programmes of action and any relevant requests related to the implementation of decision 1/CP.10,
 - (iii) The work of the Adaptation Fund Board, if requested.

¹³ Annex 5 provides an overview of the complementarity of the adaptation activities included in the Nairobi work programme and the Bali Action Plan.

Annex 1: Overview of mandated activities and deliverables

Area of work	Activities	Deliverables	Details
General	Sharing of views on a group of experts on adaptation	Views on the possible need for a group of experts and the role that they could have in the implementation and further development of the Nairobi work programme Submissions from Parties (FCCC/SBSTA/2007/MISC.25)	Submissions by 10 Parties
1. Methods and tools FCCC/SBSTA /2006/11, paragraphs 32–36	Sharing of information Expert meeting, 4–5 March 2008, Mexico City, Mexico	Information on methods and tools for impact, vulnerability and adaptation assessments Submissions from Parties (FCCC/SBSTA/2007/MISC.12 and Add.1) Submissions from relevant organizations (FCCC/SBSTA/2007/MISC.13) Synthesis of information and views on methods and tools submitted by Parties and relevant organizations (FCCC/SBSTA/2007/8) Background paper for the expert meeting, available at < www.unfccc.int/4259.php >. Report on the expert meeting (FCCC/SBSTA/2008/3)	Submissions by 8 Parties Submissions by 7 organizations Expert meeting attended by 25 NAI and 10 AI Party representatives
2. Data and observations FCCC/SBSTA /2006/11, paragraphs 37–40	Sharing of information Expert meeting, 6–7 March 2008, Mexico City, Mexico	Work that could contribute to the improved understanding of current and historical climate, and its impacts Submissions from the WMO and its member States and other relevant organizations (FCCC/SBSTA/2007/MISC.23) Background paper for the expert meeting, available at < www.unfccc.int/4259.php >. Report on the expert meeting (FCCC/SBSTA/2008/3)	Submissions by 9 Parties and 4 organizations Expert meeting attended by 25 NAI and 10 AI Party representatives
3. Climate modelling, scenarios and downscaling FCCC/SBSTA /2006/11, paragraphs 41–44	Sharing of information In-session workshop, June 2008, Bonn, Germany	Ways to contribute to climate modelling, scenarios and downscaling Submissions from relevant organizations (FCCC/SBSTA/2007/MISC.24 and Add.1)	Submissions by 5 organizations
4. Climate related risks and extreme events FCCC/SBSTA /2006/11, paragraphs 45–49	Sharing of information Workshop, 18–20 June 2007, Cairo, Egypt	Relevant programmes, activities and views on the issues relating to climate related risks and extreme events Submissions from Parties (FCCC/SBSTA/2007/MISC.4 , Add.1 and Add.2) Submissions from relevant organizations (FCCC/SBSTA/2007/MISC.5) Background paper for the workshop, available at < www.unfccc.int/3953.php >. Report on the workshop (FCCC/SBSTA/2007/7)	Submissions by 12 Parties Submissions by 9 organizations Workshop attended by 29 NAI and 9 AI Party representatives
5. Socio-economic information	Sharing of information Expert meeting,	Information and views on socio-economic information Submissions from Parties	Submissions by 7 Parties

Annex 2: Organizations engaged in the Nairobi work programme

- African Development Bank
- Antarctic Climate and Ecosystems Cooperative Research Centre
- Asian Development Bank
- Asian Disaster Preparedness Centre
- Association of Asian Social Science Research Councils (UNESCO Bangkok)
- Bangladesh Centre for Advanced Studies (BCAS)
- Caribbean Community Climate Change Centre (CCCCC)
- Caribbean Community Secretariat
- Catholic Agency for Overseas Development
- Centre for Research on the Epidemiology of Disasters (CRED)
- Centre International des Technologies de l'Environnement de Tunis
- Centro del Agua del Trópico Húmedo para América Latina y el Caribe (CATHALAC)
- Commonwealth Scientific and Industrial Research Organisation
- Commonwealth Secretariat
- Convention on Biological Diversity (CBD)
- Economic Commission for Latin America and the Caribbean
- Environmental Development Action in the Third World
- ETC Foundation
- European Commission Joint Research Centre
- European Environment Agency (EEA)
- Food and Agriculture Organization of the United Nations (FAO)
- Frontier Research Center for Global Change, Japan
- Fundacion Bariloche
- German Committee for Disaster Reduction
- Global Change Impact Studies Centre
- Global Change SysTem for Analysis, Research, and Training (START)
- Global Climate Observing System secretariat (GCOS)
- Global Environment Facility (GEF)
- Global Fire Monitoring Centre
- Global Land Ice Measurements from Space
- Iberoamerican Network of Climate Change Bureaus (RIOCC)
- Institute for Global Environmental Strategies (IGES)
- Institute for Social and Environmental Transition (ISET)
- Institute of Development Studies (IDS)
- Inter-American Development Bank
- Intergovernmental Panel on Climate Change (IPCC)
- International Commission on Large Dams
- International Council for the Exploration of the Sea
- International Energy Agency (IEA)
- International Federation of Red Cross and Red Crescent Societies (IFRC)
- International Fund for Agricultural Development
- International Institute for Applied Systems Analysis (IIASA)
- International Institute for Environment and Development (IIED)
- International Institute for Sustainable Development (IISD)
- International Institute of Geo-Information Science and Earth Observation
- International Labour Organization (ILO)
- International Research Institute for Climate and Society (IRI)
- International Trade Union Confederation (ITUC)
- International Water Management Institute
- LEAD International
- Local Initiatives for Biodiversity, Research and Development
- London School of Hygiene & Tropical Medicine
- Met Office/Hadley Centre
- Ministerio de Economía y Producción, Oficina de Riesgo Agropecuario, Secretaría de Agricultura, Argentina
- Mountain Research Initiative
- Munich Climate Insurance Initiative
- National Institute for Environmental Studies (NIES), Japan
- Nature Conservancy
- Organisation for Economic Cooperation and Development (OECD)
- Organization of Arab Petroleum Exporting Countries
- OURANOS
- Oxfam International
- Oxford University Centre for the Environment
- Pacific Islands Forum Secretariat
- Pan American Health Organization
- Pew Center on Global Climate Change
- Potsdam Institute for Climate Impact Research
- Practical Action
- ProVention Consortium

- Recursos e Investigación para el Desarrollo Sustentable
- Sahara and Sahel Observatory
- Secretariat of the Pacific Regional Environment Programme (SPREP)
- Stockholm Environment Institute (SEI)
- Sustainable Development Policy Institute
- The Energy and Resource Institute (TERI)
- Tropical Agricultural Research and Higher Education Center
- Tyndall Centre for Climate Change Research
- UNESCO - Intergovernmental Oceanographic Commission
- UNESCO - World Heritage Centre
- UNESCO-IHE Institute for Water Education
- United Nations Conference on Trade and Development (UNCTAD)
- United Nations Convention to Combat Desertification (UNCCD)
- United Nations Development Programme (UNDP)
- United Nations Economic and Social Commission for Asia and the Pacific
- United Nations Economic Commission for Africa
- United Nations Environment Programme (UNEP)
- United Nations Environment Programme/GRID-Arendal
- United Nations International Strategy for Disaster Reduction (ISDR)
- United Nations University Environment and Sustainable Development Programme
- United Nations University Institute for Environment and Human Security
- Wetlands International
- World Bank
- World Conservation Union
- World Food Programme (WFP)
- World Health Organization (WHO)
- World Health Organization Regional Office for Europe
- World Health Organization Regional Office for the Eastern Mediterranean
- World Health Organization Regional Office for the Western Pacific
- World Meteorological Organization (WMO)
- World Tourism Organization (UNWTO)
- WWF International
- Yayasan Pelangi Indonesia

Annex 3: Organizations that have provided views in submissions, concept notes and action pledges

A. Submissions

Methods and tools

- Secretariat of the Convention on Biological Diversity
- Food and Agriculture Organization of the United Nations
- International Institute for Sustainable Development
- Secretariat of the United Nations International Strategy for Disaster Reduction
- Secretariat of the Pacific Regional Environment Programme
- Tyndall Centre for Climate Change Research
- World Meteorological Organization

Data and observations

- Global Climate Observing System
- Global Terrestrial Observing System
- Intergovernmental Panel on Climate Change
- World Meteorological Organization and its member states

Climate modelling, scenarios and downscaling

- Frontier Research Centre for Global Change
- Intergovernmental Panel on Climate Change
- International Research Institute for Climate and Society
- Royal Netherlands Meteorological Institute
- World Climate Research Programme

Climate-related risks and extreme events

- CARE Canada
- Food and Agriculture Organization of the United Nations
- German Committee for Disaster Reduction
- Global Fire Monitoring Center (GFMC) for UNISDR Global Wildland Fire Network and UNISDR Wildland Fire Advisory Group
- International Federation of Red Cross and Red Crescent Societies
- United Nations International Strategy for Disaster Reduction
- Practical Action
- The Organisation for Economic Cooperation and Development
- World Meteorological Organization

Socio-economic information

- Intergovernmental Panel on Climate Change
- International Research Institute for Climate and Society
- Secretariat of the United Nations International Strategy for Disaster Reduction
- Sustain US

Adaptation planning and practices

- Secretariat of the Convention on Biological Diversity
- Food and Agricultural Organization of the United Nations
- United Nations Development Programme Bureau for Crisis Prevention and Recovery
- Secretariat of the United Nations International Strategy for Disaster Reduction
- The Organisation for Economic Cooperation and Development
- World Food Programme
- World Meteorological Organization

Economic diversification

- International Trade Union Confederation (ITUC)
- Secretariat of the Convention on Biological Diversity

B. Concept notes

- Asian Development Bank
- Commonwealth Secretariat
- Environmental Development Action in the Third World
- Food and Agriculture Organization of the United Nations (FAO)
- Iberoamerican Network of Climate Change Bureaus (RIOCC)
- Institute for Global Environmental Strategies
- Institute for Social and Environmental Transition
- Institute of Development Studies
- Intergovernmental Panel on Climate Change
- International START secretariat
- International Water Management Institute
- Local Initiatives for Biodiversity, Research and Development
- Ouranos Consortium
- Pew Centre on Global Climate Change
- Recursos e Investigación para el Desarrollo Sustentable (RIDES)
- Sahara and Sahel Observatory
- United Nations Educational, Scientific and Cultural Organization - IHE Institute for Water Education
- United Nations International Strategy for Disaster Reduction (ISDR)
- Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC)
- World Food Programme
- World Meteorological Organization
- Yayasan Pelangi Indonesia

C. Action Pledges

(in alphabetical order by organization)

Food and Agriculture Organization of the United Nations

- Monitoring and production of strategic plans for plant genetic resources for food and agriculture based on poor farmer's agricultural practices to climate variability
- Pilot projects on uses of plant genetic resources for food and agriculture to put strategic plans into action to promote sustainable use and management of land for adaptation to climate variability
- Use of tools and plant genetic resources for food and agriculture to secure implementation and management methods to enhance capacities of poor farmers to face climate changes
- Development of methods and tools related to agro-climatology
- Farm Adaptive Dynamic Optimisation (FADO)
- Assistance to Nigeria in assessing adaptation requirements in the agriculture sector Global Land Ice Measurements from Space
- Improving data and models on glacial activity and related hydrologic activity to improve assessment of the cost of the impacts and costs/benefits of mitigation or adaptation to impending changes to the world's glaciers and tackle cross-border problems created by changing glaciers

Institute of Development Studies

- Reorganise and repackage the IDS 'Networks and Knowledge Services' so as to recognise and address core needs and objectives identified by the Nairobi work programme

The International Institute for Applied Systems Analysis

- Using climate data, observations, and forecasts to improve adaptive decision-making in multiple sectors in Africa

Intergovernmental Panel on Climate Change

- Expanding support for the five-year plan of action on adaptation, by the IPCC Data Distribution Centre (DDC)

- Development and provision of appropriate data sets and data products
- Capacity building in developing and transition-economy countries to create data resources relevant to their needs

Institute for Social and Environmental Transition

- Partnering with and fostering social entrepreneurs with climate resilient and environmentally sustainable business models

Local Initiatives for Biodiversity, Research and Development

- Establishing and assisting an NGO group in Nepal to raise awareness amongst key development NGOs on climate change and development issues
- Climate Change Information Resource Centres to enhance learning and sharing among civil society organizations on climate change issues
- Building resilience of communities to the adverse impacts of climate change

Oficina de Riesgo Agropecuario

- Developing and disseminating tools to evaluate and reduce agricultural risks

Oxford University Centre for the Environment

- Researching and Assessing the Adaptive Capacity of Coastal Zones and Practical Adaptation Options in the Least Developed Countries / Small Island Developing States

Practical Action

- Strengthening livelihood security among poor communities which are vulnerable to natural disasters

Stockholm Environment Institute

- Bridging emerging experience in developing countries and the Nairobi Work Programme

The global change SysTEM for Analysis, Research and Training

- Document and disseminate information about methods and tools for vulnerability and adaptation assessment and build capacity for the use of assessment methods and tools through new education programs, advanced study institutes, fellowships and small grants
- Support and assist identification, collection, storage and access to long-term observation data for additional weather stations in Africa and in Asia and Oceania
- Support climate science education in developing country universities to identify and build institutional capacity for providing access to climate data and projections and for users to interpret and apply climate data and projections
- Educating on impacts and vulnerabilities due to climate related risks and extreme events in Africa and Asia
- Assisting in the planning of workshops for integration of socio-economic information into adaptation planning
- Improving capabilities for planning and implementing adaptation actions through education and fellowship programmes
- Support decision-making on climate change adaptation and plan future education, fellowship and capacity building programs to develop the next generation of vulnerability and adaptation researchers
- Review future research and capacity building programs to assure allocation of resources to technology development, know-how and practices for adaptation, and dissemination to relevant stakeholders
- Develop research activities to explore the barriers to economic diversification as an adaptation strategy and strategies that have proven effective in diversifying economic activities

United Nations Environment Programme/GRID-Arendal

- Bringing together partners from the Arctic and the SIDS to share and enhance knowledge and expertise about, and to collaboratively devise strategic solutions to, the challenges confronting coastal communities
- Promoting the use of satellites for the public good and in support of public policy in the area of sustainable development, marine safety and environment

World Food Programme

- Institutionalizing a Food Security Outlook Forum

Annex 4: Calls for Action

	Call for Action	Area of work
1	Raise awareness on adaptation actions at international and regional levels in order to help facilitate coordination	Climate related risks and extreme events Adaptation planning and practices
2	Enhance the use of climate information for adaptation to climate change impacts on agricultural production	Climate related risks and extreme events Adaptation planning and practices
3	Improve guidance for adaptation planning at the national level	Climate related risks and extreme events Adaptation planning and practices
4	Analyze and widely disseminate practical experiences on adaptation programmes, practices and activities	Climate related risks and extreme events Adaptation planning and practices
5	Document, analyze and disseminate appropriate local adaptation knowledge and practices	Adaptation planning and practices
6	Create or strengthen community-based extension services in rural areas	Adaptation planning and practices
7	Improve and disseminate risk assessment tools and methods for addressing climate change-related health threats	Climate related risks and extreme events Adaptation planning and practices
8	Promote and enhance adaptation planning and practices at the water basin level	Adaptation planning and practices
9	Assess the adaptive capacity of communities in coastal zones	Adaptation planning and practices
10	Map vulnerability to climate change in urban areas	Climate related risks and extreme events Adaptation planning and practices
11	Explore and advance insurance-related instruments for coping with climate variability and climate change and promoting adaptation	Climate related risks and extreme events Adaptation planning and practices
12	Assess and provide guidance on the links between disaster risk reduction strategies and adaptation	Climate related risks and extreme events Adaptation planning and practices

Annex 5: Overview of adaptation activities in the Nairobi work programme and the Bali Action Plan

Process	SBSTA	AWGLCA
Mandate	Nairobi work programme on impacts, vulnerability and adaptation to climate change	Bali Action Plan
Areas	Methods and tools Data and systematic observations Climate modelling, scenarios and downscaling Socio-economic information Research	Vulnerability assessments
	Climate-related risks and extreme events	Risk management and risk reduction strategies, including risk sharing and transfer mechanisms such as insurance; Disaster reduction strategies and means to address loss and damage associated with climate change impacts in developing countries
	Adaptation planning and practices Technologies for adaptation	Prioritization of actions, Integration of adaptation actions into sectoral and national planning, specific projects and programmes
	Economic diversification	Economic diversification to build resilience
	Wide dissemination of NWP deliverables to all relevant stakeholders	Capacity-building and response strategies
		Financial needs assessments, Means to incentivize the implementation of adaptation actions
	Engagement of a wide range of organizations, institutions; experts and communities in the implementation of the NWP	International cooperation to support urgent implementation of adaptation actions Ways to strengthen the catalytic role of the Convention as a means to support adaptation