



Outcome document: First call of the AGAD modelling subgroup

On 14th September 2022, the participants of the Ad hoc Global Assessment Dialogue (AGAD)'s modelling and scenario subgroup met for the first time to discuss the following agenda:

1. Introductions across the subgroup
2. Define objectives and ideas of the subgroup (ToRs)
3. Discussion of possible timeline and objectives
4. Review of synergies work already underway and how it can be expanded
5. AOB

On these agenda items the participants decided:

- That the GEO team will develop some simple Terms of Reference/Statements of work for the subgroup, to be agreed by all participants;
- To invite someone who is involved in the further development of the Shared Socioeconomic Pathways; and
- The IPCC Bureau Members will nominate the participants of the subgroup to be invited to the IPCC scenario workshop taking place in early 2023.

Meeting summary

1. Round of introductions
2. An introductory briefing was provided on (slides are attached):
 - a) The AGAD:
 - Formed by the UNEP Chief Scientist in 2018 at the request of some Member States who were concerned about overlap and duplication across global assessments.
 - Main purpose: discuss possible areas of synergy across assessments. Participants in the dialogue review and discuss areas where different assessment processes might learn from each other.
 - Two main working areas: Glossaries and terminology as well as modelling and scenarios.

- Another area of possible synergy: peer review processes. The GEO Secretariat has developed a fully online peer review / review editors platform (called READ) to help streamline peer review processes.
- b) The plans for the process of the Seventh edition of the Global Environment Outlook (GEO-7):
- GEO-7 will be focused on solutions, developing three solutions pathways:
 - Transformation of the global energy system to reach a net-zero carbon future and phase out 80% of fossil fuel by 2050;
 - Transformation of the global food system, reducing its environmental impact by 2/3 by 2050;
 - Transformation of the current linear economic model to a circular economic model (reaching “near zero waste” by 2050).
 - The ambition of GEO-7 is to model the socio-economic outcomes of these transformations to inform policy makers of the pathways that might minimize trade-offs and maximize co-benefits.
- c) The potential role of the subgroup.
- Catalogue the types of modelling and scenarios that each group is working on, finding synergies where possible.
 - Develop approaches where modelling results from one group can be used by another (e.g. material flows, climate modelling).
 - Identify possible gaps in modelling and scenarios architecture and attempt to fill these.
 - Build a use-case for the different modelling and scenarios work that would support GEO-7’s solutions-focused approach.
3. The floor was opened for discussion on the plans for subgroup. Some key points from the discussion are below:
- There are similarities in the intent of the IRP and GEO-7, but differences in what is addressed. GEO-7 has much more focus on state and impact, while IRP has a functional flow from economic activity via provisioning systems (such as construction, housing, mobility, agriculture and food) to the environmental pressures and by employing the life cycle impact coefficient also go all the way to the environmental impact which links back to the economic opportunity.
 - There are IRP models that look at provisioning systems, allowing the findings of these models back into the core economic model and to test the overall economic consequences of changing technologies or behaviours in one of the subsystems.
 - There is an opportunity to reinterpret the functional differentiation of the economic structure into a spatially explicit way in which the economy and environmental impact are related.
 - It is possible that some of the IRP functionality could help the GEO-7 test the economic implications of some of the activities that you can see in the environmental domain.
 - The GEO-7 will look at the impact of the pandemic and impacts of disasters and conflicts in the state of the environment section of GEO-7. These “shocks” might be difficult to model but there could be a chance to understand how the shocks impact the three systems moving forward.
 - The framework used by IPCC is the Shared Socioeconomic Pathways – Representative Concentration Pathways (SSP – RCP).

- In early 2023, IPCC will hold a scenario workshop. The scientific objectives are:
 - Taking stock of the use of scenarios in AR6
 - Review the SSP-RCP framework
 - 4 levels of ambition
 - Update historical baselines (base year, variables)
 - Update future projections (already happening)
 - Update the narrative
 - Possibly changing the SSP-RCP framework
 - Consider innovative ways to improve the scenario approach
- Experts from relevant scientific communities (including IPBES, GEO and IRP) will be invited to participate in the workshop.
- There is an issue with diversity, because 76% of scenarios are produced from European based or funded models.
- There is a plan to develop a living database. Outcome of scenarios will be hosted by the host of the database and the IPCC would take a snapshot when it conducts an assessment. Therefore, other assessments could use the database for their own purpose.
- During the AR6, only SSP2 was used in the database and most of the community focuses on this.
- It was suggested that one way of getting coherence across assessments would be to agree on the use of the SSPs in whatever form that they come. The current SSP architecture is very climate based, but the SSPs could be nudged in a direction so that could allow for them to be used for other assessments focused on different topics.
- The GEO has a timeline for conducting the assessment of two years and GEO-7 is planned to have around 700 pages. Therefore, it might be difficult to follow the timeline of changes in the SSPs framework.
- During the development of a scenario for the Intergovernmental Negotiating Committee (INC) on Plastic Pollution, Systemiq worked on a scenario that reduces plastic pollution to near zero by 2050 and put together some broad policy scenarios that move towards that direction. These were reviewed by policy experts and Member States who express the need of specific policy recommendation (sector, country, type specific).
- The scope of GEO-7 will be decided in a meeting planned for October where the Member States will approve the scoping document and the annotated outline.
- The issue of categorizing countries to provide policy recommendation was discussed.
 - It is not possible to mention specific countries in these kinds of assessments, but classification can be complicated because of different approaches classifications followed by the different scientific communities.
 - IPCC was bound to be only strictly geographical in categorization, but there were differences among the different Working Groups.
 - The ability to look at the footprint perspective for environmental pressures can show how much of the overall pressure and impact can be attributed to certain countries on a per capita basis. Comparing it to science-based targets can help countries understand if they are overshooting or have not reached the required level. There are certain developments and tools that can say something about regions, that help understand of what needs to happen.
 - The underpinning conceptual framework has an important impact on how the regional specificities will pan out.
 - The GEO-7 is reaching out to UN regional commissions (UNECLAC, ESCAP, ESCWA, UNECE) to understand whether they have some data sets that could help with identifying regional specificities.

- The available analytical tools could help with identifying income groups depending on the level of granularity of data, nevertheless it can be challenging for the approval process.
- It is however important to clearly state what regions the assessments refer to, because different communities use different categorizations, which also impact the data sets.

4. It was proposed to invite Detlef van Vuuren and Bas van Ruijven to join the subgroup.

Participants

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Apologies

IPBES	
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