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REQUEST FOR A POSSIBLE TECHNICAL PAPER OR OTHER APPROPRIATE ACTION ON CLIMATE CHANGE, FOOD AND AGRICULTURE

(Submitted by the IPCC Secretariat)

NOTE:

A corrigendum of this document is issued as Annex 2 should read “Submitted by the Co-Chair of WG II” and not “the Co-Chair of WG I”.

IPCC Secretariat

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REQUEST FOR A POSSIBLE TECHNICAL PAPER OR OTHER APPROPRIATE ACTION ON CLIMATE CHANGE, FOOD AND AGRICULTURE

At its 39th Session, the Panel had before it a request from the Consultative Group on International Agricultural Research (CGIAR) for a technical report on climate change, food and agriculture. The Panel discussed three options: preparation of a Technical Paper; organizing an Expert Meeting; and preparation of a Special Report. The IPCC Chair requested the Secretariat to approach CGIAR for more details and clarification and to consult with other UN organizations, including United Nations Environment Programme (UNEP), Food Agriculture Organization (FAO), World Meteorological Organization (WMO), United Nations Framework Convention on Climate Change (UNFCCC), The World Bank and the UN Special Rapporteur on the Right to Food, to enable an informed decision by the Panel at its 40th Session.

On 16 April 2014 the Secretariat received a written request from the Deputy Director-General, Coordinator for Natural Resources, of FAO for IPCC to prepare a Technical Report on climate change and agriculture systems as an essential means of achieving food security and in reducing projected emissions growth (see Annex 1).

According to the Principles Governing IPCC work (section 2 on Definitions), Technical Papers are based on the material already in the Assessment Reports and Special Reports are prepared on topics for which an objective international scientific/technical perspective is deemed essential. Furthermore, a Special Report is an assessment of a specific issue and generally follows the same structure and production methodology than a volume of an Assessment Report. In addition, Section 7 on Workshops and Expert Meetings of the Principles Governing IPCC work establishes that IPCC Workshops and Expert Meetings are those that have been agreed upon in advance by an IPCC Working Group, or by the Panel as useful or necessary for the completion of the work plan of a Working Group, the Task Force on National Greenhouse Gas Inventories or a task of the IPCC.

Following up on the request from the IPCC Chair at the 39th Session of the Panel, the Secretariat undertook informal consultations with other organizations. The outcome of such informal consultations is summarized below:

- The Chief Scientist and Director (ad interim) of the Division of Early Warning and Assessment of UNEP encouraged IPCC to prepare a Technical Paper on climate change and agriculture, with special focus on food security. She indicated that UNEP is keen to collaborate with IPCC in this field (options that may be discussed at a later stage would include co-sponsoring any possible preparatory meeting, supporting the publication of the Technical Paper and/or co-sponsoring outreach initiatives). She also indicated that it would be particularly useful if such a paper could be ready by summer 2015 as then it would provide a good background for a workshop UNEP wants to organize on this topic, in collaboration with FAO, in the fall of 2015.
- The Chief of the Agricultural Meteorology Division of WMO encouraged IPCC to prepare a Technical Paper on climate change and agriculture, with special focus on food security as this would provide a good baseline for new publications that WMO would like to promote on this topic in the course of 2015.
- The Manager for Science and Review of the Adaptation Programme at the UNFCCC Secretariat confirmed that agriculture and climate change is a very important topic for the UNFCCC and it is indeed included specifically in the programme of work of the Subsidiary Body for Scientific and Technical Advice (SBSTA).

- The Senior Director for Agriculture at The World Bank expressed great interest and support for the production of an IPCC Technical Paper on climate change and agriculture, with special focus on food security. He said that The World Bank would be very keen to collaborate with IPCC in this field (options that may be discussed at a later stage would include co-sponsoring any possible preparatory meeting, supporting the publication of the Technical Paper and/or co-sponsoring outreach initiatives).
- The office of the UN Special Rapporteur on the Right to Food expressed support for the production of an IPCC report on agriculture and food security. She also expressed interest of the office in collaborating with IPCC on this topic (options may be discussed at a latter stage).

Taking into account all the above the Co-Chair of Working Group II prepared a paper on the scope of a potential IPCC Technical Paper on Food Security which was submitted to the 47th Session of the IPCC Bureau. Discussions at the Bureau focused mainly on the desirability of a Technical Paper versus a Special Report and on the scope of any of these two alternatives.

The Bureau at its 47th Session (Geneva, 18 September, 2014) discussed various options for addressing the matter. Most of the opinions expressed at the Bureau were supportive to produce a Technical Paper and suggested that such a Technical Paper be prepared jointly by Working Groups II and III. Two delegations proposed to expand the scope of the paper to include water security, water technology and a specific focus on developing countries. Two other delegations proposed that the scope should include the contribution of agriculture to GHG emissions. One more suggested that TFI should also be involved. One delegation expressed support to the development of a Special Report and to broaden the scope to cover issues such as bioenergy and land availability. One delegation raised concerns on the foreseeable workload and one more manifested that at this moment on time the paper should be limited to food security. In addition, four delegations suggested considering the organization of a workshop in preparation of a Technical Paper or a Special Report.

Annex 2 includes a revised version of the scoping paper developed by the Co-Chair of Working Group II with takes in to account all the information and feedback received. The Technical Paper team will consist of a coordinating lead author, plus 14 lead authors, plus two review editors, with coordination by TSU WGII working in close cooperation with WGI TSU, WGII TSU and TFI TSU. The coordinating lead author, lead authors, and review editors will be identified from the author pool of the AR5 cycle, including the special reports and the methodology reports.

Preparation of the Technical Paper on Climate Change, Agriculture and Food Security will require two small authors meetings. The finalization will take place at a Bureau session within current budget. Annex 3 includes a budget proposal for the production of the Technical Paper, including costs for meetings, publication and translation, distribution and outreach.

The Panel is invited to consider the proposal for the preparation of a Technical Paper, its scope, workplan and budget and take a decision on how to proceed in addressing the matter of climate change, food and agriculture.

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Our Ref.:

Your Ref.:

16 April 2014

Dear Dr. Christ,

The work of the IPCC's fifth assessment reports from the three working groups constitutes the most comprehensive scientific work on climate change with very important implications for FAO's work. We are pleased to have contributed to these reports and very interested in seeing the results widely disseminated and used to support policy processes.

To this end, FAO believes it would be very useful to extract and summarize the key findings related to agriculture and climate change from the three working group reports (physical science, vulnerability of socioeconomic and natural systems and options for mitigation) and to make these widely available especially for key upcoming UNFCCC meetings.

What is clearly emerging from the IPCC work is the magnitude and urgency of addressing climate change in agricultural systems, as an essential means of achieving food security and in reducing projected emissions growth. Each of the fifth assessment working group reports covers vital issues on agriculture and climate change, and the impact of this work would be greatly enhanced by bringing these results together in one volume. As you know, in December 2015, the parties are expected to conclude a global climate change agreement, and having scientifically sound material about agriculture and climate change available well in advance of the December meeting (or at the latest by June 2015), will be an invaluable tool to support the development of an agreement. Agriculture has been a contentious issue in the negotiations and it is thus all the more important to have the latest and highest quality scientific work on the topic available to negotiators. FAO would appreciate the IPCC giving high priority to this request for a Technical Report on Agriculture and Climate Change.

Best regards,

Maria Helena Semedo
Deputy Director-General
Coordinator for Natural Resources

Dr. Renate Christ
Secretary
Intergovernmental Panel on
Climate Change (IPCC)

Potential IPCC Technical Paper on Climate Change, Food, and Agriculture

Submitted by the Co-Chair of WG II
Revised, September 25, 2014 v2

Background

The IPCC Procedures specify that “IPCC Technical Papers are prepared on topics for which an objective, international scientific/technical perspective is deemed essential.” They “are initiated: (i) in response to a formal request from the Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC) or its Subsidiary Bodies and agreed by the IPCC Bureau; or (ii) as decided by the Panel.” Technical Papers provide a mechanism for assembling related material across chapters or working group contributions and organizing it for added value. Because Technical Papers are based on material in existing IPCC Assessment Reports, Special Reports, or Methodology Reports, the writing, review, and approval process is relatively streamlined, though still thorough and robust.

Historically, IPCC Technical Papers have been some of the most widely used IPCC products. As of August 9, 2014, the 2008 Technical Paper on Water had been cited 1924 times, based on Google Scholar.

Food production and agriculture are core issues for the IPCC. Food production is specifically highlighted in Article 2 of the UNFCCC. Every IPCC Assessment Report has included at least one chapter on agriculture. Recent reports have assessed aspects of land use, food production, and food security across several chapters in the contributions from all three working groups, plus the Task Force on Inventories. No issue is more central than food to the long-term sustainability of the human enterprise.

Yet, the availability, price, and security of access to food emerge as a result of a large number of interacting processes, with diverse relationships to climate change and responses to climate change. Direct impacts of climate change on crop and animal physiology play a key role, but so do reliable access to water for irrigation and energy for manufacturing fertilizer. The availability of land and potential competition with other land uses is also important, especially in an era with growing demands on land for carbon storage or the production of biomass energy. Shifts toward more animal-based diets put additional pressure on land resources and dramatically alter emissions of methane and nitrous oxide. Because the availability of food and the breadth of access to food entail harvesting, processing, storage, distribution, and access, as well as production, potential impacts of climate change can occur at many levels. The strong links between food production, human health, and the economic prospects for rural communities mean that these domains need to be understood as an integrated unit.

Food and agriculture are issues not only for the land but also for the coasts, oceans, and freshwater bodies. With fisheries and aquaculture providing employment for over 200 million people and the primary source of protein for more than 2.6 billion people, sustainability of these resources and integration of terrestrial and marine food production systems need to be key topics.

New evidence, assessed in the AR5, indicates the sensitivity of food production to climate variability. New information on extremes in a changing climate provides a starting point for building a deeper understanding of the present and future role of climate variability.

Agriculture plays a major role in the forcing of climate but also in the portfolio of options for mitigation and adaptation. Important climate forcing from agriculture comes not only from greenhouse gas exchange but also from effects of croplands on water balance and reflected

sunlight (albedo). Some of the major sources of methane and nitrous oxide are agricultural activities, and clearing of forests to increase land for agriculture can result in large releases of carbon dioxide. On the other hand, appropriate management of agricultural lands can lead to carbon storage. Several countries have been pioneers in developing ways to simultaneously increase agricultural yields, develop biomass energy, and protect forests.

These diverse topics are all discussed in the AR5, SREX, SRREN, and the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands. They are not, however, assembled in a way that makes the key findings and integrated themes easily accessible. Food security and food production are the focus of chapter 7 of the WGII contribution to the AR5, but issues related to interactions between climate change and agriculture are discussed in most chapters of the WGII contribution, as well as several of the chapters of the WGI and WGIII contributions, SRREN, SREX, and the inventory supplement.

A technical paper on climate change, food, and agriculture can be an efficient mechanism for assembling this critical material into a set of accessible, integrated findings. It can provide a single source for information that currently spans six separate reports. More important, effective organization will facilitate sophisticated, multi-disciplinary approaches to the challenge of sustainable food and agriculture, encouraging effective actions by decision makers and stimulating new research. A technical paper on climate change, food, and agriculture can be a useful resource for governments, UN agencies, development organizations, the scientific community, and a broad range of private-sector entities.

As of September, 2014, September, 2014, CGICAR, FAO, UNEP, WMO, The World Bank and the office of the UN Special Rapporteur on the Right to Food have expressed interest in an IPCC Technical Paper on Food Security.

Key issues to be addressed

A technical paper on climate change, food, and agriculture will require approximately 200 pages of text (including figures and references) for full coverage of the material in recent IPCC reports. The material could be organized into 7 mini-chapters.

- 1) Climate-change impacts and prospects for adaptation in crops, domestic animals, and fisheries
 - a. Mostly from WGII sectoral and regional chapters
- 2) The food-water-energy nexus
 - a. Material from SRREN, WGI, WGII, and WGIII reports
- 3) Agriculture and climate variability
 - a. Material from SREX, WGI, and WGII sectoral and regional chapters
- 4) Climate-change impacts on post-harvest components of food systems
 - a. Material from WGI, WGII, and WGIII reports
- 5) Food security, human health, and human security
 - a. Mostly from WGII sectoral and regional chapters
- 6) Managing competition for land
 - a. Material from SRREN, WGII, and WGIII
- 7) Climate forcing from agriculture
 - a. Material from SRREN, WGI, WGII, WGIII, and TFI

Process

The process for writing, reviewing, and accepting an IPCC Technical Paper is described in section 5 of appendix a to the IPCC Principles. The team of authors and review editors would be selected based on IPCC procedures. There will be 2 lead authors for each of the 7 mini-chapters. The draft document will be submitted for simultaneous review by experts and governments. After revision, it will be submitted to governments for a final review, and then revised again in consultation with the

IPCC Bureau, as described in the IPCC procedures. A Technical Paper on climate change, food, and agriculture will require coordination through one or more of the existing WG TSUs.

With a decision to proceed in the Autumn of 2014, a Technical Paper on Food Security can be approved and released in the second half of 2015, prior to the COP 21 of the UNFCCC.

Timetable

A possible timetable for completion of a Technical Paper on Climate Change, Food, and Agriculture is:

October 27, 2014	Consideration of proposal by IPCC 40, Copenhagen, Denmark
November 17, 2014	Close of nominations for coordinating lead author, lead authors, and review editors
December 1, 2014	Submission of final list of selected Coordinating lead author, lead authors, and review editors to Bureau for approval
February, 2015	Lead Author meeting #1
March, 2015	Draft Technical Paper to experts and governments for 4 week review
May, 2015	Lead author meeting #2
June, 2015	Final draft Technical Paper to governments for 4 week review
August, 2015	Finalization of Technical Paper on Food Security, in consultation with the IPCC Bureau

Participants

The Technical Paper team will consist of a coordinating lead author, plus 14 lead authors, plus two review editors, with coordination by one or more of the existing WG TSUs. The coordinating lead author, lead authors, and review editors will be identified from the author pool of the AR5 cycle, including the special reports and the methodology reports.

Financial Resources

Preparation of the Technical Paper on Food Security will require two small author meetings, with 5-7 authors supported by the Trust Fund and 8-10 supported by developed countries. The project will require the support of one or more of the WG TSUs.

Budget

1 st meeting authors		
7 journeys	28,000	
Other expenses	4,760	
Subtotal		32,760
2 nd meeting authors and Review Editors		
8 journeys	32,000	
Other expenses	5,440	
Subtotal		37,440
Publication and translation		200,000
Distribution		20,000
Outreach		50,000
TOTAL		340,200