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# Outcomes document from third face to face authors meeting of the sixth Global Environment Outlook global assessment

**Nansha Grand Hotel, No.1 2nd South Trade road, New Coastal City, Nansha District, Guangzhou, China, Oct. 9 - 13, 2017**

The global assessment authors for the sixth Global Environment Outlook met to:

1. Address the review comments from the second-order draft review of the first nine chapters of the global assessment;
2. Obtain guidance from the Review Editors on how to deal with the review comments;
3. Advance the Policy Effectiveness chapters towards their first-order draft quality;
4. Conduct an expert elicitation exercise to assess the effectiveness of a select group of policy case studies;
5. Advance the Outlooks chapters towards their first-order draft quality;
6. Gather more information for the Innovative Outlooks component of the assessment with a stakeholder workshop;
7. Advance the drafting of the 'common thread' of the economic or equity dimensions throughout the sixth Global Environment Outlook.
8. Share notes and discussions on their progress.

**On these items, the meeting, the Co-chairs and Vice-chairs agreed:**

1. Authors should respond to all content and structure elements provided in the co-chairs table (see Annex A) and return these responses with their third-order drafts on Nov. 15, 2017.
2. The co-chairs have developed guidance on the correct usage of the Drivers, Pressures, State, Impact and Response (DPSIR) for this report (see Annex B).
3. A technical summary will be produced for the sixth Global Environment Outlook. Authors should extract key findings from their chapters with the purpose of providing a subset of these for the Summary for Policy Makers and the remainder for the technical summary.

4. The Secretariat will explore the possibility of publishing the sixth Global Environment Outlook through a university press (e.g. Cambridge, Oxford).
5. A preliminary first order draft will be produced in Singapore and will be finalized once the Policy and Outlooks chapters have key findings to contribute.
6. Cross-cutting authors will produce a key message for each issue.
7. The scoring from the expert elicitation exercise conducted during the meeting will not be used in the Global Environment Outlook report, but the lessons learned will.
8. The approach to incorporating the findings of the Outlooks Game Changers workshops will need to assess whether these would be considered primary research in the assessment. The Scientific Advisory Panel has recommended against presenting primary research in the Global Environment Outlook.
9. Authors from the first nine chapters should begin extracting their top ten key messages from the chapters and ensure the rationale for those key findings is present, and properly referenced, in the chapter.

**Timeline**

1. Authors from the first 9 chapters should submit their completed comment grids to their chapter coordinators by Oct. 31, 2017;
2. These completed grids will be transmitted to Review Editors with the completed third-order drafts by Nov. 15, 2017. Review Editors will produce their summary report from these materials and submit this report to the Scientific Advisory Panel;
3. Policy Effectiveness authors should submit their first-order drafts of their 11 chapters by Nov. 15, 2017 so these can be prepared for the first-order draft review by Dec. 1, 2017.
4. Outlooks authors should prepare the first-order drafts of their 7 chapters by Nov. 30, 2017 so that they may be prepared for the first-order draft review by Dec. 1, 2017.
5. Future Outlooks Game Changers workshops will be organized on:
    a. December 1, Nairobi (governments, policy stakeholders)
    b. February 19 – 23, Singapore (cities, local governments)
6. The first expert review of the second-order draft of the full Global Environment Outlook will occur in April, 2018. Authors will address comments from this review period through May, 2018.
7. The combined intergovernmental and expert review of the third-order draft of the Global Environment Outlook will occur through June and July, 2018. Comments from this review will be addressed in Aug. 2018 and this document will be the foundation for the creation of the second-order draft of the Summary for Policy Makers.
8. The small group of coordinating lead authors which produced the first-order draft of Summary for Policy Makers will be present for consultation during the face-to-face meeting of the High-level and Intergovernmental and Stakeholder Advisory Group, which is meant to complete the second-order draft of the Summary for Policy Makers.
9. The line-by-line negotiation of the Summary for Policy Makers by United Nations Member States will likely occur in Dec. 2018.

Outreach

1. Media and outreach events will be organized in Singapore to once again raise the profile of the Global Environment Outlook.
2. Messaging for these events will focus on cities and urbanization.
3. The launch of GEO for Local Governments / Cities could be announced at the Singapore events with a broad engagement for the Government of Singapore.

**The following concluding remarks were provided by the Co-chairs and Vice-chairs**

1. The timeline for delivery of the final Global Environment Outlook and its accompanying Summary for Policy Makers for endorsement at the UN Environment Assembly is now more concrete. In order to meet this new timeline the two documents will need to be delivered in September, 2108 in order to be delivered to the UN Environment Assembly in March, 2019.
2. This compressed timeline, along with the intention to produce a technical summary, will increase the workload and demands on author teams.
3. The co-chairs and vice-chairs recognize this challenge, but believe the quality and accessibility of the final products will be significantly increased with this approach.
4. The collaborative nature of the Guangzhou meeting, along with the generous support of our hosts at the South Centre for International Cooperation, has allowed the Global Environment Outlook to make significant advances at the third authors meeting.

# Annex A: Guidance on Structure and Content from the Co-chairs

**Chairs' Guangzhou Guidance List for GEO-6, 11 October 2017**

| **General Comments** | **Response** |
|---|---|
| - GEO-6 should go significantly further than GEO-5; there should be clarity regarding what's new in this report | |
| - GEO-6 should be in line with other international assessments, but should not duplicate them. Please let us know whether you have checked related international assessments and are in line with them. | |
| - GEO-6 should build on the regional GEO-6 reports | |
| - GEO-6 should build on the gender GEO report | |
| - Is there a clear reference to Healthy Planet, Healthy People? | |
| - Consistency of language (are concepts used correctly; e.g. refer to drivers or pressures but not threats) | |
| - DPSIR: Has the method been consistently applied? See below | |
| - Have the chapters linked in effectively with the SDGs and the MEAs? | |
| - Structure: The chapters should have a similar structure. Is your structure in line with the instructions? See below | |
| - Have economic and equity issues been integrated? | |
| - Policymakers summary: Does it include science-based recommendations for the different policymakers | |
| - The Data and Knowledge chapter has sections on Big Data, citizen science and traditional knowledge, in particular saying how important the latter two are. Have you considered these new data sources in your chapter? | |
| Writing style: | |
| - Please write "There is consensus in the literature that …"; "there is lack of consensus in the literature on" (e.g. on fracking) … and so forth … please do not be anecdotal. | |
| - Avoid dramatic language, unless you are citing literature that is using such language – e.g. 'planetary boundaries' | |
| Thematic Chapters | |
| - One diagram is needed on DPSIR for these chapters (we will devise a common graphic for this), applied differently in each chapter | |
| - All chapters need to have (a) Introduction; (b) Links to the Drivers in Chapter 2; (c) Pressures; (d) State; (e) Impact; (f) Response; (g) Overall state of the Theme, structured as Key Findings (Conclusions) and Key Messages (Recommendations, not policy prescriptive) | |
| - (a) The Introduction chapter needs one or two paragraphs on: the issue including nature's contribution to people (relate to Healthy Planet, Healthy People); the knowledge in GEO-5 (one chapter reproduced all the recommendations from that theme in GEO-5); what's new including the link to the SDGs with a small Table showing the most relevant SDGs for this theme, and links to the others (we will devise a common graphic for this), illustrating the nexus with the other thematic issues; structure. | |
| - The links to the drivers in Chapter 2 should be specific to the thematic issue under discussion. This link refers to the anthropogenic (indirect) causes of a problem. | |
| - (c) Pressures: This refers to the direct causes of a problem (please do not use other terminology – such as threats. | |
| - (d) State and Trends: Trends are of the past and immediate future | |
| - (e) Impacts: These are the impacts of the States (and Trends) on society, the economy, infrastructure or humans | |
| - (f) Responses: These should be grouped by scale (global, international, national, local) and it should be identified whether they are targeting the D,P,S,I or R; also it could be good to identify which SDG target the policy response would be relevant to | |
| - (g) Overall state of the Theme, with Key findings: these should be findings from the chapter and should be clustered in relation to driving forces, pressure, state, impact and response. They should be followed by Key messages which are policy recommendations that flow from the findings and can be targeted to governments, business, NGOs, civil society, etc., and which perhaps look forward to the Policy Effectiveness chapters | |

Box items **could be structured as follows:**

- **(a) Introduction providing the global relevance of each box item.**
- **(b) The specific case study of the challenge, briefly referring to the driving forces, pressure, state, impact and responses**
- **(c) A relevant graphic, which either speaks to (a) or to (b)**
- **(d) What sort of policy action can be/is considered and could be potentially promising.**
- **(e) Make sure you cite the representative literature**
- **(f) Please cross-reference to chapters where relevant**

SDG Table in intro

**SDG Table for chapters**

**Chapter 1. Introduces the key environmental SDGs and the links with the other SDGs.**

| Environmental SDGs | Links with other SDGs | Links with MEAs, etc. |
|---|---|---|
| | | |

**Chapter 2. Drivers, SDGs and Other Agreements**

| Drivers | Links with SDGs | Links with other agreements |
|---|---|---|
| | | |

**Chapter 3. Data and SDGs**

| Data/knowledge sources | Links with SDGs | Links with other agreements |
|---|---|---|
| | | |

**Chapter 4. Cross cutting and SDGs**

| Cross-cutting issues | Links to SDGs | Links with other agreements |
|---|---|---|
| | | |

**Chapter 5-9 Thematic issue and SDGs**

| Theme | Links to SDGs | Links with other agreements |
|---|---|---|
| | | |

**Referencing**

About one in two sentences should be heavily referenced;

All references should have page numbers, giving priority to indicating the location of a the relevant finding in large, multi-chapter reports.

All references should be submitted to UNEP so that this can be double checked at the end.

More than 50 % of the references should be from 2013-2017

## Annex B: A Recommended Representation of the DPSIR Framework

The DPSIR framework has been widely used and inevitably interpretation of these terms has differed in different publications. It is important that in GEO-6 the terms are used consistently in different chapters, while also following mainstream usage. This guidance is intended to specify how the terms should be used in GEO-6, with some examples for each of the thematic chapters.

**Definitions of the terms**

Drivers (D): the Drivers are the causes of the Pressures on the environment. This is complicated in GEO-6 by the fact Chapter 2 is called 'Drivers'. The four (or five) drivers in Ch.2 are Population, Economic Development, (Urbanisation), Technology and Climate Change. These drivers may be referred to in the drivers in the Thematic Chapters, but ideally lower level drivers (e.g. economic sectors) should also be specified.

Pressures (P): these are the actual phenomena that put pressure on the environment. Often they will be emissions to air, water or land.

States (S): these are the conditions of the environment that are altered by the Pressures. Often they will be concentrations of substances in the environment.

Impacts (I): the States may have effects on people (e.g. health effects), physical infrastructure (e.g. buildings) or nature (e.g. crops, biodiversity). The effects are called Impacts. The nature of the Impacts should be clearly identified (e.g. air pollution impacts on the human respiratory system).

Responses (R): these are the societal reactions to the Impacts. They may be addressed to the Drivers, Pressures, States or the Impacts themselves.

**Examples (NB: the Drivers in each case may include those in Chapter 2)**

***Air*:**

Drivers: Traffic; Coal power plants; Refrigeration; Soil erosion; climate change

Pressures: NOx/PM emissions; many different emissions; CFCs, HFCs; dust storms; heat stress

States: concentrations of these emissions in air; haze; outdoor air temperatures

Impacts: human health effects; damage to crops and buildings

Responses: (policies or actions in relation to): D – electric vehicles and renewables; P: catalytic converters, flue gas desulphurisation; S – face masks, home air filters, air conditioners; I – asthma inhalers, staying indoors

***Freshwater*:**

Drivers: fishing; industrial plants; agriculture; drug use

Pressures: fish catch; discharges to water; pesticide run-off; pharmaceuticals in sewage; irrigation

States: changes in fish stocks; water pollution concentrations of industrial chemicals, pesticides, endocrine disruptors

Impacts: reduced food availability, malnutrition; human health effects; ecosystem disruption and biodiversity loss; effects of gender of fish

Responses: (policies or actions in relation to): D – controlling fishing/fishing gear; cleaner industrial processes; organic agriculture; reduced prescription/different drugs; P – fishing quotas; emission controls; reduced pesticide application; sewage plant purification; S – re-stocking lakes; filtering lake/river water; drinking water standards; I – alternative foods; medical procedures; ecosystem re-creation, species re-introduction

***Oceans*:**

Much the same as freshwater, plus:

Drivers: Plastics industry; Shipping; fossil fuel combustion

Pressures: marine litter; cleaning ballast tanks, oil spills; CO2 emissions

States: concentration of plastics/microplastics in the sea; oil concentration in water; ocean acidification

Impacts: plastics in marine food chain, human food; death of marine creatures; sea-floor pollution; coral bleaching

Responses: (policies or actions in relation to): D - biodegradable plastics, double hull boats, renewables, accident prevention; P – recycling plastics, ballast tank regulations; CO2 emission reduction; S – collecting plastics from the sea, oil spill clean up; I – not eating sea food; alternative reef structures

***Land*:**

Drivers: agriculture, construction, climate change

Pressures: tilling methods (erosion), soil loss, salinization; deforestation; droughts, floods, seasonal change

States: depth of top soil, concentration of soil carbon, soil salinity; forest area; soil productivity

Impacts: harvests, livelihood/food insecurity, changed micro-climates

Responses: (policies or actions in relation to): D – agroforestry, compact cities, use of brownfield sites, emissions reduction; P – bunds, no tillage, forest protection, flood defences, resilient seeds; S – land restoration, green manures, drip irrigation; I – food imports, migration, different crops

***Biodiversity*:**

Drivers: agriculture, climate change, travel, tourism, poaching

Pressures: land-use change, habitat loss, deforestation, invasive species, death of charismatic fauna

States: reduced biodiversity, populations/species

Impacts: loss of potential pharmaceutical products; loss of ecosystem resilience; increased susceptibility to disease

Responses: (policies or actions in relation to): D – nature-friendly farming, GHG emissions reduction, eco-tourism, CITES, wildlife reserves; P – land-use regulations, border controls, wildlife rangers; S – biodiversity offsetting, species reintroduction; I – not clear that there are effective responses to impacts