United Nations ICCD/CST(S-3)/7

Convention to Combat Desertification

Distr.: General
3 June 2013

Original: English

Committee on Science and Technology

Report of the Committee on Science and Technology on its third special session, held in Bonn from 9 to 12 April 2013

Rapporteur: Mr. Stefan Sommer (European Union)

Contents

I. Opening of the session

1. The third special session of the Committee on Science and Technology (CST S-3) was held under the chairmanship of Antonio Rocha Magalhães (Brazil) in Bonn, Germany, from 9 to 12 April 2013. The Committee held two meetings, in the morning of 9 April 2013 and the afternoon of 12 April 2013.

2. At its first meeting, on 9 April 2013, the Chair of the Committee opened the session and welcomed all Parties and observers.

3. At the same meeting, an opening statement was made by the Executive Secretary of the United Nations Convention to Combat Desertification (UNCCD).

II. Organizational matters

A. Adoption of the agenda and organization of work

(Agenda item 1)

4. At its first meeting, on 9 April 2013, the Committee considered agenda item 1, "Adoption of the agenda and organization of work", for which it had before it a note by the secretariat contained in document ICCD/CST(S-3)/1/Rev.1.

5. At the same meeting, the Committee adopted the provisional agenda as contained in document ICCD/CST(S-3)/1/Rev.1, and approved the organization of work for the session, as contained in annex II of the provisional agenda. The agenda read as follows:

1. Adoption of the agenda and organization of work.

2. Reshaping the operation of the Committee on Science and Technology in line with the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018):

(a) Preparation of the UNCCD 2nd Scientific Conference;

(b) Preliminary outcome of the UNCCD 2nd Scientific Conference, "Economic assessment of desertification, sustainable land management and resilience of arid, semi-arid and dry sub-humid areas";

(c) Preparation of the UNCCD 3rd Scientific Conference, "Combating desertification/land degradation and drought for poverty reduction and sustainable development: the contribution of science, technology, traditional knowledge and practices".

3. Progress made in refining the impact indicators relating to strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018).

4. Review and assessment of scientific information from Parties and other reporting entities, in particular on impact indicators relating to strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018).

5. Adoption of the report of the Committee on Science and Technology.

6. At its first meeting, on 9 April 2013, the Committee elected by acclamation Mr. Stefan Sommer (European Union) as the Vice-Chair from the Western European and Other States Group to fill the vacancy arising from the resignation of Mr. Nicolas Hanley (European Union).

7. Also at its first meeting, the Committee appointed the Vice-Chair of the Committee, Mr. Stefan Sommer (European Union), as the Rapporteur for the session.

B. Attendance

8. The representatives of the following 95 Parties to the Convention attended the third special session of the Committee (see ICCD/CST(S-3)/INF.3):

Angola
Argentina
Armenia
Austria
Azerbaijan
Bangladesh
Barbados
Belarus
Benin
Bhutan
Bosnia and Herzegovina
Botswana
Brazil
Bulgaria
Burkina Faso
Burundi
Cambodia
Cape Verde
China
Cook Islands
Costa Rica
Cuba
Democratic Republic of the Congo
Dominica
Egypt
Equatorial Guinea
Eritrea
Ethiopia
European Union
Finland
France
Gabon
Gambia
Georgia
Germany
Ghana
Guinea
Guyana
Honduras
India
Indonesia
Ireland
Israel
Italy
Japan
Jordan
Kenya
Kyrgyzstan
Latvia
Lesotho
Liberia
Lithuania
Madagascar
Malawi
Malaysia
Mali
Marshall Islands
Mauritania
Mexico
Micronesia (Federated States of)
Morocco
Mozambique
Myanmar
Namibia
Nauru
Nepal
Netherlands
Niger
Nigeria
Norway
Pakistan
Peru
Philippines
Portugal
Republic of Korea
Republic of Moldova
Samoa
Sao Tome and Principe
Senegal

South Africa
Sri Lanka
Swaziland
Switzerland
Tajikistan
Thailand
The former Yugoslav Republic of Macedonia
Togo
Tunisia
Uganda
Ukraine
United Republic of Tanzania
United States of America
Viet Nam
Yemen
Zimbabwe

9. The following United Nations organizations, offices and specialized agencies were represented:

Convention on the Conservation of Migratory Species of Wild Animals (CMS)

Food and Agriculture Organization of the United Nations (FAO)

Convention on Biological Diversity (CBD)

United Nations Framework Convention on Climate Change (UNFCCC)

United Nations University (UNU)

10. Four intergovernmental organizations and ten civil society organizations were also represented.

11. The above mentioned attendees, together with 189 scientists, also attended the UNCCD 2nd Scientific Conference, which began in the afternoon of 9 April 2013 and ended the morning of 12 April 2013 (see annex II).

C. Documentation

12. The documents submitted for the consideration of the third special session of the Committee on Science and Technology are listed in annex I.

D. Open-ended contact group

13. At the invitation of the Chair of the Committee, an open-ended contact group met during the evenings of CST S-3 from 9 to 11 April 2013 in order to facilitate the review of agenda item 4: "Review and assessment of scientific information from Parties and other reporting entities, in particular on impact indicators relating to strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018)".

14. At its first meeting, on 9 April 2013, the Committee agreed to appoint Mr. Amjad Tahir Virk of Pakistan, and Vice-Chair of the Committee, as Chair of the open-ended contact group.

III. Recommendations on agenda items 2 to 4

15. The conclusions and recommendations listed in this report are a summary compilation of ideas, suggestions and proposals offered by various delegations during CST S-3. This report identifies potential action that could be undertaken at the national,

subregional, regional and international levels, after consideration and appropriate decisions by the Conference of the Parties, in conformity with the provisions of the Convention.

A. Reshaping the operation of the Committee on Science and Technology in line with the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018)

(Agenda item 2)

16. At its first meeting, on 9 April 2013, the Committee considered agenda item 2, "Reshaping the operation of the Committee on Science and Technology in line with the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018)".

17. At the first meeting, the Committee considered sub-item (a), entitled "Preparation of the UNCCD 2nd Scientific Conference", for which it had before it notes by the secretariat contained in documents ICCD/CST(S-2)/2 and corrigendum 1, and ICCD/CST(S-3)/3 and corrigenda 1 and 2.

18. The Committee took note of the documents mentioned in paragraph 17 above.

19. The Parties acknowledged the efforts made by the lead institution Global Risk Forum (GRF) Davos and the UNCCD secretariat under the guidance of the Bureau of the CST in successfully organizing the UNCCD 2nd Scientific Conference despite the challenges faced by the late change of date and venue of the Conference.

20. The secretariat took note of the recommendations made by some Parties to further improve the process of organizing UNCCD scientific conferences.

21. The secretariat informed the Committee that an assessment of the UNCCD 2nd Scientific Conference has just started and is being conducted by an independent expert. Results will be presented to the CST at its eleventh session.

22. At its second meeting, on 12 April 2013, the Committee considered agenda sub-item 2 (b), entitled "Preliminary outcome of the UNCCD 2nd Scientific Conference, "Economic assessment of desertification, sustainable land management and resilience of arid, semi-arid and dry sub-humid areas".

23. The Committee took note of the preliminary outcome of the UNCCD 2nd Scientific Conference, which was prepared by GRF Davos and the Scientific Advisory Committee (SAC) and presented to the Committee by GRF Davos. The proceedings and preliminary outcome of the UNCCD 2nd Scientific Conference are contained in annex II to this document.

24. The secretariat took note of the comments made on the preliminary outcome of the UNCCD 2nd Scientific Conference. Some Parties expressed their concern regarding the wording "zero land degradation" and "Zero Net Land Degradation approach (ZNLD)" (see paragraphs 43 and 46 in annex II). Furthermore, some Parties expressed their concern regarding the wording "establishment of a multi-disciplinary 'Platform on land and soil degradation, desertification and sustainable land management (PLASDD)'" (see paragraph 69 in annex II). The Committee agreed that the final outcome document of the UNCCD 2nd Scientific Conference, to be prepared by the GRF Davos and the SAC, be issued as an information document for the eleventh session of the CST.

25. Based on the suggestions of the CST Bureau, Parties requested the UNCCD secretariat to send out letters to Parties containing the preliminary outcomes and a set of key questions inviting Parties to provide their views and feedback.

26. The Committee agreed that, following the receipt of the responses from the Parties, the UNCCD secretariat shall prepare a pre-session document compiling the recommendations from Parties for the consideration of the Committee at its eleventh session.

27. At the second meeting, on 12 April 2013, the Committee also considered sub-item 2 (c), entitled "Preparation of the UNCCD 3rd Scientific Conference, "Combating desertification/land degradation and drought for poverty reduction and sustainable development: the contribution of science, technology, traditional knowledge and practices", for which it had before it a note by the secretariat contained in document ICCD/CST(S-3)/4 and corrigendum 1.

28. The Committee took note of document ICCD/CST(S-3)/4 and its corrigendum, as well as the progress made in preparing for the UNCCD 3rd Scientific Conference outlined therein.

29. The Committee also welcomed the selected consortium on Scientific and Traditional Knowledge for Sustainable Development, which was selected by the CST Bureau and will organize the UNCCD 3rd Scientific Conference under the guidance of the CST Bureau.

30. The secretariat informed Parties that the first meeting of the Steering Committee of the UNCCD 3rd Scientific Conference would be held on Saturday, 13 April 2013.

B. Progress made in refining the impact indicators relating to strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018)

(Agenda item 3)

31. At its second meeting, on 12 April 2013, the Committee considered agenda item 3, "Progress made in refining the impact indicators relating to strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018)", for which it had before it a note by the secretariat contained in document ICCD/CST(S-3)/5 and corrigendum 1.

32. By decision 17/COP.9, the COP requested the secretariat, under the guidance of the Bureau of the CST and using an iterative process, to develop proposals for consideration by future sessions of the COP commencing with its eleventh session to refine the set of impact indicators and associated methodologies.[1] The COP further requested the Committee to review the status of this iterative process during its sessions and to recommend a minimum set of impact indicators for consideration by the COP at its eleventh session.

33. By its decision 19/COP.10, the COP decided to establish an ad hoc Advisory Group of Technical Experts (AGTE), to be tasked with continuing the iterative participatory contribution from the scientific community, national focal points (NFPs) and science and technology correspondents (STCs) on impact indicator refinement and the monitoring and assessment of impacts.

34. The Committee took note of progress made in establishing the AGTE and refining the set of impact indicators between COP 10 and mid-October 2012 as contained in the document outlined in paragraph 31.

[1] This set of impact indicators was preliminarily accepted as contained in annex I to decision 17/COP.9 and refined through a scientific peer review process as contained in document ICCD/COP(10)/CST/2.

35. The Committee also took note of further progress made by the AGTE from mid-October 2012 to the end of March 2013 as presented by the Chair and the editorial team of the AGTE as a verbal update during CST S-3. The AGTE representatives outlined the main findings of their work and presented a summary of their preliminary recommendations as contained in annex III to this document.

36. The Committee discussed the AGTE preliminary recommendations and the UNCCD secretariat took note of the comments made and recommendations put forward by Parties.

37. In accordance with decision 16/COP.10, paragraph 2, the Committee agreed to transmit the recommendations in annex III to this document to the Committee for the Review of the Implementation of the Convention (CRIC) in an annex to document ICCD/CRIC(11)/14.

38. At the beginning of April 2013, the UNCCD secretariat had submitted a complete version of the preliminary recommendations of the AGTE to all NFPs with copies made available to the STCs for their review. Parties were encouraged to provide their comments on these recommendations to the AGTE by 5 May 2013.

C. Review and assessment of scientific information from Parties and other reporting entities, in particular on impact indicators relating to strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018)

(Agenda item 4)

39. By decision 12/COP.9, the COP requested the Committee to contribute to the work of the CRIC by reviewing and assessing scientific information from Parties and other reporting entities, in particular on impact indicators relating to strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018) (The Strategy).

40. At its first meeting, on 9 April 2013, the Committee considered agenda item 4, "Review and assessment of scientific information from Parties and other reporting entities, in particular on impact indicators relating to strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018)", for which it had before it a note by the secretariat contained in document ICCD/CRIC(11)/8-ICCD/CST(S-3)/6 and corrigendum 1.

41. The Committee took note of the synthesis and preliminary analysis of information submitted by affected country Parties on strategic objectives 1, 2 and 3 of The Strategy as contained in the document mentioned in paragraph 40 above.

42. The Committee also took note of the outcome of the open-ended contact group, which is outlined in the following paragraphs and summarizes the compilation of ideas, suggestions and proposals offered during CST S-3 by various delegations for reporting on impact indicators. Potential actions have been identified that could be undertaken by Parties and other stakeholders, including the institutions and subsidiary bodies of the Convention to improve the global coverage and compatibility of datasets, after they are considered and decided upon by the COP, and in conformity with the provisions of the Convention.

43. The 2012–2013 reporting and review process was the first reporting cycle under the Convention since the adoption of The Strategy where affected country Parties were requested to report on impact indicators relating to strategic objectives 1, 2 and 3. The purpose of this reporting cycle was therefore to establish a baseline against which future

assessments of the implementation of the Convention should be made with respect to the achievement of the strategic objectives and the expected impacts.

44. A total of 71 countries or about 42 per cent of all affected country Parties, provided information on impact indicators. However, not all Parties delivered the required information, resulting in a global data coverage varying from 7 to 36 per cent, depending on the specific question. The CST noted that the secretariat could only derive an incomplete initial set of baseline data due to relatively low data availability, technical constraints of the PRAIS portal, the lack of standardization and consequently the limited global data coverage. Some Parties therefore recommended that the PRAIS portal be made more user-friendly and that affected country Parties be encouraged to submit their report and/or amend their responses on strategic objectives 1, 2 and 3 even after the official deadline has passed with a view to broadening the baseline datasets and enabling future trend analysis. Affected country Parties should also be invited to make broader use of data from the United Nations agencies and other international sources in case information from national sources is not available.

45. The first reporting process against impact indicators was conducted within a limited time frame. No technical assistance was provided by specialized institutions at subregional/regional level, and the disbursement of funding to support national reporting was delayed or it did not occur. Some Parties therefore recommended that development partners and financial mechanisms of the Convention, particularly the Global Environment Facility, consider extending further technical and financial assistance for developing the capacities of affected country Parties in reporting against impact indicators in order to, inter alia, harmonize definitions and methodologies to be used at national level.

46. Considering the inconsistencies in reported data and their limited comparability, some Parties noted that while the data collected through the reporting process are crucial for assessing the implementation of the Convention with regard to its strategic objectives, integrating this information at global level is challenging. Some Parties recommended that global and regional organizations, institutions and relevant partners with expertise on monitoring and assessing desertification/land degradation and drought (DLDD) be invited to support the Parties and regions in bridging the knowledge gap for reporting, thus facilitating integration of reported data for assessing land degradation globally. This would help fulfilling one of the provisions contained in the outcome document of the United Nations Conference on Sustainable Development (Rio+20), The Future We Want (paragraph 206). To this end, further work in developing an institutional partnership, data sharing and data integration could also be promoted through inter-agency collaboration. Some Parties further suggested that the Committee consider reviewing relevant literature and ongoing efforts such as the New World Atlas of Desertification.

47. In preparation for future reporting processes, some Parties recommended that the secretariat improve the reporting template and further develop the reporting manual by providing more detailed and indicator-specific guidance on methodologies for data collection and available data sources.

48. The Committee noted that the lack of a common definition and common criteria for identifying and delineating areas affected by DLDD resulted in limited data comparability. Some Parties recommended that affected country Parties be encouraged to use a consistent and common approach in delineating affected areas, taking into consideration the findings to be provided by the AGTE. This would ensure that estimates of the extent of DLDD achieve uniform quality standards across the UNCCD Regional Implementation Annexes and are comparable between countries.

49. The Committee noted that a very limited number of countries provided quality-proven and complete data on the poverty rate. For example, seven per cent of all affected

country Parties provided data on the poverty rate in affected areas. This may be a consequence of data gaps in identifying affected areas at national level but it is also due to the limited availability of data specific to affected areas. Some Parties highlighted difficulties in obtaining appropriate data at local level. However, considering the importance of this indicator in relation to strategic objective 1, some Parties recommended that affected country Parties consider making further efforts towards increasing the coverage of spatially referenced data on affected areas, in particular those related to socioeconomic variables, in order to facilitate the future interpretation of the impact indicators as they relate to progress assessment in implementing the Convention.

50. The Committee noted that although most reporting countries have used widely accepted and available land cover classification methods (such as the Land Cover Classification System (LCCS) of the Food and Agriculture Organization of the United Nations and/or the Coordination of Information on the Environment (CORINE) Land Cover database, among others), some affected country Parties have reported data covering a wide variety of land cover types that could not be compared directly. Some Parties therefore recommended the adoption of broad land cover types (based on already established and internationally recognized land cover classification systems) to be used by affected country Parties for reporting on land cover status.

51. The Committee noted that 12 affected country Parties (about 17 per cent of reporting countries) provided data on land productivity. The low response rate and the different national approaches used for measuring and assessing land productivity revealed the need to take action to improve both the response rate and data comparability. Some Parties therefore recommended that reporting countries should consider using a common methodology for reporting on land productivity based on readily available and internationally recognized datasets.

52. The Committee noted that baseline information to measure progress made by Parties in achieving strategic objective 3 was not collected as there are no mandatory indicators for this strategic objective. Some Parties therefore recommended that the Committee identify appropriate mandatory indicator(s) relating to strategic objective 3 for the next reporting cycle.

53. The Committee noted that 10 countries (about 6 per cent of all affected country Parties) reported on additional voluntary indicators relating to the three strategic objectives. In order to ensure that Parties' reporting reflects not only global but also national and local realities, some Parties expressed that the minimum set of globally harmonized indicators should be systematically complemented by regionally, nationally and/or locally relevant information and indicators.

54. In accordance with decision 12/COP.9, the Committee agreed to transmit the above outlined compilation of ideas, suggestions and proposals offered by various delegations for reporting on impact indicators during CST S-3 to the CRIC in the form of an annex to document ICCD/CRIC(11)/9.

55. Following thorough discussion, the UNCCD secretariat took note of the comments and recommendations made by Parties.

D. Adoption of the report of the Committee on Science and Technology

(Agenda item 5)

56. At its second meeting, on 12 April 2013, the Committee considered agenda item 5, "Adoption of the report of the Committee on Science and Technology", for which it had before it the draft report of its third special session (ICCD/CST(S-3)/L.1).

57. At the same meeting, on the proposal of the Chair, the Committee adopted the draft report and authorized the Rapporteur to complete the report of the session, with the assistance of the secretariat.

58. The Executive Secretary of the UNCCD and the Chair of the Committee made a statement. The Chair of the Committee then declared CST S-3 closed.

Annex I

Documents before the Committee on Science and Technology at its third special intersessional meeting

Document symbol	*Title*
ICCD/CST(S-3)/1/Rev.1	Provisional agenda and annotations. Note by the secretariat
ICCD/CST(S-3)/2	Report on the preparation of the UNCCD 2nd Scientific Conference "Economic assessment of desertification, sustainable land management and resilience of arid, semi-arid and dry sub-humid areas". Note by the secretariat
ICCD/CST(S-3)/2/Corr.1	Report on the preparation of the UNCCD 2nd Scientific Conference "Economic assessment of desertification, sustainable land management and resilience of arid, semi-arid and dry sub-humid areas". Note by the secretariat. Corrigendum
ICCD/CST(S-3)/3	Overview of working papers prepared for the UNCCD 2nd Scientific Conference. Note by the secretariat
ICCD/CST(S-3)/3/Corr.1	Overview of working papers prepared for the UNCCD 2nd Scientific Conference. Note by the secretariat. Corrigendum
ICCD/CST(S-3)/3/Corr.2	Overview of working papers prepared for the UNCCD 2nd Scientific Conference. Note by the secretariat. Corrigendum
ICCD/CST(S-3)/4	Progress report on the preparation of the UNCCD 3rd Scientific Conference, "Combating desertification/land degradation and drought for poverty reduction and sustainable development: the contribution of science, technology, traditional knowledge and practices". Note by the secretariat
ICCD/CST(S-3)/4/Corr.1	Progress report on the preparation of the UNCCD 3rd Scientific Conference, "Combating desertification/land degradation and drought for poverty reduction and sustainable development: the contribution of science, technology, traditional knowledge and practices". Note by the secretariat. Corrigendum
ICCD/CST(S-3)/5	Progress report on the refinement of the set of impact indicators on strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018) (The Strategy). Note by the secretariat
ICCD/CST(S-3)/5/Corr.1	Progress report on the refinement of the set of impact indicators on strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018) (The Strategy). Note by the secretariat. Corrigendum
ICCD/CRIC(11)/8-ICCD/CST(S-3)/6	Preliminary analysis of information contained in reports from affected country Parties on strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018) (The Strategy). Note by the secretariat
ICCD/CRIC(11)/8/Corr.1 - ICCD/CST(S-3)/6/Corr.1	Preliminary analysis of information contained in reports from affected country Parties on strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018) (The Strategy). Note by the secretariat. Corrigendum

Document symbol	*Title*
ICCD/CST(S-3)/INF.1	Information for participants
ICCD/CST(S-3)/INF.2	Review and assessment of scientific information from Parties and other reporting entities, in particular on impact indicators relating to strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018) (The Strategy). Note by the secretariat
ICCD/CST(S-3)/INF.2/Corr.1	Review and assessment of scientific information from Parties and other reporting entities, in particular on impact indicators relating to strategic objectives 1, 2 and 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018) (The Strategy). Note by the secretariat. Corrigendum
ICCD/CST(S-3)/INF.3	List of participants

Annex II

Proceedings and preliminary outcome of the UNCCD 2nd Scientific Conference

I. Opening of the UNCCD 2nd Scientific Conference

1. The UNCCD 2nd Scientific Conference on the theme of "Economic assessment of desertification, sustainable land management and resilience of arid, semi-arid and dry sub-humid areas" was held under the chairmanship of Antonio Rocha Magalhães (Brazil), Chair of the third special session of the Committee on Science and Technology, in Bonn, Germany, from 9 to 12 April 2013. The UNCCD 2nd Scientific Conference held an opening session, four plenary sessions, 15 parallel special sessions, 12 poster sessions, 17 special sessions and workshops and a closing session. The programme of the UNCCD 2nd Scientific Conference can be found on the website of the UNCCD 2nd Scientific Conference.[2]

2. At its first meeting, on 9 April 2013, the Chair of the third special session of the Committee on Science and Technology opened the UNCCD 2nd Scientific Conference, and made a statement.

3. At the same meeting, an opening statement was made by the Executive Secretary of the United Nations Convention to Combat Desertification (UNCCD).

4. A statement was also made by Mr. Walter Ammann, the President of the Global Risk Forum Davos, lead institution/consortium to organize the UNCCD 2nd Scientific Conference under the guidance of the CST Bureau.

5. A keynote address was delivered by the Former President of the Republic of Finland, H. E. Ms. Tarja Halonen.

6. A reception for all participants of the UNCCD 2nd Scientific Conference was organized and hosted by the City of Bonn on the evening of 9 April 2013.

II. Organizational matters

A. Attendance

7. The UNCCD 2nd Scientific Conference was attended by 189 scientists, representatives of Parties to the Convention, United Nations organizations, offices and specialized agencies, and intergovernmental organizations and civil society organizations (see ICCD/CST(S-3)/INF.3).

[2] <http://2sc.unccd.int/conference-programme/presentations-and-interactive-conference-agenda/>.

B. Documentation

8. The documentation produced for the UNCCD 2nd Scientific Conference can be found on the website of the UNCCD 2nd Scientific Conference.[3]

C. Plenary sessions

Plenary I: "Economic and social impacts of desertification, land degradation and drought"

9. An introductory statement was made by the President of the Global Risk Forum Davos, Mr. Walter Ammann.

10. The panel discussion was chaired and moderated by Ms. Anneke Trux, Team Leader of the Convention Project to Combat Desertification, Division Environment and Climate Change, Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, Bonn, Germany.

11. A keynote address was delivered by Ms. Stefan Schmitz, Head of the division for rural development and food security, German Federal Ministry for Economic Cooperation and Development, Bonn, Germany, on the topic of *"Better evidence for better policies. A paradigm shift is needed to counter vulnerability and increase people's resilience."*

12. Presentations were made by the following panellists: Mr. Edward Barbier, John S. Bugas Professor of Economics, Department of Economics and Finance, University of Wyoming, USA, on the topic of *"Land degradation and the rural poor: economic and social impacts";* Mr. Joachim von Braun, Director, Center for Development Research and Professor for Economic and Technological Change, University of Bonn, Germany, on the topic of *"Economic and social impacts of land degradation and drought - framework, assessment and policy implications";* Ms. Maria Laura Corso, Technical Adviser to the Department of Land Conservation and Desertification of the Ministry of Environment and Sustainable Development of Argentina, Buenos Aires, on the topic of *"Socioeconomic assessment of desertification at local level: LADA's methodologies applied in Argentina";* Mr. Pak Sum Low, TUKM-YSD Chair in Climate Change in the Faculty of Science and Technology, University Kebangsaan, Malaysia, on the topic of *"Economic and social impacts of desertification, land degradation and drought: Policy implications and recommendations of White Paper I"; and* Ms. Lindsay Stringer, Director, Sustainability Research Institute and reader in Environment and Development, University of Leeds, United Kingdom, on the topic of *"Unpacking the economic and social impacts of land degradation, desertification and drought: lessons from southern Africa".*

13. An interactive discussion ensued, during the course of which the panellists responded to the comments made and questions posed by the representatives of Costa Rica, Nepal and Cameroon as well as the representatives of Cenesta, Dryres and Rhodes University.

Plenary II: "Cost and benefits of policies and practices addressing land degradation and drought in the drylands"

14. An introductory statement was made by the President of the Global Risk Forum Davos, Mr. Walter Ammann.

[3] <http://2sc.unccd.int/conference-documents/>.

15. The panel discussion was chaired and moderated by Mr. Noel Maxwell Oettle, Rural Programme Manager of the Environmental Monitoring Group, South Africa.

16. Presentations were made by the following panellists: Ms. Lene Poulsen, Independent consultant, Karl International Development, Frederiksværk, Denmark, on the topic of "A system approach for valuation of sustainable dryland and drought risk management"; Mr. Cesar Morales Estupiñán, Agronomist Engineer specialized in agricultural economics, University of Chile, Chile, on the topic of "From science to policy; from local to global" ; Ms. Hannah Behrendt, Program Economist, Global Partnership for Wealth Accounting and the Valuation of Ecosystem Services, Agriculture and Environmental Services Department, The World Bank, Washington, D.C., USA, on the topic of "The bigger picture on drylands - using a natural capital accounting approach"; Mr. Richard Thomas, Assistant Director, United Nations University, Institute for Water, Environment and Health, McMaster University, Hamilton, Canada, on the topic of "Analysis of decision making for sustainable land management".

17. An interactive discussion ensued, during the course of which the panellists responded to the comments made and questions posed by the representatives of Eritrea; the Policy Coordination Unit of the UNCCD Secretariat; Both Ends (Netherlands), a non-governmental organization; the German Development Institute; Rhodes University, South Africa; the Sultan Qaboos University, Oman; and BIRD (France), a non-governmental organization.

Plenary III: "Drivers of change and resilience increase"

18. An introductory statement was made by the President of the Global Risk Forum Davos, Mr. Walter Ammann. The panel discussion was chaired and moderated by Mr. Michael Anthony Stocking, Professor of Natural Resource Development, Senior Adviser to the Chair of the Global Environment Facility – Scientific and Technical Advisory Panel, Global Environment Facility, London.

19. Presentations were made by the following panellists: Ms. Elena Maria Abraham, Scientific Researcher of the National Council of Scientific and Technical Research, Director of Argentine Institute for Research on Arid Lands, and Professor of Environmental Planning and Management, Congress University, Mendoza, Argentina, on the topic of "Challenges for sustainable development of drylands"; Mr. Dennis Garrity, Former Executive Director of the World Agroforestry Centre, and the UNCCD Dryland Ambassador, Nairobi, Kenya, on the topic of "Transformative land regeneration"; Mr. Mohamed Sessay, Regional Coordinator for Africa for Land Degradation within the Division of the Global Environment Facility Coordination, United Nations Environment Programme, Nairobi, Kenya, made a statement; Mr. Ephraim Nkonya, Senior Research Fellow, International Food Policy Research Institute, Washington, D.C., USA, on the topic of "Can the poor afford sustainable land management (SLM)? Drivers of SLM in poor countries".

20. An interactive discussion ensued, during the course of which the panellists responded to the comments made and questions posed by the representatives of the National Bureau to Combat Desertification, State Forestry Administration of China, Rechsand Science and Technology Group (China), Grameena Vikas Samitti (India), the National Institute of Agronomy of Niger, and Blaustein Institute for Desert Research (Israel).

Plenary IV: "Strategies and policies for local, national, regional and international level"

21. An introductory statement was made by the President of the Global Risk Forum Davos, Mr. Walter Ammann.

22. The panel discussion was chaired and moderated by Mr. Jonathan Davies, Coordinator of the Global Drylands Initiative within the International Union for Conservation of Nature's Ecosystem Management Program, Nairobi, Kenya.

23. Presentations were made by the following panelists: Mr. Debalkew Berhe, Programme Manager for Environment Protection and Natural Resources Management at the Intergovernmental Authority on Development, Djibouti, on the topic of "The IGAD Drought Disaster Resilience and Sustainability Initiative (IDDRSI) as a global, regional, national and local strategic framework to end drought emergencies in the Horn of Africa"; Mr. Chris Reij, Sustainable Land Management Specialist, Centre for International Cooperation, Free University Amsterdam, The Netherlands and a Senior Fellow - World Resources Institute, Washington, D. C., USA, on the topic of "Strategies and policies for scaling up re-greening successes"; Mr. François Tapsoba, Food and Agriculture Organization Chief Technical Advisor to the African Union Commission in charge of the Great Green Wall for the Sahara and the Sahel Initiative, Addis Ababa, Ethiopia, on the topic of "Initiative de la grande Muraille verte et restauration des zones arides en Afrique Sahélienne"; and Mr. Mohamed Bakarr, Senior Environmental Scientist, Global Environment Facility, Washington, D.C., USA, made a statement on the topic of "Investing in policies and strategies for sustainable land management - Catalytic role of the global environment facility".

24. An interactive discussion ensured, during the course of which the panelists responded to the comments made and questions posed by the representatives of the University of Kegangsaan, Malaysia; and BIRD (France), a non-governmental organization.

III. Closing of the UNCCD 2nd Scientific Conference

25. A statement was made by the President of the Global Risk Forum Davos, Mr. Walter Ammann.

26. A statement was also made by the Chair of the Scientific Advisory Committee, Mr. Jonathan Davies. A closing statement was made by the Executive Secretary of the United Nations Convention to Combat Desertification.

27. The Chair of the Committee of the Science and Technology, Antonio Rocha Magalhães (Brazil), made concluding remarks and declared closed the UNCCD 2nd Scientific Conference.

IV. Preliminary outcome of the UNCCD 2nd Scientific Conference

28. The 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018) (The Strategy) contained in decision 3/COP.8 highlights the importance given to the development and implementation of scientifically-based and sound methods for monitoring and assessing desertification, and underlines the need for a holistic view.

29. At its eighth session, the Conference of the Parties (COP) decided to strengthen the scientific basis underpinning the Convention. To this end, by its decision 13/COP.8, Parties decided that each future ordinary session of the Committee on Science and Technology (CST) should be organized in a predominantly scientific and technical conference-style format by the CST Bureau in consultation with a lead

institution/consortium that is qualified in and has expertise in the relevant thematic topic selected by the COP.

30. By its decision 16/COP.9, the COP decided that the thematic topic to be considered by the UNCCD 2nd Scientific Conference would be "Economic assessment of desertification, sustainable land management and resilience of arid, semi-arid and dry sub-humid areas".

31. In order to prepare for the Conference, two global working groups of scientists were convened to analyze and summarize the leading scientific knowledge on the priority theme in order to generate practical recommendations. Out of this came two white papers. White paper I is entitled "Economic and social impacts of desertification, land degradation and drought"; White Paper II is entitled "Costs and benefits of policies and practices addressing desertification, land degradation and drought". Both papers aim: (i) to identify and assess the different types of costs relating to DLDD and elaborate methodologies on how to develop effective policies and strategies, including support with shaping action at the local level; (ii) to synthesize existing scientific knowledge to provide a basis for policy-oriented recommendations, and (iii) to ensure the flow of new knowledge to and from the UNCCD 2nd Scientific Conference. Also, a Background Document was produced. In addition to the two working groups, a Scientific Advisory Committee (SAC) as well as a Steering Committee were formed.

32. This document provides the preliminary synthesis and recommendations from the UNCCD 2nd Scientific Conference.

A. Background and rationale for enhanced science-policy-practice interaction on DLDD

33. There is a widespread consensus that the pressing issues of Desertification, Land Degradation and Drought (DLDD) are inadequately addressed in today's political agenda at the global, regional and national levels. It is therefore of vital importance to raise awareness on the issues, not only on the negative impacts of DLDD in terms of socio-economic development, but also on the opportunities that they may create to help to guide current and future land management practices to be more sustainable and resilient. Understanding and evaluating the economic and social costs and benefits associated with DLDD is essential to developing cost-effective policies and strategies for addressing DLDD and in raising this awareness.

34. The evidence base on the economics of desertification, and of land degradation has expanded rapidly in the past 3 years. It needs to expand further in a systematic way.

35. Direct economic costs are incurred through reductions in income obtained by land users as a result of the lower productivity of land resulting from desertification. These 'on-site' costs are experienced either by the land user who degraded the land or another user who uses the site subsequently. However, estimates vary widely and are very inaccurate. Estimate variation and inaccuracy can be linked to the lack of reliable biophysical measurements of the extent and rate of change of desertification; the use of different economic estimation methods; the only recently expanded nature of economic research in this field; and isolation from estimates of the benefits of actions that cause degradation and are central to decision-making and its appraisal.

36. Indirect economic costs are incurred through off-site impacts that can be some distance from the land use that is the source of degradation, and so are generally externalized and suffered by people other than those who cause degradation. Estimates of indirect costs are less common than those for direct costs, and most indirect costs are

still not estimated because of lack of data. The range and inaccuracy of estimates of indirect costs is explained in a similar way to those for direct costs, with the additional complications that valuation of non-market ecosystems services of soil and land are lacking for many of these impacts and impact profiles vary from country to country.

37. Social impacts, such as an increase in poverty, are important too, but their estimation is hindered by lack of social and biophysical data and by synergies between these impacts and the underlying social causes of desertification. Economic modeling shows how decisions by land users that lead to land degradation can be affected by government policies in unexpected ways. Improving estimates of the magnitudes of economic and social impacts will require better measurements of the extent and rate of change of desertification, and the integration of desertification into national statistics and planning methods. While sustainable land management is an important measure for tackling desertification, research into entitlements, environmental justice and vulnerability suggests that tackling desertification is not just about adopting physical remedies, as social remedies are equally important. This means that economic impacts and social impacts need to be tackled in an integrated manner, rather than separately, if policies for addressing desertification are to be effective.

B. Action and implementation related requirements to guide science-policy efforts

38. The main topics of the conference, economic assessment of DLDD, resilience and sustainable land management, derive their rationale and relevance from the urgent needs for improvement at the field level. This said, the goal established at Rio+20 i.e. to improve scientific and technical knowledge on economic aspects of sustainable development, and therefore SLM, consequently means that the involvement of scientists is crucial.

39. The impacts of DLDD include food insecurity, poverty, unemployment and migration. Yet there are gaps in our understanding of the socio-economic impacts. The direct and indirect values of land, however, are vital for resilient societies and economic growth. In order to restore degraded land world wide, we need a clearer picture of available options and create a ‘toolbox’ for stakeholders and decision makers. We need to make smart investments yielding socio-environmental resilience.

40. Poverty eradication is the first and most fundamental Millennium Development Goal. DLDD causes food, water and energy scarcity, which are among the main drivers of poverty. Therefore land is the key and scientific knowledge is a tool to eradicate poverty. SLM is a focus of this tool. It has to be considered that poor, youth and women are social groups most affected by DDLD. We need a stronger focus on DLDD prevention (by SLM) rather than land rehabilitation.

41. The rural poor are statistically dominating “fragile lands” that are prone to land degradation. Countries with the largest shares of population on fragile lands have highest poverty rates. The rural poor have very few productive assets except land and unskilled labor. Asset-less poor have low ownership over resources, this can be attributed to small landholdings and permanent migration. New fragile land policy strategies should include the poor for payment for ecosystem services, improve access of the poor to resources, reduce high transaction costs, provide effective instructions, reduce high transportation costs, improve the poor’s access to insurance and loan programs. Land degradation is a “poverty environmental trap” that will lead to higher vulnerability, declining land productivity, decrease in wealth and further degradation.

42. We are facing population growth mainly in less developed countries, which is strongly linked to migration into cities and poverty. Further problems arise since former self-sufficient communities are now dependent on others to survive, which led some governments taking advantage of the situation by redistributing land and thereby causing social tensions.

43. Economic productivity without degrading the nature is compulsory. Lessons on SLM in poor countries where some degradation took place in the past show some improvement with time. Deliberate efforts to invest in enhancing traditional and local institutions, government effectiveness, efforts to achieve zero land degradation[4] and economic incentives. Thus SLM needs to be embedded in sustainable, productive and comprehensive strategies, so food security matters can be addressed in a sustainable way. Action strategy needs to be developed without imposing pressure on natural resources. Actions need to consider the rights of the people directly involved in the management of land. Ecotourism is a possible action.

44. Education of the populations living in semi-arid, desert, and degraded land is an essential element in combating DLDD. If people do not understand what they are protecting and what they have to improve, there will be no sustainability. Society and stakeholders from government should promote education on causes of and measures against DLDD. Semi-arid areas and other environments vulnerable to desertification should be presented as a positive place in order to foster sustainable development within these regions. Re-education of family agriculture and sustainable practices will combat desertification. Education will also promote a sense of pride and land identity within these communities.

45. When human rights are not met, poverty is generated with environmental degradation as a consequence. Human rights efforts should be linked to efforts working to protect the environment. An integrated approach for multiple global socio-environmental benefits should be used. By assessing current vulnerability and the risk of future land degradation, we learn that local populations are in high need for sustainable and resilient strategies to mitigate DLDD and promote SLM. In order for a rehabilitation effort to be successful, the rehabilitation plan must be long term. Strategic approaches should use adaptive collaborative management principles for sustainable land management.

C. Recommendations for enhanced strategic and policy development

46. The elements that need to be considered for effective policies and strategies that guide the implementation of the UNCCD at the national, regional and global levels include policies and strategies for land, forest, water and other natural resources management, developed as part of an overall national policy framework to improve land management and promote sustainable development. These policies must be based on the best available science and knowledge relevant to the local, national and regional conditions and circumstances. Thus, it is important that there is greater investment in scientific research on DLDD in order to better develop and formulate effective policies. In addition, attention needs to be paid to the science policy interface and the structures and processes through which scientific knowledge reaches policy makers. The Conference welcomed further scientific investigation into the prospective development

[4] Paragraph 24 of the parent document makes reference to the comments made by some Parties who raised concern regarding the wording “zero land degradation”.

and potential of the Zero Net Land Degradation approach (ZNLD),[5] which appears to be a promising and underpinning strategic approach.

47. It is crucial to understand the institutional settings in which land users make decisions that may lead to, or avoid, desertification. The rate of desertification could be reduced if: government policies were evaluated beforehand to check for unintended consequences; societal institutions were audited to check for constraints that lead to poor people degrading land instead of managing it sustainably; and an integrated approach was taken to national land-use planning and government policies.

48. We cannot look at land degradation just as an environmental problem. We have to understand and assess policies for reducing land degradation. It will be less costly to prevent land degradation than to deal with its consequences. We need better evidence for better policies. Efforts to enhance food security need to reach out well beyond the confines of individual sectors, instead the efforts need to be combined into a more complex system. Rural development should not only increase resilience in economic, but also reduce social and environmental risks. Better evidence is needed to improve knowledge. Better knowledge is needed for informed debates, informed policy making, and informed planning. Developmental and environmental policies need to minimize risks, reduce exposure to hazards and reduce vulnerability by improving coping and adaptive capacities, building resilience, and fostering growth.

49. Even with the understanding of what makes people vulnerable to DLDD, there is a discontinuity between policy and practice. Farmers are not passive victims, they adapt to DLDD when they notice a change in their land productivity. Adaptions include migration of both labor and livestock, diversification of livelihood activities, crops, and livestock breeds, and land based adaptations. Local people are helping themselves and are not solely dependent on policy. Policy needs to address educational and social aspects of land degradation and has to work across scales. Rio+20 recommended to invest in people, which also means in education systems.

50. Drylands are complex social-ecological systems, characterized by non-linearity of causation, complex feedback loops within and between the many different social, ecological, and economic entities, and potential of regime shifts to alternative stable states as a result of thresholds. As such, dryland management faces a high level of uncertainty and unpredictability.

51. A critical means to achieve sustainable dryland and drought risk management is to strengthen resilience through capacity development of individuals, communities, and systems to survive, adapt, and follow a positive trajectory in the face of external and/or internal changes, even catastrophic incidents, and rebound strengthened and more resourceful while retaining essentially the same functions.

52. New policy strategies for fragile land should include the poor for compensation for ecosystem services, improve access of the poor to resources, reduce high transaction costs, provide effective instructions, reduce high transportation costs, improve the poor's access to insurance and loan programs. Local people are helping themselves and are not solely dependent on policy; action can be achieved by a bottom up approach.

53. The UNCCD National Action Programme (NAP) process should facilitate affected Parties to present their strategies for DLDD prevention and mitigation and outline future action. At the global level more resources are required to enable affected

[5] See footnote 4 above.

Parties, especially developing countries, to implement their obligations under the UNCCD. Regional cooperation is an important component for successful implementation and coordination mechanisms must respond to existing and emerging needs, capacities and the specific issues of each region. At the national and local levels decision makers should also have responsibility to ensure participation and provide full ownership to local and primary affected communities, while mobilizing access to resources from relevant institutions and organizations.

54. The approach to implement national policies and strategies to combat DLDD should include a legal system that provides for the effective management of land, taking an ecosystem-based approach. At the international level the UNCCD has many gaps and limitations for the protection and sustainable use of land and it lacks key elements to provide the effective ways to protect and manage the ecological aspects of land. The proposal for an international instrument for global land and soil degradation, which has received significant attention recently by the UNCCD, is regarded as essential as part of the national, regional and international framework to combat DLDD.

55. Due to continuing land degradation, loss in biodiversity and changes in climatic patterns, harnessing synergy between the three Rio Conventions (UNCCD, UNFCCC and CBD) is vital when working on terrestrial ecosystems. The development of synergistic approaches together with the creation of an enabling policy and institutional environment is important for the strengthening of the Rio Conventions. In general, options for building synergies among the Rio Conventions in specific cross-cutting areas includes capacity-building, technology transfer, research and monitoring, information exchange and outreach, reporting and financial resources. Developing and practicing synergies among the Rio Conventions in a fully operationalized manner requires (i) improving interactions at regional, national and local levels; (ii) reducing potential conflicts between independent activities; (iii) reducing duplication of efforts through improved knowledge transfer; and (iv) sharing financial resources in a more efficient and balanced way. Promoting synergies at regional, national and local levels requires also stronger collaboration among the National Focal Points (NFPs) that serve each of the Convention and play a key role in bridging the differences between involved parties especially at the policy level.

D. Recommendations related to scientific tools, methodologies, findings and outreach

56. Based on a comprehensive literature review of recent peer-reviewed scientific journals complemented with grey literature, the White Papers and the Background Document provide an introduction to current thinking about economic valuation and techniques related to different aspects of dryland management and policy-making. The papers highlight the challenges that exist, the different opinions about the best way to address environmental economic valuations, and the many assumptions that need to be clearly identified for each exercise in order to communicate the results efficiently to decision-makers at all levels. The Conference took ample note of the papers, discussed and welcomed their main conclusions and findings.

57. There is a wide consensus that research plays an essential role in the combating DLDD. Moreover scientific activities greatly increase a country's adaptive capacity and resilience to climate change. This leads to the call that research should be extended to all parts and regions of the world. To strengthen the scientific foundation for sustainable dryland and drought risk management, there is a need for a system approach based on transdisciplinarity with emphasis on participatory research and

involvement of practitioners as well as scholars from different scientific disciplines to address problems in an integrated manner. Science has to contribute to an integrated management of land. Economics should have a stronger role in desertification and land preservation. Scientific integration is needed as is a realistic picture of combined socio-economic-environ-mental aspects.

58. Another critical means is the application of an ecosystem services approach to ensure proper attention to the dynamic and interlinked provisioning, regulating, supporting, and cultural dryland ecosystem services. The ecosystem services approach has proven particularly useful and challenging for economic valuation of sustainable dryland and drought risk management as a basic tool for direct management purposes as well as policy decision-making.

59. Analytical frameworks, methodologies and tools are available for the identification and measurement of the costs of DLDD, including a methodology for prioritizing across geographic areas based on an assessment of the costs of investing in effective prevention and mitigation of land degradation compared to the costs of the loss in ecosystem services (i.e. the cost of action versus inaction). A thorough assessment needs to identify important changes to ecosystem services and ecosystem service delivery. Application of the Total Economic Value (TEV) framework may assist in the identification of different types of economic values associated with the range of ecosystem services that are affected by DLDD, including values associated with direct use (fuelwood, animal fodder) or indirect use (soil fertility) option values based on maintaining resources for future use or existence values (linked to the utility people derive from knowing certain species, habitats, landscapes continue to exist).

60. The application of the TEV framework, economic valuation of changes to ecosystem services and the integration of these values into social cost benefit analysis provide decision makers with a sounder basis for making land use decisions relative to simply looking at the direct costs of DLDD. Moreover, cost-benefit analysis should include the identification of how the costs associated with DLDD and the benefits of sustainable land management are distributed across stakeholders, focusing on those groups with a greater reliance on ecosystems and poor and vulnerable households. Distributional analysis can inform decisions around land use to ensure policies and land management practices selected are both equitable and efficient from the perspective of society. If there are trade-offs to be made, as often is the case, decision makers will have information available to help them to prioritize objectives in a transparent manner.

61. The new World Atlas of Desertification (WAD) contributes to economic valuation of land degradation. The need for a new baseline assessment of land degradation and desertification (LDD) and its causal issues has risen. As an initiative of the UNCCD, in partnership of the UNEP and collaborations with a network of experts, a more holistic and global approach was chosen to create the new WAD. The new WAD illustrates the local dynamics at time. It aims at documenting environmental and anthropogenic issues and changes (i.e. drought, population or land productivity dynamics) and bringing them into relation to their impact on LDD. A platform for including most recent findings and interactivity (indicator definitions) is provided through the WAD website.

62. Generally science should provide the best knowledge but subsequently it has to be adapted to local needs in order for the implementation to be successful. We need to move efforts in developing methods and indicators for desertification, specifically at the local level. Environmental poverty, specifically induced by desertification, can be targeted through the implementation of the pentagon method.

63. Scientific approaches have to consider more the indirect values of land because they contribute to a resilient society and to economic growth. Therefore a tool-kit of available options for restoring degraded land should provide to stakeholders and decision makers. We need a nexus perspective across sectors to address food security, energy security, water security, and land quality is underpinning all of these aspects. Inaction to combat DLDD is more costly than action. Land degradation is a consequence of market failures and partly a consequence of poverty. Land users must receive direct benefits for adopting sustainable land management practices. The strategy of ELD assessment is to build and inform policy debate, improve open collaboration and communication, and to increase awareness and commitment.

64. Understanding and evaluating economic and social costs and benefits associated with DLDD is essential to developing cost effective mitigations. The significant indirect economic costs resulting from DLDD fail to deter the driving forces of degradation or lead to a change in behavior. Social impacts of DLDD include increased poverty, migration, and environmental injustice, vulnerability, area conflicts, and government instability. Economic and social consequences of DLDD need to be targeted in an integrated method.

65. A sense of caution was to be noted regarding the nexus between economic valuation techniques for land resources and the inclusion of large-scale global private sector investments in so-called marginal and/or drylands. Such investments have to be ecologically and socially just and sound and the global research community is called upon to reflect thereon.

66. Scientific research needs to invest in analyzing drivers of change in cropland areas in order to provide a good basis for innovative agriculture to be developed. Studies so far have shown that cropland expansion is lower in more remote areas and land intensification is enhanced by marked access, whereas land tenure security adversely affects cropland expansion.

67. Transformative land regeneration requires to understand first what are the drivers of land crisis; and second identifying grassroots solutions to build resilience. Moving to a climate-smart agriculture and building more productive and growth resilient farming systems at various scales, empowering women, improving food security and nutrition are important contributions.

68. The Conference proposed that researchers, their organizations and the relevant authorities are to be called upon to promote inclusion of the Conference's theme into appropriate funding instruments for research and decision-support, e.g. the Horizon 2020 programme of the European Commission.

69. Bringing science to bear on the DLDD issues through the mechanism of conferencing is not sufficient. The conference of scientific community encouraged UNCCD to facilitate the establishment of a multi-disciplinary "Platform on land and soil degradation, desertification and sustainable land management (PLASDD)"[6] that would enhance the scientific discourse on a more permanent basis and thereby strengthen the evidence base of UNCCD policy deliberations. It would integrate strong socio-economic and ecological expertise, and would adhere to scientific principles, including peer review.

[6] Paragraph 24 of the parent document makes reference to the comments made by some Parties who raised concern regarding the wording "the establishment of a multi-disciplinary "Platform on land and soil degradation, desertification and sustainable land management (PLASDD)".

Annex III

Summary of the preliminary recommendations of the ad hoc Advisory Group of Technical Experts on impact indicator refinement

1. At the third special session of the Committee on Science and Technology (CST S-3), the Chair and the editorial team of the AGTE presented a verbal update on progress made in the refinement of the set of impact indicators to the CST. The AGTE representatives outlined the main findings of their work and presented a summary of their preliminary recommendations.

2. While recalling that the set of impact indicators is intended to enable Parties to track progress in implementing the United Nations Convention to Combat Desertification (UNCCD) against its strategic objectives 1, 2 and 3, the AGTE noted that it is impossible to fully meet the three strategic objectives at the same time since they compete among themselves. This competitive nature calls for setting up a trade-off between the economic, social and environmental components. The AGTE also noted the emergence of a second kind of trade-off: striking a balance between local versus global concerns, for example in sustainable land management.

3. The AGTE recommended using the term ‘progress indicators’ rather than ‘impact indicators’ for tracking progress in implementing the UNCCD against its strategic objectives. This would help avoid confusion with the use of the word ‘impact’ in the driving force-pressure-state-impact-response (DPSIR) causal chain.

4. The AGTE recommended the pursuit of harmonization, with potential for standardization when appropriate and feasible, to account for the variability in the causes and consequences of dryland degradation among country Parties and in their capacities to measure, monitor and evaluate impact.

5. The delineation and diagnostics of affected areas are a precondition to tracking progress in implementing the UNCCD and yielding invaluable information for implementing successful mitigation programmes at both country and global level. The AGTE recommended distinguishing between the following categories of affected and threatened areas: potential areas (where desertification is climatically possible); areas at risk (where climatic and socioeconomic drivers converge); areas actually threatened (where desertification is currently impairing the human-land system); and areas with inherited desertification (where drivers are no longer active).

6. The AGTE recommended a three-layered approach for identifying the different categories of affected areas. Climatic drivers come first, which form the outer layer and provide the basis for delineating potentially affected areas. The AGTE recommended to focusing on drylands and using the aridity index as the best candidate for defining the dryland area within the accepted UNCCD definition (arid, semi-arid and dry sub-humid areas). Socioeconomic drivers form the second layer. Data on rural population trends are widely available and could be used as an integrative indicator for this layer. The overlap between both driver layers highlights the hotspots, or areas at risk of being affected, and should form the third layer. These hotspots should be further qualified through additional information on land cover decline along with ground inspections. This could assess whether hotspots are only at risk of being affected whether they are already (actually) affected by desertification. Finally, positive values of the climatic layer overlapping with negative values of human pressure define the field of inherited desertification.

7. The AGTE recommended that the provisional set of progress indicators initially proposed in decision 17/COP.9 and refined in decision 19/COP.10 (referring to ICCD/COP(10)/CST/2 (section II.B)) should be further refined to produce a minimum set, as listed in the table below. The proposed set of common global indicators is a mixture of indicators for which metrics/proxies are available globally (e.g. change in land cover status) as well as indicators for which the coverage of reporting is limited (e.g. the Global Wild Bird Index) or metrics/proxies are currently lacking (e.g. change in land productivity). Therefore, a combination of using data from existing channels/initiatives and foreseeing incentives for additional monitoring will be needed. In this work, synergies with monitoring and evaluation (M&E) processes under other Rio Conventions should be activated and/or maintained.

Table
Proposed refinements to the minimum set of provisionally adopted impact indicators for strategic objectives 1, 2 and 3 from The Strategy

Strategic Objective 1: To improve the living conditions of affected populations
Poverty rate/relative income (including a rural component)
Water availability (including human and animal access)
Strategic Objective 2: To improve the condition of affected ecosystems
Change in land cover status
Change in land productivity
Strategic Objective 3: To generate global benefits through effective implementation of the UNCCD
Change in soil organic carbon stock/total terrestrial system carbon stock
Trends in abundance and distribution of selected species, in particular in the Global Wild Bird Index

8. In order to ensure that country Party reporting reflects not only global but also national and local realities, the AGTE recommended that the minimum set of globally harmonized progress indicators be systematically complemented by regionally, nationally, and/or locally relevant information and indicators (‘narrative’ indicators).

9. Narrative indicators can be drawn from local storylines, i.e. documented histories of successes and failures experienced by a particular site threatened by DLDD processes. In addition to feeding indicators into global reporting, storylines can also provide the information and knowledge base for understanding local DLDD processes.

10. The AGTE recommended that indicators at across spatial scales (regional, subregional, national, sub-national, local) should comply with a set proposed quality specifications, such as the e-SMART criteria.

11. The selection and identification of indicators should be supported by a conceptual model to describe meaningful causal interactions. The AGTE recommended building a modified DPSIR framework with explicit links to the three strategic objectives and in which human and environmental impacts can be distinguished. This modified framework could be provisionally named ‘Driving Force – Pressure – State – human and environmental Impact – Response framework (DPSheIR). The DPSheIR would be an evolving and adaptive, monitoring and evaluation-oriented framework that enables, inter

alia, the evaluation of the degree of implementation of the strategic objectives and best policies to cope with DLDD in affected countries. The DPSheIR can be used for reporting at multiple scales, particularly when focusing on policy evaluation, while the actual population of the framework with indicators could also be scale, location and purpose-specific.

12. The AGTE further recommended that the full understanding of the underlying system dynamics and functions be enabled by a System Dynamics-based Understanding of Desertification Processes framework (SDUDP). The SDUDP development will rely on two pillars: the available systemic knowledge about the dynamics of desertification and the new findings from local storylines. Storylines should ideally provide the information required to understand the dynamics of DLDD processes. Building and continuously updating storylines at representative hotspots and coldspots in each country is emerging as the main source of local information (documentation and ground survey) which can be shared between country Parties and used in global assessments.

13. The AGTE noted that the full integration of local and national M&E efforts into the global UNCCD progress assessment would require engagement with a wide range of relevant local stakeholders from the start of the process. This could be promoted by making indicator selection and reporting part of larger community development planning (CDP) efforts and associated decision-making. Indicator selection and associated reporting requirements should be integrated into project financing guidelines and capacity-building measures should be planned where needed.

14. The AGTE recommended that the national action programme alignment process includes the development of an appropriate M&E framework to facilitate the integration of local/national information and indicators into global progress assessments and M&E.

15. Considering that technical, logistical and scientific issues make the aggregation of indicator data from local to global scale challenging, the AGTE recommended the use of a common integration protocol for upscaling indicators, with the national level responsible for identifying sites, systematically gathering the storylines coming from local M&E that are required to understand the dynamics of DLDD, and generalizing this information at national, subregional, regional and global levels.

16. The AGTE noted that the successful implementation of indicators, the conceptual integration framework and the M&E/reporting mechanism as formulated in these recommendations would require a broad, practical capacity-building programme and may even require an update of the existing reporting procedure. The AGTE recommended that methods, mechanisms and conceptual frameworks and indicator sets proposed be tested and regularly re-evaluated to assess the feasibility of the evolving M&E approach.