

POST-RIO
**PLANETARY
BOUNDARIES**
Sustainable Development

Workshop
2013
Geneva

**Planetary boundaries and environmental tipping points:
What do they mean for sustainable development and
the global agenda?**

4 – 5 NOVEMBER 2013

CONCEPT NOTE



Stockholm Resilience Centre
Research for Biosphere Stewardship and Innovation



Planetary boundaries and environmental tipping points: What do they mean for sustainable development and the global agenda?

International Workshop for Scientists, Government Experts and Stakeholders

04 - 05 November 2013
Centre International de Conférences Genève (CICG)
Room 14, 2nd floor, 17 rue de Varembe
Geneva, Switzerland

CONCEPT NOTE

This concept note is complementary to the agenda of the workshop.

Finland, in cooperation with Sweden, Norway, Denmark, UNEP and Stockholm Resilience Centre (SRC) organizes an international workshop “*Planetary boundaries and environmental tipping points: What do they mean for sustainable development and the global agenda?*” on 4-5 November 2013 in Geneva, Switzerland.

Finland together with the co-organizers of the workshop are advocating for the need to advance the understanding of the biophysical boundaries of global development in policy making.

The scientific work around the planetary boundaries and environmental tipping points, as well as the political processes on global Sustainable Development Goals (SDGs) and the broader Post-2015 agenda are therefore considered to be the key concepts, approaches, processes and frameworks in the workshop.

The focus of the workshop is to increase the understanding of the importance of the biophysical boundaries in sustainable development and to recognize the social and economic aspects linked to it. To facilitate a holistic framework for the discussions, we will explore the inter-linkages between the science of planetary boundaries and environmental tipping points and the work on Sustainable Development Goals and the broader Post-2015 agenda.

In order to keep the workshop concise and pragmatic, the discussions are conducted with a limited number of invited scientists with expertise relevant to the workshop topic and government and stakeholder representatives working mainly at senior expert level with issues related to sustainable development, planetary boundaries, resilience and environmental pressures.

The workshop consists of two working days, the first (Monday, 4 November) is dedicated to dialogue between the invited scientists, and the second day (Tuesday, 5 November, starting in the evening of 4 November) provides a platform for a broader science-policy-stakeholder interaction.

The intention is to provide a platform for discussions in an informal setting. The discussions and exchange of views will apply the Chatham House Rule facilitating an open dialogue without identifying in the reporting who said what. The workshop outcome will be reported as Co-Chairs’ Summary Note.

In order to keep focus on the issues discussed and benefit as much as possible from the attendance, all participants are requested to not use their cell phones, twitter and email during the programme. If necessary, all use of cell phones etc. should be done outside the workshop room.

The workshop is funded by the Ministry of the Environment of Finland and the Nordic Council of Ministers (NCM). Nordic Council of Ministers is also funding the Stockholm Resilience Centre’s discussion paper “*Global Sustainability and Human prosperity – contribution to the Post-2015 agenda and the development of Sustainable Development Goals*” which is one of the key background papers of the workshop.

SCIENCE DAY

Monday 4th November

Participants: Scientists

WELCOME and INTRODUCTIONS (9:00 – 09:45)

Rationale:

The welcoming session of the Science Day will provide the participants with the rationale for organizing the workshop, including a dialogue between scientists on the first day and a science-policy dialogue on the second day between scientists, Governments representatives and stakeholders on planetary boundaries, environmental tipping points and sustainable development. It will also introduce the participants to each other to facilitate informal discussions throughout the workshop.

Intended session outcome:

The participants are well informed about the objectives of the workshop, in particular the Science Day, and they have an overview of the workshop programme and are introduced to one another.

SESSION 1 (09:45 – 11:30)

Overview of the planetary boundaries and environmental tipping points

Rationale:

The participants will be provided an update on the current science of planetary boundaries, an approach to address sustainability in the 'Anthropocene', ie. the era of human-driven global change. The potential irreversible effects of climate change will be highlighted and discussed. Satellite imagery and other data will be used to illustrate the existing evidence and current trends on planetary boundaries and environmental tipping points.

Exchange of views between the participants is encouraged and ample time is reserved for discussion which will be facilitated by the co-chair.

Intended session outcome:

The participants are prepared for the workshop discussions and the upcoming group exercise by providing an update on the science related to planetary boundaries and environmental tipping points and by encouraging diverse views on the topic to be discussed among participants.

SESSION 2 (11:45 – 12:30 and 13:30 – 14:15)

Speed talks on the science behind the concepts

Rationale: In order to ensure a broad presentation of the science related to the workshop discussions, attending scientists have been asked to provide speed talks on topics relevant to the workshop.

Speed talk presentations:

The rules of the speed talks are for each presenter to use maximum of 3 slides and maximum of 6 minutes per presentation.

First half of the Session (11:45 – 12:30)

- **Planetary Boundaries: Where to next in modeling?**
Prof. Wolfgang Lucht, Co-Chair, Research Domain "Earth System Analysis", Potsdam Institute for Climate Impact Research (PIK) & Alexander von Humboldt Chair in Sustainability Science Department of Geography, Humboldt Universität zu Berlin
- **The problematic human – challenges of knowledge integration in global social-ecological systems**
Sarah Cornell, PhD, Research Coordinator of planetary boundaries research, Stockholm Resilience Centre
- **Interacting regional scale tipping points for biodiversity and ecosystem services**
Ms. Vânia Proença, IN+, Center for Innovation, Technology and Policy Research, Instituto Superior Técnico, University of Lisbon
- **Tipping from the Holocene to the Anthropocene: how threatened are major world deltas?**
Dr. Zita Sebesvari, Associate Academic Officer, Institute for Environment and Human Security (UNU-EHS), United Nations University
- **Ecosystem tipping points and sustainable development in Colombia – National and local perspectives in teaching and research**
German I. Andrade, Scientific Advisor, the Alexander von Humboldt Institute for Research on Biological Resources, Colombia

Second half of the Session (13:30 – 14:15)

- **Science-Policy interfaces on biodiversity and ecosystem services: recent developments at the EU level**
Heidi Wittmer, Deputy Head, Department of Environmental Politics, Centre for Environmental Research UFZ
- **Consideration of socio-economic tipping points for sustainable development**
Mikiko Kainuma, Project Leader, Low-Carbon Asia Research Project, Center for Social and Environmental Systems Research, National Institute for Environmental Studies (NIES), Japan
- **Making room for water: governance challenges and human rights implications of climate-induced community relocation**
Robin Bronen, Executive Director, Alaska Institute for Justice, University of Alaska
- **Water, Energy and Agriculture - Promoting coherence in exploring responses**
Dr. Youba Sokona, Special Advisor on Sustainable Development, The South Centre

Intended session outcome:

The workshop participants have a broader understanding on the various topics and scientific deliberations relevant to the planetary boundaries, environmental tipping points and sustainable development. The participants are more familiar with of each other's recent work.

SESSION 3 (14:15 – 16:30)

Group work – Gaps, policy responses and new tools for policy makers

Rationale:

In order to foster lively and meaningful dialogue, the participants are divided into 3 groups of 6 participants to discuss three questions regarding the gaps of the science of planetary boundaries and environmental tipping points, the needed policy responses to enhance sustainable development and the role of scientists in supporting evidence-based decision-making, and operationalization of the scientific concepts into practical tools for policy makers. By using the carousel methodology, it is possible to get input from all participants on the three working group questions in a rather effective way. The methodology gives the participants time to discuss one of the questions more in depth together with a table facilitator who will focus on one question throughout the exercise and gathers a lot of input on the issue to be shared in the end of the exercise.

Questions to be discussed in the groups:

1. What are the gaps around the science of planetary boundaries and environmental tipping points? Where do we have the best evidence? Where do we have the least evidence?
2. What policy responses are needed to secure a safe operating space for human development? What role can the scientists play in supporting an evidence-based decision-making?
3. In order to advance a more informed decision-making, concepts such as planetary boundaries or environmental tipping points need to offer practical tools for policy makers. How can these concepts be made more operational for policy-makers?

Methodology:

The group work will be facilitated by Ms. Ellika Hermansson Török from the Stockholm Resilience Centre and the table facilitators are Professor Wolfgang Lucht from the Potsdam Institute for Climate Impact Research (PIK) and Ms. Sarah Cornell from Stockholm Resilience Centre.

- 1) Facilitator (SRC) explains the idea of the carousel and the task of the group work.
- 2) Participants will divide into 3 groups and group around a table/flipchart with a *table facilitator* in each group. Each group corresponds to one of the questions.
- 3) The table facilitators introduce the issue for the group.
- 4) During 25 minutes the participants leave their input to the facilitator, documenting their proposals in post-it notes. The table facilitator gathers the input.
- 5) In 25 minutes iterations, the participants rotate to the other tables to leave their input on the other questions. The facilitator at each table remains in his/her table.
- 6) After three iterations, the participants return to their original tables.
- 7) Together with the table facilitator the group makes meaning and organizes the information that the facilitator has gathered: the post-it notes are clustered, conclusions are identified, and 3-5 key messages are written on a flipchart (to be presented during the opening remarks during Day 2).
- 8) Each facilitator presents the outcome of their table, including the key messages, to the other participants.

Intended session outcome:

The participants have identified relevant gaps, potential policy responses and policy-relevant tools to inform the discussions of the science-policy day.

WRAP-UP (16:30 – 16:45)

Co-chair will wrap-up the day's discussions and provide preliminary concluding remarks on the messages of the Science Day which will inform the science-policy dialogue starting at the dinner reception on Monday evening.

SCIENCE-POLICY DAY

Tuesday 5th November

Participants: Invited Government experts, scientists and stakeholder representatives

OPENING (9:00 – 10:00)

Rationale:

The opening session of the Science-Policy Day will provide the participants with the rationale for organizing the science-policy dialogue on planetary boundaries, environmental tipping points and sustainable development. It will also inform the participants on the work for the overall political framework of Sustainable Development Goals and the broader Post-2015 agenda. It will introduce viewpoints on how environmental sustainability could be embedded in this work and thereby also preface the discussions on the role of planetary boundaries and environmental tipping points in sustainable development.

The opening session will also highlight the key messages and findings from the Science Day (4 November) for all participants to consider and reflect upon during the dialogue.

Intended session outcome:

The participants are well informed about the objectives of the workshop and, in particular the Science-Policy Day, and have an overview of the scientific discussions of the previous day. The participants become familiar with the on-going global political processes and frameworks that are relevant for the discussion of planetary boundaries, environmental tipping points and sustainable development.

SESSION 1 (10:00 – 11:30)

Approaches to environmentally sound, socially just and economically inclusive development

Rationale:

The participants will be provided an overview and perspectives of topical environmental, social and economic considerations around the concept of planetary boundaries by prominent scientists, researchers as well as government and stakeholder representatives. Environmental sustainability and the concept of planetary boundaries will be linked with social, economic and development aspects that are essential for the global sustainable development agenda.

Exchange of views from the audience is encouraged and will be facilitated by co-chairs.

Intended session outcome:

The participants are prepared for the workshop discussions and the group exercise later during the day. Understanding of the planetary boundaries approach and the social and economic considerations linked to it is increased amongst the participants.

SESSION 2 (11:50 – 12:45)

Policy solutions for a sustainable future

Rationale:

Introduce some noteworthy ideas, recommendations and solutions that contribute to a better understanding of the diversity and complexity of sustainable development. Point out that the discussions around planetary boundaries and environmental sustainability can provide concrete recommendations and practical solutions, hence extend beyond the conceptual discussion.

Exchange of views from the audience is encouraged and will be facilitated by co-chairs.

Intended session outcome:

The workshop participants have an understanding of proposed policy solutions that can strengthen the environmental considerations in the broader sustainable development framework.

SESSION 3 (13:45 – 16:00)

Group work – Policy implications of planetary boundaries and tipping points to sustainable development and the global agenda

Rationale:

In order to foster lively and meaningful dialogue, the participants are divided into 6 groups, consisting around 9 participants. Groups are composed beforehand by the organizers with the aim of having groups with balanced representation of scientists, governments and stakeholders in each group.

Questions to be discussed in the groups (2 groups per question):

1. What are the means to improve evidence-based decision-making, specifically referring to incorporating messages on critical environmental issues from science into policy? What can the scientists and policy-makers do better?
2. How critical environmental issues related to environmental tipping points or planetary boundaries can be included in the global sustainable development discussions, and in this regard, how can the planetary boundaries and environmental tipping points be framed and operationalized in order to be relevant and appealing to different groups of countries?
3. The Post-2015 goals should promote integrated responses, but they should also be limited in number. In the context of the Post-2015 framework, how could we design integrated goals incorporating critical environmental issues reflecting planetary boundaries and environmental tipping points?

Methodology:

Discussion will take place in working groups and in plenary. The group work will be facilitated by Ms. Hanna Wetterstrand from the Stockholm Resilience Centre and room facilitators are Mr. Per Mickwitz from the Finnish Environment Institute, Mr. Anders Turesson from the Ministry of the Environment, Sweden, and Ms. Annika Lindblom from the Ministry of the Environment, Finland.

- 1) Facilitator (SRC) explains the idea of working groups and the task of the group work.
- 2) Participants are divided into 6 small groups and each participant will be assigned a group and room.
- 3) Participants move into three different rooms with two small groups in each with a *room facilitator* in each room. Each room corresponds to one of the questions assigned.
- 4) The facilitators introduce the question for the two groups.
- 5) During 30 min each group discusses and gives their input to the questions, documented on post-it notes.

- 6) The two groups in each room move into one big group where they during 30 minutes leave their input to the facilitator and together with the facilitator the group makes meaning and organizes the information: the post-it notes are clustered, conclusions are identified, and 3-5 key messages are written on a flipchart.
- 7) All groups return back to plenary. Each facilitator presents the outcome of the discussions regarding their question, including the key messages.
- 8) Discussion in plenary discussion on the outcomes is moderated by the co-chairs.

Intended session outcome:

The participants have identified means to improve evidence-based decision-making, especially with regard to sustainable development discussions in the SDG and Post-2015 processes. New ways to address complex and multidimensional issues in countries with different national priorities are explored. The participants have also an increased understanding of the possibilities and challenges of the integration of environmental sustainability, planetary boundaries and environmental tipping points in the broader sustainable development frameworks.

SESSION 4 (16:00 – 16:45)

What do we conclude and the way forward

Rationale:

The concluding discussion on the findings of the whole workshop will be conducted by the co-chairs and the plans for the forthcoming work will be explored and discussed.

Intended session outcome:

As the workshop findings are perceived to be a contribution to the forthcoming political discussions on sustainable development and the broader Post-2015 policies, the next steps are identified and discussed. Initial plans and ideas on the way forward are heard from countries and organisations, and interest of joint events and/or processes are identified.

CO-CHAIR'S SUMMING UP AND CLOSING (16:45 – 17:00)

The three co-chairs are summing up the deliberations and closing the workshop. Information about the delivery and timetable of the workshop summary and possible key messages is conveyed.