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LESSONS LEARNED FROM THE SIXTH ASSESSMENT CYCLE

(Submitted by the Secretary of the IPCC)

LESSONS LEARNED FROM THE SIXTH ASSESSMENT CYCLE

1. Background

The Panel, at its Fifty-seventh Session (Geneva, 27-30 September 2022) through [Decision IPCC-LVII-6](#), requested the IPCC Bureau and the Task Force Bureau “to facilitate the process of collecting and synthesizing the lessons learned from the sixth assessment cycle (AR6 cycle), starting from the next meeting of the IPCC Bureau with the view to provide a written report prior to the Fifty-ninth Session of the IPCC”.

Additionally, the Secretariat was requested to support this process by seeking submissions from all IPCC Focal Points on the sixth assessment cycle. Subsequently, at the Sixty-fourth Session of the IPCC Bureau, an Informal Group on Lessons Learned for the sixth assessment cycle was established, co-chaired by Thelma Krug and Ko Barret, with rapporteurs Ramón Pichs-Madruga and Mark Howden.

The lessons learned document (Annex 1) was shared with the IPCC Member countries before the Fifty-ninth Session (Nairobi, 25-28 July, 2023). However, it wasn't discussed during the session as the primary focus was on the elections of the IPCC Chair, members of the IPCC Bureau and Task Force Bureau (TFB) for the seventh assessment cycle.

The lessons learned document was presented by the Secretariat and discussed at the 66th Session of the IPCC Bureau (Geneva, 16 November 2023). The purpose of the presentation was to set the scene for and inform the discussions under the planning for the seventh assessment cycle agenda item.

Following the presentation made by the Secretariat on the key findings relevant to the planning process for the seventh assessment cycle, the members of the IPCC Bureau agreed to transmit the document to the Panel at its Sixtieth Session with the view to seek the guidance from the Panel on the moving forward with the implementation of the recommendations and findings from the lessons learned document.

This document provides an analysis of the lessons learned document, outlining key highlights pertinent to the planning process for the seventh assessment cycle. The aim is to inform discussions on agenda item 6, "Lessons Learned from the Sixth Assessment Cycle," during the Sixtieth Session (Istanbul, 16-19 January 2024). Additionally, it seeks the Panel's advice on how to address the recommendations derived from the lessons learned for future actions.

2. The lessons learned document

The lessons learned document as contained in **Annex 1** builds on the views and recommendations submitted from 26 respondents (16 from developed countries and 10 from developing countries). Views from Technical Support Units (TSUs) were considered too. These observations and recommendations aim to enhance the IPCC's effectiveness in conveying scientific knowledge to policymakers, improve its organizational efficiency, and broaden its outreach efforts to diverse audiences.

The document presents a comprehensive set of **around 100 observations and recommendations** from Member Countries, Bureau members and TSUs on three broad aspects of the IPCC's work, encompassing **scientific processes, organizational elements, and communication**. Furthermore, these observations and recommendations encompass **a wide range of topics** and potential actions for various entities within the IPCC, the IPCC Focal Points, Bureau and Secretariat.

More specifically, views from Member countries and Bureau members delve into diverse areas critical to the functioning of the IPCC, covering scientific approaches, inclusivity, report structures, organizational procedures, communication strategies, process streamlining, collaborations with other entities, publication, data-related, authorship etc.

Whereas views from TSUs focuses on key areas like capacity limits, technology upgrades, access to resources, roles like Chapter Scientists, inclusivity, collaboration across Working Groups, TSU co-location, and interactions with the IPCC Secretariat.

Given the broad scope of topics and potential actions addressed in the lessons learned document, the Secretariat has identified only those areas of overlap between **submissions from Member countries and the Bureau**. These areas are particularly relevant to the planning process for the seventh assessment cycle. A summary of these recommendations is provided below:

Regarding **organizational matters**, the outlined priorities focus on ensuring smooth transitions between assessment cycles and providing continuous support to TSUs. It is crucial to establish clear protocols and terms of reference for various roles within the IPCC structure. Updating and refining principles and procedures take precedence, aiming to fill any existing gaps through the involvement of multiple Task Groups. Collaboration among Working Groups, Task Forces, and other United Nations (UN) bodies is emphasized, alongside efforts to strengthen connections between TSUs and the IPCC Secretariat. The focus also lies on prioritizing technological advancements and exploring digital tools for optimal performance while considering the professionalization of organizational aspects and contemplating hybrid meeting formats to reduce the carbon footprint.

As to **scientific aspects**, the focus is put on refining the quantity, conciseness, and type of products generated, aiming for more concise and targeted reports that address emerging science and policy concerns. There exist recommendations for consideration of diverse report formats and new types of products, including expert meetings and workshops to bridge gaps in scientific knowledge and data. Recommendations are made to ensure regional balance and diverse representation by addressing ethics, selection criteria, and management. Equity, diversity, gender inclusion and codes of conduct are recommended. Additionally, prioritizing access to literature, computing resources, and data through coordinated approaches and FAIR¹ principles, while leveraging technology for real-time access to a wide array of literature was highlighted.

Regarding **communications**, recommendations are directed towards enhancing outreach and engagement by broadening outreach events, such as webinars, and fostering partnerships with external organizations. There's a focus on bolstering engagement with diverse stakeholders, including youth and indigenous groups. Additionally, the emphasis is on harmonizing visual representations and involving visual communication specialists early in the process of organizing webinars and workshops to ensure effective and unified visual communication

TSUs highlight the necessity for balancing activities, upgrading technology, ensuring resource access, clarifying roles, enhancing inclusivity, fostering collaboration across Working Groups and TSUs, and strengthening interactions with the IPCC Secretariat.

3. Approach to addressing recommendations

The broad spectrum of recommendations and themes outlined in the lessons learned document, poses a challenge to fully address them within a single IPCC Panel session. Some recommended actions fall within the Panel's remit, others fall within the Bureau or Secretariat. Certain actions may require amendments to IPCC principles and procedures, while others could be accomplished by refining operational methods.

¹ Findable, accessible, interoperable and reusable

Although the process of addressing the recommendations has not yet commenced, some have been under consideration and started implementation and some progress has been made. Notably, various recommendations pertinent to the program of work, have been deliberated upon by the Informal Group on the Program of Work (IGPoW), established by the IPCC Bureau during its Sixty-sixth Session. These include challenges arising from excessive reports, literature, and review comments, leading to high workload. They emphasize shorter, focused reports for new science and policy relevance; selectivity in report topics for direct policy impact; better collaboration among groups for cohesive outcomes; using Expert Meetings for specific topics, and adopting a sustainability-focused strategy to cut the carbon footprint of IPCC products. For further details on the IGPoW's outcomes, refer to document IPCC-LX/Doc. 4.

Additionally, the call for clearly defined roles for IPCC Vice-Chairs has resulted in an agreement on specific responsibilities. Some progress has been made on other fronts, such as collaboration with other assessment panels and finalizing publications and Digital Object Identifiers (DOIs).

Given the focus of the Sixtieth Session of the IPCC on the planning for the seventh assessment cycle, with the view to ensure an effective and comprehensive consideration and implementation of the recommendations, as suggested by the Member countries, a Task Group needs to be set up with a clear and focused mandate.

This Task Group's primary role would be to identify priority areas that require thorough consideration, aiming to generate tangible and actionable outcomes. This deliberate approach seeks to streamline the implementation process for the recommendations derived from the lessons learned

Prior to this, a survey among Member countries to gauge the priority levels of various topics within the lessons learned document might be needed.

Monitoring and reporting the progress on addressing and implementing recommendations deriving from lessons learned will be part of the process.

4. Excepted outcome

The Panel is invited to take note of the lessons learned document as contained in Annex 1, in particular the recommendations pertinent to the planning for seventh cycle with the view to resume discussion on and consideration of the rest of the recommendations at its Sixty-first Session and set up a Task Group on their prioritization, implementation and monitoring the progress.

LESSONS LEARNED FROM THE SIXTH ASSESSMENT CYCLE

(Prepared by the Co-Chairs and the rapporteurs of the Informal Group on Lessons Learned)

LESSONS LEARNED FROM THE SIXTH ASSESSMENT CYCLE

Context

During its Fifty-Seventh Session of the Intergovernmental Panel on Climate Change, held in Geneva, Switzerland from 27-30 September 2022, the Panel, through Decision IPCC-LVII-6 (*Transition to the Next Assessment Cycle and Related Matters*) noted “*the need for a smooth transition to the seventh assessment cycle (AR7 cycle) and the importance of building on and sharing of lessons learned from the current cycle, including on gender balance and regional balance*”. It requested the IPCC Bureau and the Task Force Bureau “*to facilitate the process of collecting and synthesizing the lessons learned from the sixth assessment cycle (AR6 cycle), starting from the next meeting of the IPCC Bureau with the view to provide a written report prior to the 59th Session of the IPCC*”.

The Panel also “*requested the Secretariat to support the IPCC Bureau and the Task Force Bureau in its task including in requesting all IPCC Focal Points to provide submissions on the lessons learned from the AR6 cycle*”.

Following the request by the Panel to the IPCC Bureau and the Task Force Bureau, during the 64th Bureau meeting held in Geneva, Switzerland, from 16-17 February 2023, the Chair created the Informal Group on Lessons Learned during the Sixth Assessment cycle, and appointed Vice-Chairs Thelma Krug and Ko Barret as co-chairs of the Group. Bureau members Ramón Pichs-Madruga and Mark Howden were appointed as rapporteurs.

During the Bureau session, documents prepared by the co-chairs of WG III (BUR-LXIV/INF.4), by the co-chairs of the Task Force on National Greenhouse Gas Inventories (BUR-LXIV/INF.14) and by the co-chairs of the three Working Groups (IPCC-LVII/INF.12) were included as supporting materials for the discussion of the agenda item on Lessons Learned from the Sixth Assessment cycle.

During the Bureau meeting the Informal Group on Lessons Learned from the Sixth Assessment Cycle met three times, and after a rich exchange of experiences and sharing of views, agreed on the structure of the report to the Panel, consisting of three broad elements: (1) organizational elements; (2) scientific work and related organisation aspects; and (3) communication. Under each one of these structural elements, the Bureau also agreed on a number of points underneath each one, which reflected their views on the main lessons learned from the Sixth Assessment Cycle that governments may wish to take into account as they start the preparations for the next cycle.

Bureau members indicated that the report could contemplate the inclusion of lessons learned that can be directly helpful to Member governments, as well as to Technical Support Units and the Secretariat.

The IPCC Secretariat, through letter No. 5147-23/IPCC/GEN of April 6th, 2023, invited member governments to submit views on lessons learned from the 6th IPCC Assessment cycle (AR6) and also views on the seventh assessment cycle with a view to a smooth transition. Three elements were suggested to be covered in the submissions as per agreement of the Informal Group on Lessons Learnt from the AR6.

The Secretariat received 26 submissions, 16 from developed countries and 10 from developing ones until the deadline of April 28th, 2023.

This report is a synthesis of the views submitted by Focal Points, by Bureau Members and by the Technical Support Units. Three different chapters are presented: Chapter I contains a summary of the views submitted by Focal Points; chapter II, with the views from Bureau members, expressed during the Bureau meeting and also through individual submissions; and Chapter III, with views from Technical Support Units.

When considering the views submitted by the Focal Points, the approach was to first identify points in common in all or most submissions. These then defined the headings underneath where specific comments from governments would be included, in particular those that bring some thoughts on how to address some of the lessons learned in the next assessment cycle.

REPORT CONTENT

CHAPTER I – VIEWS FROM MEMBER GOVERNMENTS ON LESSONS LEARNED FROM THE SIXTH ASSESSMENT CYCLE

1.1. Views by member governments on the scientific work of the IPCC

- I.1.1. Interdisciplinarity and diversity of scientific fields
- I.1.2. Growing body of scientific research on climate change
- I.1.3. Limited access of bibliographic resources for authors from developing countries
- I.1.4. Regional representation
- I.1.5. Knowledge/data gaps and language barriers
- I.1.6. Policy relevance and conciseness
- I.1.7. Emphasis on Solutions Space
- I.1.8. Few authors and citations
- I.1.9. Politization of the messages
- I.1.10. Scientific advances and new scientific challenges

1.2. Views by member governments on organizational elements

- I.2.1. IPCC Procedures
- I.2.2 IPCC Assessment Cycles
- I.2.3 Global Stocktake
- I.2.4. Smooth transitions to AR7
- I.2.5. Inclusiveness, Gender Action Team and Code of Conduct
- I.2.6. Widened collaboration between Working Groups
- I.2.7. Roles of IPCC Bureau, authors, Secretariat
- I.2.8. Number of reports
- I.2.9. Selection process
- I.2.10. Review of relevant literature
- I.2.11. Review Process
- I.2.12. Shifting from physical to digital/hybrid process – sustainability
- I.2.13. Approval meetings
- I.2.14. Professionalize organizational aspects
- I.2.15. Opportunities for digitalization
- I.2.16. Enhancing collaboration and exploring synergies with other bodies and process

1.3. Views by members governments on Communication

- I.3.1 Communication to public
- I.3.2. Communication between authors and governments
- I.3.3 Outreach events
- I.3.4 Interactive products: the success of the Interactive Atlas and the role of interactive infographics
- I.3.5 Workshops and Webinars
- I.3.6 Communication Products: Fact Sheets, Videos, Presentations
- I.3.7. Involvement of communication experts
- I.3.8. Use of IPCC Logo
- 1.3.9. Artificial Intelligence and search optimization
- 1.3.10. Communications professionals in the Technical Support Units

1.4. Other general issues

CHAPTER II – VIEWS FROM BUREAU MEMBERS ON LESSONS LEARNED FROM THE SIXTH ASSESSMENT CYCLE

II.1. Organizational Elements

- II.1.1. Transition between cycles (how to ensure a smooth transition, sharing experiences)
- II.1.2. Number of deliverables in the cycle
- II.1.3. Cooperation with other external UN bodies
- II.1.4. Plenary, Bureau, ExCom, Author's meetings (hybrid and face-to-face)
- II.1.5. Need for professional human resources support
- II.1.6. Role of Vice-Chairs (IPCC and Working Groups), authors, review editors
- II.1.7. Use of the IPCC Logo
- II.1.8. IT issues

II.2. Scientific work and related organization aspects

- II.2.1. Number of reports per cycle and their timing, linkages, strategic planning
- II.2.2. Different report formats
- II.2.3. Cooperation/integration between Working Groups and the Task Force on National Greenhouse Gas Inventories
- II.2.4. Science-related meetings (Expert meetings, expert workshops, co-sponsored meetings)
- II.2.5. Identification and implementation of cross-cutting issues
- II.2.6. Review process
- II.2.7. Delay in delivering the published reports and translations
- II.2.8. Contract with publishers
- II.2.9. Publication of DOI and accessibility
- II.2.10. Role of TG data and support
- II.2.11. Experience and training in the implementation of FAIR principles (findable, interoperable, reusable) data in the AR6 assessment
- II.2.12. Limited access to data/libraries
- II.2.13. Limited availability of data, particularly in some developing countries
- II.2.14. Authorship ethics (assigning authorship)
- II.2.15. Author selection and criteria, including on the Summaries for Policy Makers
- II.2.16. Management of authors teams
- II.2.17. Chapter scientists (role, engagement, authors?)
- II.2.18. Equity, diversity and gender issues
- II.2.19. Code of Conduct
- II.2.20. How to better provide support to authors, including special circumstances
- II.2.21. Regional balance, Global South cooperation

II.3. Communication

- II.1.1. Outreach events
- II.1.2. Special outreach events (sharing products in a more efficient way – TFI experience)
- II.1.3. Recommendations from the 2016 IPCC Expert Meeting on Communication
- II.1.4. Webinars / Expert Meetings / Workshops
- II.1.5. Visual representations
- II.1.6. Engagement with the youth and indigenous groups

CHAPTER III – VIEWS FROM TECHNICAL SUPPORT UNITS ON LESSONS LEARNED FROM THE SIXTH ASSESSMENT CYCLE

- III.1. Capacity Limits
- III.2. Upgrade of the Technology Used for the Assessment Process
- III.3. Access to Literature and Computing Resources

- III.4. Chapter Scientists
- III.5. Ensuring an Inclusive Process
- III.6. Support Cross-Working Group Collaboration
- III.7. Co-location of TSUs
- III.8. Cross-TSU Collaboration
- III.9. TSU Links with IPCC Secretariat

SUMMARY

This summary identifies a subset of issues to address and possible actions to prioritize during and subsequent to the *Future of the IPCC* discussions, to be held during the first plenary session in the AR7 cycle. These were identified by the Bureau during the 65th Bureau meeting, held 19-20 June 2023. Several of these elements reflect common views expressed by member governments in their written submissions and by Bureau members, as expressed during the Bureau sessions and in written submissions. Additional detail on these possible actions is included in the Chapters of this report, as are many other suggestions to build on the improvements of the AR6 cycle as IPCC moves into its 7th cycle.

Actions for the Panel

It is a common view that the Panel should strive to produce assessment reports or similar types of products that are **shorter and more concise, focused on new science and that provide policy relevant information**. To achieve this, the Panel would need to keep this front of mind when taking decisions on the product suite for AR7 and in the scoping of outlines for IPCC reports.

It is also clear that the Panel should give priority consideration at the start of the cycle to **updating and refining the existing principles and procedures**, which do not address the full breadth of our current practices or, in some cases are ambiguous as to the recommended approach. In the past, updates to the procedures were undertaken by a Task Group on Procedures, comprised of interested countries and supported by the Secretariat. Given the broad range of topics needing to be updated, ranging from codifying new practices for approval sessions to clarifying the role of Chapter Scientists to elaborating a scientific integrity policy, the Panel may need to undertake the work through several issue-specific task groups working in consultation with the Bureau and Secretariat.

Another priority identified relates to the need for the Panel to **enhance cooperation with other external UN bodies** to ensure, to the extent practicable, that information published by UN bodies (e.g., UNEP, WMO) be consistent with the findings from the IPCC, including in relation to the definitions adopted (glossary) by the Panel. In addition, the Panel should discuss ways to enhance working arrangements with other agencies, as well as with other climate-related entities producing reports (e.g., IPBES), including the need to revise procedures for the organization of joint events.

The COVID-19 pandemic stressed the organization and delayed delivery of many of our assessment reports during the AR6 cycle, but also identified opportunities for the Panel to more efficiently undertake its work, including through the planning for and conduct of **virtual/hybrid meetings**. The lessons from this experience need to be mainstreamed into IPCC practices and codified in the revised procedures, ensuring full and universal participation, especially for developing country experts and representatives.

The successful conduct of virtual and hybrid meetings has demonstrated the ability of the organization to undertake its work without bringing hundreds of delegates together for every meeting, thus adding significant GHG emissions to the atmosphere and contributing to the climate problem. The time is ripe for the Panel to formally think through the cadence of its in-person, hybrid and virtual meetings, along with other GHG reducing activities, and **consider the adoption of a sustainability and climate-related institutional strategy**, in line with other UN bodies, as applicable.

Finally, the need to ensure **enhanced and effective regional representation** in the work of the IPCC was considered a priority issue to be addressed by the Panel. Under-representation of authors from developing countries in the IPCC reflects an imbalance in the treatment of scientific information and lived experiences from the Global South, and runs counter to the IPCC Code of Conduct, which values inclusion, equity and diversity. The Panel should look into the ways in which practices can be improved, including through efforts to strengthen the Code of Conduct by various means including the establishment of a Conduct Committee, and examination of author nomination and selection practices, to achieve more balanced and diverse regional and gender representation.

Actions for the Bureau

The participants at the 65th meeting of the IPCC Bureau also identified several issues for consideration by the new Bureau in AR7, noting as a key priority the **need to ensure inclusivity, with regard to increased gender, geographical and disciplinary balance** (including young voices and inputs). Some of these issues will need to be considered in actions undertaken by the Panel, for example, in revisions to the procedures.

A critical aspect for the IPCC in the future remains the need to **ensure scientific integrity and ethics of authorship**, reinforcing the role of author teams as the main pillar of this scientific organization. The Bureau should consider these issues and work with the Working Groups and the Panel to include them in practice and procedure.

Participants also encouraged **equitable access to and inclusion of the broad range of available literature**, for ensuring both the scientific robustness of the assessed literature as well as the consideration of high-quality grey literature in local languages and peer-reviewed literature in languages other than English. Actions would be undertaken by Working Groups, TSUs and the Secretariat.

One of the main challenges for the IPCC in the future is **making best use of new technologies** during the literature review and assessment process, as well as the use of updated technologies for communication and diffusion of new findings of the assessment process.

A noticeable AR6 achievement was the effective collaboration among the three Working Groups during the assessment process as well as in organizing expert meetings, workshops and other activities. For the next cycle, it is imperative to build on this success and **further enhance collaboration between Working Groups, the Task Force on National Greenhouse Gas Inventories, and TG -Data** as a pre-condition for more successful, interactive and comprehensive results. Actions to prioritize include early decisions about expert meetings and workshops on cross-cutting topics, the establishment of a task team to update and coordinate further development of the glossary, consideration of a single atlas across the Working Groups and the deployment of IPCC and WG Vice-chairs to enhance collaboration across the WGs/TFI.

In connection to the already expressed need for **updating the IPCC Principles and Procedures**, the IPCC Bureau should participate in that process to inform Panel decisions, particularly with regard to better defined roles of IPCC and Working Groups Vice-chairs, authors and Chapter Scientists.

Actions for the Secretariat

The participants of the 65th Session of the Bureau encouraged the Secretariat to **explore options to use updated technology**, including AI, and to coordinate software improvements for AR7 to ensure standardization across the Working Groups and the TFI.

Bureau members expressed an **urgent need to examine practices required to facilitate the full and effective participation of those coming from developing countries**, including with regard to travel arrangements.

Regarding the external visibility of the IPCC work, participants noted the need to **promote inclusive outreach activities** and, in conjunction with the Working Groups, to consider the **diffusion of IPCC findings through regionally-focused communications material**. Efforts should be made to enhance coverage with international, national and local media.

Many Bureau members and government representatives emphasized the **urgent need to implement the recommendations of the Informal Group on Publications** with regard to the timely publication and translation of future reports. Bureau members also encouraged the Secretariat to **seek ways to provide support to TG-Data** to overcome the challenges faced, including in the funding of its activities.

The Secretariat was encouraged to **continue the successful strategic planning approach of the AR6** and to **enhance it further** during the AR7 to cover the entire cycle, including through timely decision-making and clarity in scheduling of the various upcoming products.

CHAPTER I – VIEWS FROM MEMBER GOVERNMENTS ON LESSONS LEARNED FROM THE SIXTH ASSESSMENT REPORT

I.1. Views on the scientific work of the IPCC

Overall, there was agreement that the reports produced by the IPCC during the sixth assessment cycle (AR6) have again confirmed the IPCC as the authoritative source of climate knowledge and a reference for climate policies under the UNFCCC. In general, there is a recognition that IPCC should remain the most authoritative and important common knowledge base for international and domestic climate policy making. The scientific quality and relevance of the reports during the sixth assessment cycle were highly appreciated and fully supported to be continued in the future.

One government noted that “both the interest for, and the authoritative strength of IPCC as a scientific body that provides the best available scientific knowledge basis for policymakers has grown significantly during this cycle. Picking up and learning from the mainly positive experiences, and from some shortcomings, is important to ensure that IPCC remains in this position.”

Another member government noted that “the IPCC made significant progress in AR6 on linking global information to regional or sectoral levels, and this should continue to be a focus in AR7. The IPCC should consider organizing information across the report by sectors or other consistent approaches across Working Groups to reliably address issues within the relevant policy and scientific spaces. More should also be done in AR7 to connect global information on drivers and attributes of climate change with regional information, including by using common scenarios and appropriate downscaling of information.”

I.1.1. Interdisciplinarity and diversity of scientific fields

Several member governments recognize the importance of interdisciplinary work in the IPCC assessment process “as demonstrated in the deeply interdisciplinary and cross-Working Group character of the Working Group and Special Reports”. However, it is noted that “interdisciplinarity chapters require careful planning and selection of authors with overlapping expertise to ensure sufficient redundancy in the author team and adequate coverage.”

The inclusion of a variety of scientific fields including disciplines in the social sciences, and other areas outside of traditional climate change research in the AR6 process was highly appreciated by one country that recommends “that this approach be continued in AR7 to provide a more comprehensive understanding of the impact of climate change on society.” The same government proposes a stronger focus on what the study of sociology and psychology says about how proposed change can be made acceptable by people and the society.

Another member government highlighted the important progress “in the development of the IPCC Inventory Software throughout the AR6 cycle, with the implementation of higher tier methodologies recommended in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories” that is expected to promote widespread use of the software by more countries. It was also noted that the Methodology Report titled “2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories” has been considered a significant development in terms of improving national greenhouse gas inventories and considers beneficial its inclusion in the IPCC Inventory Software during the next assessment cycle.

Yet another government “see clear benefits of including all Working Groups, and the Task Force on National Greenhouse Gas Inventories where relevant, when IPCC are producing its Special Reports. Obviously, joint products foster closer collaboration across scientific disciplines which again ensures closer alignment in language, use of scientific and technical terms, and enhances for instance coherent use of scenarios across the three Working Groups. This practice should in our view be kept, and further enhanced.”

The same government expressed the view “that IPCC could further enhance its comprehensiveness, inclusiveness and deliver even more holistic and relevant information to a broader range of policymakers if more sub-disciplines within the social sciences are involved in the production of IPCC reports. In addition, it could be beneficial with increased involvement of authors, Technical Support Unit staff and Bureau members with multi-disciplinary scientific backgrounds (inclusive of practitioners and stakeholders).”

I.1.2. Growing body of scientific research on climate change

One government expresses the view of several others noting that “there is an exponentially growing body of scientific research on climate change. The effort and challenges to even begin a full assessment of this flood are enormous. This seems to be the key challenge in terms of scientific integrity. In our view, the only way to solve this problem in the medium to long term is to make more specific questions or issues the focus of reports. Therefore, very serious consideration should be given to the possibility of moving away from the goal of a full assessment in the future and instead developing more specific (special) reports.”

I.1.3. Limited access of bibliographic resources for authors from developing countries

Several member governments indicated serious concerns about the limited availability of observational data and information from research regarding climate change issues in the Global South and encourage the Bureau to raise awareness among relevant stakeholders including research and funding organizations in order to alleviate this problem.

One country highlighted possible ways to improve access to non-English literature within the assessment process. These include: “exploring the inclusion of grey literature, including traditional and indigenous knowledge, in a scientifically robust manner, perhaps via a workshop. A wider evidence-base could also support greater policy-relevance of IPCC products; and encouraging IPCC Focal Points to keep gender balance in mind in their Bureau and author nominations where possible and encourage participation of women, as per the recommendation of the GAT.”

Another member government noted that “the overall paucity of literature and perspectives from developing countries is not only due to the lack of capacity but is also due to the barriers to publishing that include high publishing costs in many peer-reviewed journals and the equally, if not higher, costs of subscription to such journals. So-called open access journals, predominantly from developed countries, now perpetuate the inequitable situation in a new way, by charging hundreds if not a few thousands of dollars for publication, making these anything but open access in terms of who can publish therein.”

The concern with the limited availability of regional data for Pacific Nations was stressed by yet another government, indicating that this could have “limited the inclusion of Pacific information in the IPCC assessment”, being a concern to both scientist and policymakers in the region.

One country highlighted that “one of the difficult lessons of AR6 was the reduced capacity for the IPCC’s Data Distribution Centre (DCC) to operate at a level that adequately supported the Working Groups, due to funding constraints”, and reminded of the “decision taken at the 57th Plenary Session in September 2022 to fund the DDC from a central budget to ensure continuity of this important work and looks forward to working with the Panel to establish the necessary protocols and procedures and secure the funding that supports this outcome.”

I.1.4. Regional representation

One government highlighted that “the under-representation of authors from developing countries in IPCC reflects an imbalance of the scientific information shared as well as ethical implications of equity and diversity. Certain ‘insufficient evidence’ does not necessarily reflect lack of evidence, but instead ‘insufficient references’ due to lack of representation of data from developing countries. Authors from developing countries will have more in-depth research of available literature regarding their respective regions that can shape the report. The absence of said authors can cause the report to be imbalanced, thus achieving equitable geographical representation is crucial to ensure knowledge democracy. Certain findings are not applicable to all regions. Much more regional data should be considered to ensure regional balance. There is an obvious need for more representation of science from the Global South and science that accounts for equity and Common but Differentiated Responsibilities.”

Another country notes the “need to increase the proportion of authors from developing countries in its scientific assessment, including the citation of their findings and of non-English literature, to avoid mis-citation or interpretation out of context, and ensure that the IPCC assessment is updated with the latest findings in the field of global climate change research in a more comprehensive and balance manner.” This government also noted the need to further enhance the participation of developing countries, including their participation in the Bureau and Technical Support Unit, and provide support and training for scientists from developing countries to ensure that all authors can fully participate in the preparation of the IPCC assessment report.

One member government noted with appreciation the increased number and participation of African authors but highlights the need to enhance outreach activities and mobilization of resources as deliberate efforts to increase Africa’s participation in the next assessment cycle.

Yet another country indicated that “a continuing issue with IPCC sessions is the tendency for meetings to extend beyond the scheduled time. The approval sessions have been particularly prone to this, to the extent where transparency and inclusiveness is in danger of being compromised. This has the potential to be detrimental to the integrity of the IPCC and should be addressed as a high priority issue in the future.”

There was a general view that the planning of IPCC events (e.g., approval sessions) need to be better prepared to avoid prolonged sessions that have hindered the inclusivity of the IPCC process during AR6.

I.1.5. Knowledge/data gaps and language barriers

One country notes that the next assessment cycle must also address the knowledge gaps and language barriers in conveying the science behind climate change and its impacts. Noted that “translating climate knowledge and information into transformative action requires science, and development and implementation of strategic communications, including development and humanitarian communication, that recognizes the need to make the last mile the first mile, to ensure that best available science is understood.”

One member government acknowledged and applauded the improved consideration of “grey literature” in AR6 and notes that this is especially pertinent for Africa as most documented knowledge from governments, industry and NGO’s do not necessarily undergo peer review but hold valuable information on the continent’s climate issues.

One government proposed that authors working on the reports in the next assessment cycle put emphasis on the nature of data gaps and hence make proposals on what would be required to upscale data quality. Suggests that there could be a dedicated chapter in each report to highlight the issue of data gaps.

I.1.6. Policy relevance and conciseness

Some governments noted that the Working Group reports tend to become more and more extensive over time. While this reflects the cumulation of knowledge and the increasing number of scientific publications, it results in reports that become more encyclopedic in nature than informative sources accessible to policy makers. Consequently, policy makers tend to only read the Summary for Policy Makers and no longer the underlying reports. In order to keep the WG reports a useful source of information for policy makers and the public at large the reports should be kept more concise and focus more clearly on what are new, policy relevant insights from the latest scientific literature, rather than to try to be fully comprehensive.

One member government stresses that “in addition to scientific integrity, the IPCC’s ability to influence policy processes should be a central consideration. The IPCC should adopt summaries that have a real chance of being read and understood by policy makers” including through Summaries for Policy Makers with a maximum of 10 pages.

Another member government provides a similar view by encouraging “the IPCC to ensure and take action that the Summaries for Policy Makers are more concise, easier to navigate, and the length is kept consistent with the guidelines (5 to 10 pages). The current process for the IPCC reports can be challenging, with long and complex chapters that are difficult to navigate. This can make it challenging to policy makes and others to make use of the information in the reports, what should be avoided in the next assessment cycle.”

One government mentioned that “the long periods between the literature cutoff dates and report release often lead to reports being out of date at their time of publication” and noted that this “was particularly an issue for the SYR, where some of the information included was based on literature two or more years out of date. The IPCC could consider rethinking literature cutoff dates for certain types of information, such as annual global emissions, temperature rise, etc., which can be updated based on new information from the same internationally recognized sources that informed the approved summaries for policymakers and underlying assessment.”

I.1.7. Emphasis on Solutions Space

One country noted that “apart from the “what”, much greater emphasis is needed on “how” the transition be achieved. How could barriers be overcome, especially in relation to finance and other means of implementation? How could responses to climate change be more effectively linked to near term objectives, especially in the developed countries? As the COVID-19 pandemic revealed, countries spent huge sums in responding to – and recovering from –the pandemic. This suggests that political will and finance can – and is – mustered when situations demand. We hope that the AR7 will focus much more centrally on improving the understanding of actions and their implementation – with a much greater emphasis on the “solutions space”, rather than the “problem space” and with actions related to providing for the “means of implementation” to the developing countries”.

I.1.8. Few authors and citations

One country demonstrated concern that “in Working Group III, various chapters are dominated by the work of a very few authors, who are both key authors of the report as well as the most cited authors in the references to the relevant chapters. It will be appreciated that this is not merely an issue of how many citations a particular author gets, but of very significant self-citation by the authors of their own work. This may be looked into, by an independent team of reviewers to frame an appropriate methodology in this regard.”

I.1.9. Politicization of the messages

A few countries mentioned the increasing politicization of IPCC's work that has resulted in increasingly difficult and prolonged sessions for adopting the Summary for Policy Makers and also for IPCC to align its works with the Global Stocktake cycle under the UNFCCC.

In subsequent cycles, tangible efforts should be made to reduce politicization of the messages and to keep the optimal length of the reports, especially the Summaries for Policy Makers.

I.1.10. Scientific advances and new scientific challenges

One government appreciated “the progress made during AR6 to minimize uncertainty in model projections, which represents a significant advancement compared to previous assessments. We suggest further enhancing this approach by complementing model intercomparison outcomes with historical and current empirical data to further minimize uncertainty regarding potential high-magnitude climatic impacts in the near term, such as those arising from a high Equilibrium Climate Sensitivity, ice melting rate, sea level rise, slowdown of Atlantic Meridional Overturning Circulation or Southern Meridional Overturning Circulation, and short-term warming caused by the reduction of aerosols.”

The same member government recommends “further improving the alignment and coordination between the IPCC and international modeling efforts (MIPs) to prevent discrepancies in the scientific literature assessed within and across the different working groups. Due to the delay in CMIP6 release, the literature assessed in Working Group II in AR6, was from the “CMP5” era, while in Working Group I evidence mainly based on CMIP6 was presented. To ensure that Working Groups I and II in the next assessment cycle can be better coordinated, we suggest an adequate time gap between Working Groups I and II in the next cycle...” but still on time to “deliver policy-relevant information for the Paris Agreement second Global Stocktake in 2028.” This observation has been made in previous ‘lessons learned’ compilations.

One member government highlighted the increased dependence of the IPCC on scenarios, noting that these are “not the only methodology to assess knowledge”. Acknowledging the lack of transparency recognized by the scientific community due to the “complexity and size of the models, dependence on assumptions which might be out of date or unknown, inadequate representation of main dimensions mainly innovation the the role of evolving technologies, lack of realistic economic behavior and systems and the lack of real-world feasibility of modelled pathways.”

Another member government demonstrated expectations regarding the provision of “more detail analysis, data and information on losses and damages from both slow onset events and extreme weather events, economic and non-economic losses and damages linking to the temperature increase”.

I.2. Views on organizational elements

I.2.1. IPCC Procedures

IPCC Procedures are not clear in how delays with the Synthesis Report would impact the IPCC elections. This could be sorted out for clarity. One government advocated “to restore the capacity of the IPCC to review its own procedures. The rules call for reviewing the procedures every five years. This is particularly important given that the review procedure did not adequately take place during the AR6 cycle. We regard this review as an opportunity for the IPCC to keep improving its own rules, fixing gaps and adapting to new challenges, as the procedures and rules are an enabling factor for the production of high-quality reports.”

I.2.2. IPCC Assessment Cycles

There is a recognition that over time the IPCC assessment cycles have become longer, while the policy need for scientific information on climate change has become more and more urgent due to the acceleration of climate change and its impacts, and the need for information by governments to meet the policy objectives under the Paris Agreement. This has created a disjunct between the pace of IPCC activities and climate policy development. This gap is increasingly filled by other organizations, presenting more timely information, including other UN-bodies. These reports often lack the scientific rigor and general acknowledgement of the IPCC reports that is desirable.

Given this understanding, one country urged IPCC to take a decision to deliver to the UNFCCC an up-to-date report for the Global Stocktake, if not the reports by the Working Groups, then a dedicated Special Report. If IPCC fails to deliver in time, its *raison d’être* will be put to question. In fact, with the increasing speed of climate change itself, even the 5 years UNFCCC Global Stocktake Cycle is likely to be too slow for adjusting climate policies in time to meet the Paris Agreement objectives. IPCC is thus advised not to adhere to the *status quo* as before.

Another government noted that the increasing length of IPCC cycles causes multiple challenges to many of its stakeholders, from the funding of the Technical Support Units to the retention and workload of authors and Bureau members. The increasing size of the literature base may also be better accommodated by shorter, more focused cycles.

One other country indicated to enhance the collaboration between and among Working Groups on cross-cutting issues while keeping unchanged the future assessment in terms of the form/format of deliverables and the length of the cycle.

Yet another government suggested that there is merit in assessing whether several smaller reports are better suited to the next assessment cycle, because the volume and length of information in smaller reports will be more digestible for policymakers, as well as removing the issue around Working Group reports containing out of date material at the time of publication due to the duration of the assessment.

One country noted the delay between the AR6 election process and the organization of a Plenary meeting and how this created a gap of many months before decisions regarding the AR6 work program could be taken. The country expressed the willingness to work with the Panel and the Secretariat “to ensure a smooth and timely transition to the AR7 work program” and noted that “this will be an important factor in the IPCC’s ability to maintain its reputation as a key source of timely and relevant information for policymakers globally, and with a view to producing reports in time for the Global Stocktake in 2028.”

I.2.3 Global Stocktake

It is recognized that the scientific findings in AR6 are key inputs into the 1st Global Stocktake in 2023 and will provide the the best available science. The 2nd Global Stocktake is planned for 2028 and will also require the latest science from the IPCC, as stated in Decision 1/CP.21, paragraph 99b. Hence, as one country noted, “for the IPCC to remain policy relevant, it should strive to accommodate the needs of the Global Stocktake”. However, another country notes that currently “there is no certainty that IPCC will deliver its AR7 reports in time to provide to the input to the 2nd Global Stocktake, even with an expeditious hand-over from the AR6 to the next assessment cycle by the Working Groups”.

Some countries noted that alignment with the UNFCCC Global Stocktake to maintain the IPCC relevance for global climate policy should be prioritized. This may include conducting timely assessments or producing a Special Report that is directly relevant to the global stocktake process and ensuring that the IPCC's findings are effectively communicated to the UNFCCC and other relevant stakeholders.

One member government noted that “no decision was made between the options identified by the Task Group on the Organization of the Future Work of the IPCC in Light of the Global Stocktake to synchronize the IPCC work with the future global stocktake of the Paris Agreement” and notes the challenge to deliver new scientific knowledge in time for the second global stocktake during the seventh cycle.

I.2.4. Smooth transitions to AR7

One government supports the comprehensive sharing of knowledge between the AR6 and the next Bureau. It is suggested that a meeting is set up to facilitate a smooth transition from one cycle to the next. The government believes that sharing lessons learned between the previous and the new Bureau offers invaluable opportunity for evolution and continuity between cycles, which can be achieved by convening a meeting as soon as feasible after the elections to ensure smooth handover and familiarization of the governments with the new Bureau, proposed by another member government.

One member government indicated that “formalized approaches for handing off work from AR6 to AR7 were suggested in multiple contexts. The lack of transition for Technical Support Unit staff between AR5 and AR6 lead to a significant loss in lessons learned and institutional knowledge. For AR7, the IPCC should ensure there is adequate transfer or institutional knowledge to the new Technical Support Unit such as by organizing workshops for the AR6 and AR7 Technical Support Units. Similarly, a formalized handoff process should be developed for the co-chairs of the different Working Groups, rather than leaving the issue of transition up to the new leadership team.”

I.2.5. Inclusiveness, Gender Action Team and Code of Conduct

One country expressed appreciation of the work of the Gender Action team in developing a Gender Policy and Implementation Plan during AR6 and highlighted that “the discussions, plans, and guidance material have strengthened the IPCC’s ability to mainstream gender in the IPCC’s work, in an inclusive and respectful manner.”

Another government has “welcomed the steps taken during the 6th Assessment Cycle to further improve inclusivity and representation within the IPCC, including the establishment of the Gender Action Team and the Code of Conduct. However, opportunities remain in this area, consideration of which will not only improve the IPCC’s inclusivity but also the quality of its products. Consideration of the following topics by the Panel and Bureau is recommended: supporting authors and delegations; professional human resources support for all authors, in reflection of the amount of time and energy invested in the IPCC process and to support with training and dispute resolution; diversity and inclusion training for authors to support a more inclusive work environment for all; support for early career scientists and developing country scientists, including recipients of IPCC scholarships; formal

recognition of the role of Chapter Scientists, and provision of financial support from the Trust Fund given the essential role they play in assessments; support for both delegates and authors, particularly for parents and careers, for example through the provision of childcare facilities at meetings and ensuring a reasonable workload and working hours to take caring responsibilities into consideration.

One country indicated the need to formally recognize the draft Code of Conduct during AR7, “as a measure of the Panel’s commitment to creating balance and equal opportunity in participating in IPCC processes.”

1.2.6. Widened collaboration between Working Groups

The widened collaboration and outstanding cooperation between the Working Groups, through the co-chairs, the Working Groups vice-chairs and the Technical Support Units, and in the preparation of the Special Reports and the Assessment reports have been acknowledged by many governments as a very positive development during AR6 and should be preserved and supported in the next cycle. This can be facilitated by the development of Special Reports, as has been the case of the Special Report on Global Warming of 1.5°C early in the AR6 cycle. The successful integration should be exercised across the IPCC’s processes, from the scoping phase to the production of the reports.

One member government noted that “AR6 made significant progress towards integration across scientific focus areas of the working groups. AR7 should build on this success and further enhance integration. Integration within and across Working Groups should start from the beginning of the assessment, with consistent two-way communication between Working Group leadership, authors, and technical support units. At a minimum, using consistent scenarios across working groups to organize the scientific assessment would also assist in presenting understandable and comparable information. Other examples of potential options for cross-working group integration efforts include more frequent, targeted use of cross chapter boxes, consistent use of terms (not only limited to those included in the glossary), and discussions on scope and content beginning at the earliest stages of AR7.”

1.2.7. Roles of IPCC Bureau, authors, Secretariat

One government stressed that Bureau members must remain impartial and objective in maintaining the quality of all IPCC products during the cycle. Suggesting that avoiding conflict of interest should be enforced by disallowing any overlap of roles and responsibilities between Bureau members and authors.

Another member government noted the importance of “increased transparency in the IPCC process, including how different types of actors are selected to participate in IPCC activities and clearly specifying the roles they play (IPCC reviewers, lead authors, contributing authors, ...).

Yet one other government pointed out to the need to revise or detail the terms of reference of the Bureau in accordance with relevant work principles to ensure that the Bureau can fully and effectively play its organizational role.

One country noted that the “AR6 cycle greatly benefitted from a strong Executive Committee, including three IPCC Vice-Chairs, and that their work involved many different roles, including coordination between Working Groups, participating in outreach activities, leading task groups, shaping discussions on governance issues and facilitating discussions during Plenary approval sessions.” The country expressed the view that “the role of the IPCC Vice-Chairs could be defined, to enable their expertise to be fully utilized and provide clarity for member governments on their responsibilities”. Similarly, it was noted that the Working Group Vice-Chairs are equally “highly skilled and are a critical asset of the organization” and that a description of their roles and responsibilities would also “enhance the Bureau’s operations, coordination and performance, suggesting that these could be determined by the Executive Committee, with the agreement of the Bureau, as early as possible in the next assessment cycle.”

One government noted the need to “increase transparency about the roles and responsibilities of the Secretariat’s staff to enable adequate support for the Secretariat from the IPCC Trust Fund in order to reduce the workload, easing implementation of plenary decisions, long-term planning and preparation of Panel sessions This could also include an external review or consultation process and suggest the Bureau to consider this issue first.”

Another member government noted that “during AR6, the IPCC Vice-Chairs were vitally important for helping find compromise between delegations and in carrying forward important areas of work for the Panel. In AR7, IPCC vice-chairs should play a similar role, and have specific responsibilities, including in approval sessions.”

1.2.8. Number of reports

Although there is general recognition of the relevant work and knowledge produced by IPCC during the AR6, thanks primarily to the astonishing efforts of its voluntary author base and the tireless contributions of Bureau members, it is also recognized that it has had its toll, particularly on the authors, Bureau members and the Technical Support Units. The number of reports during this upcoming cycle must be carefully decided upon, considering that the high number of reports during AR6 cycle created many challenges and resulted in an increased workload for all involved. It is important for the IPCC to find ways to ensure that future cycles do not become overly burdensome.

One member government proposed that one solution could be “to alternate between a cycle that focuses more on Special Reports on well-defined topics, which can provide in-depth analysis, recommendations and possible solutions on specific issues related to climate change and a cycle focusing on a general assessment report. This approach may be more effective in addressing specific and timely policy needs, while also allowing for comprehensive assessment reports about knowledge on climate change, its causes, potential impacts, and response options, thus informing decision-making in a comprehensive and effective manner.”

Another country indicated that “feedback from policy, academia and business stakeholders suggests that to provide the best available science for a changing, faster-paced policy environment, more frequent and agile IPCC updates are needed. This is particularly the case for adaptation and mitigation, for which the IPCC could consider shorter and more policy- and solution-focused reports.

Another government stressed that the IPCC should carefully consider what it can reasonably undertake for the next assessment cycle and if the current system was to continue, suggested that the IPCC limits production of Special Reports to a total of two to ensure that the Technical Support Units and the authors are not overburdened by workload.

One government indicated in their submission that “a move towards shorter and well targeted reports on specific topics may improve the IPCC’s ability to support policymakers. Delivering Special Reports that are approved by governments as well as reports from the authors of IPCC Expert Meetings and Expert Workshops could provide rapid and focused advice to governments.” Suggested topics include, in addition to the Special Report on Climate Change and Systems, other reports that could focus on Energy Systems, Tipping Points, Limits to Adaptation, and Climate Resilient Development. If well-designed, “this may provide both the desired rapid and focused advice whilst retaining the comprehensiveness of the broader Assessments.”

A similar view was expressed by another country, that noted that to “provide the best available science for a changing, faster-paced policy environment, more frequent and agile IPCC updates are needed. This is particularly the case for adaptation and mitigation, for which the IPCC could consider shorter and more policy- and solution-focused reports. Furthermore, in accommodating the needs of its audience, as well as to help facilitate the development and exploration of emerging scientific topics and concepts, the IPCC should consider the appropriate use of Workshops and Expert meetings during the next cycle.”

In a related topic, a government encouraged the IPCC “to ensure and take action that the Summaries for Policy Makers are more concise, easier to navigate, and the length is kept consistent with the guidelines (5 to 10 pages). The current process for the IPCC reports can be challenging, with long and complex chapters that are difficult to navigate. This can make it challenging for policymakers and others to make use of the information in the reports, what should be avoided in the next assessment cycle. This view was shared by other governments.

One government encouraged the IPCC “to consider the tradeoffs between the required workload (for Bureau members, authors, reviewers, etc.) and the comparative value of retaining the full underlying assessment versus considering new assessment products such as shorter focused technical papers produced on shorter timelines.”

One member government expressed the view that “in AR7, member governments should consider changing the approach that the IPCC takes and avoid producing overly long reports that comprehensively assess the full range of scientific literature on climate science and policy. Given that we are starting the seventh assessment cycle after more than 30 years of scientific assessment, the IPCC should consider focusing its efforts in this cycle on assessing emerging information of great policy relevance where emerging scientific information strengthens or otherwise alters past findings. This could take the form of a cycle that emphasizes the production of several special reports on emerging issues that cross the working group respective areas of focus. The working group contribution would be relatively short products that focus on providing updates to past assessments based on new information rather than new lengthy comprehensive assessments. It will remain important to limit the overall number of special reports and comprehensive assessments included in this cycle to prevent the overextension of author teams and technical support units that occurred in AR6.”

1.2.9. Selection process

One country “encourages IPCC to involve effectively more women and researchers from developing countries. Conducting some of the meetings online might be one of the solutions which also reduces the greenhouse gas emissions of the preparation of the report. More proactive measures should also be taken when selecting authors to ensure gender and regional balances. Once selected, the IPCC needs to make sure that the authors from developing countries have the same level of access to scientific literature as their developed countries counterpart. Support to developing country scientists in the form of a Ph.D. or post-doc part-time assistant should be considered, funding permitting. To the extent possible, consider the additional difficulties that women scientists had to suffer during the COVID crisis, the support given to women scientists from developing countries should be more important, funding permitting. The IPCC should explore every opportunity to develop partnerships with other organizations to fund those support activities.”

One member government that consulted national authors noted their view regarding the “critical importance of Coordinating Lead Authors in leading the chapter author team’s scientific assessment. It was suggested that in order to pass on institutional knowledge while also bringing in fresh perspectives, the working group bureau pair experienced Coordinating Lead Authors with those that are new to the IPCC process and avoid having two new Coordinating Lead Authors leading a chapter with limited experience in IPCC authorship and assessment procedures and methodologies.”

1.2.10. Review of relevant literature

One member government who has consulted national authors that contributed to AR6 highlighted the difficulty for authors to adequately assess “all the literature on a given topic due to the vast and growing size of the relevant scientific literature. Authors raised concerns that this challenge not only undermines the ability to undertake a truly comprehensive assessment, but it could also result in errors within the assessment due to inadvertently missing a key reference. Authors suggested exploring the use of artificial intelligence tools to assist in reviewing the literature to identify key studies

and information. It was also suggested that the IPCC and TSUs should consider additional support for journal access and how chapter scientists can aid in the assessment process.”

I.2.11. Review Process

The transparent and iterative review process is one of IPCC’s greatest strengths. However, an increasing number of comments are formulated, making it necessary to further optimize the process and reduce the workload to the Technical Support Units. Some suggestions are provided, such as a more professional IT tool replacing Excel-Sheets (maybe using Artificial Intelligence) or allowing sufficient time to comment and then to update drafts during strategic planning.

Several governments suggest that the author’s responses to the last round of review to the draft last SPM should be documented and provided to governments before the floor version to facilitate the approval.

I.2.12. Shifting from physical to digital/hybrid process - sustainability

The 6th Assessment Cycle has shown that virtual/hybrid meetings are possible and can bring some benefits. One country notes that “they have also posed challenges and in-person meetings for authors and delegates are essential. Nevertheless, it would be beneficial for the IPCC to review its carbon footprint and consider possible options to reduce it.”

Several governments mentioned the possibility of carrying out meetings with a hybrid format that would allow delegations to have the opportunity to attend all planned meetings in case they cannot afford travelling. Reducing the IPCC carbon footprint is also mentioned.

One government believes that consideration should be given to continuing the practice of virtual and/or hybrid meetings where it makes sense to do so – for example, in smaller meetings of shorter duration – noting that the difficulties that time zone differences entail mean that solely virtual meetings would be difficult for some participants.

Another member government highlighted that “the pandemic provided the IPCC with an opportunity to explore other ways of working and that this provided the opportunity to refine our approach to online and hybrid meetings, which brought several co-benefits including relief to a strained budget, fewer greenhouse gas emissions and less time away from home and families” and noted that virtual participation in some meetings at the next assessment cycle would be especially appreciated by countries who are a long way from the normal meeting venues, including Region V countries.”

One member government expressed the view that “during AR6, the IPCC gained significant experience holding virtual meetings that should be taken forward. While the need for virtual meetings was forced by circumstances related to the COVID-19 pandemic, virtual meetings have proven their usefulness for making progress without the burdens of organizing large meetings or international travel. Early in the seventh assessment cycle, the IPCC should consider how best to include virtual meetings within the process. In-person meetings will still be necessary to conduct most of the business of the Panel. However, the Panel may explore holding virtual meetings ahead of in-person meetings to open agenda items, introduce documents and issues, and gather initial member government reactions. This could be particularly useful in the case of approval meetings where a first reading of the SPM text could be done virtually ahead of the in-person approval session. This would allow authors to consider comments from governments on the final draft of the SPM and make the in-person meeting more productive by focusing on areas where significant divergences between governments remain. Virtual bureau meetings can enable greater participation, save limited budgetary resources, and reduce the carbon footprint from flying bureau members and government representatives for what are often one- or two-day meetings. Virtual meetings for the bureau should be the default method of meetings going forward with in-person meetings organized only when needed, such as for author selection. Holding these meetings well in advance of a Panel meeting would also allow time for follow-up activities be completed before a plenary meeting.

The same government noted the accessibility benefits from virtual work for authors, but also emphasized the importance of in-person meetings for establishing links among authors and collaboration. Authors consulted by this government noted that the “virtual platforms such as Zoom, Slack, and Google Drive were very effective and efficient and enabled steady progress on the draft reports without the burdens of travel. Although authors also noted that file sharing and reference management became a massive challenge. It would be useful for AR7 to designate a shared workspace where changes to documents can be made simultaneously, and references easily managed with a common platform. Authors suggested that author meetings should continue to be held in person early in the cycle to help build strong communication and rapport amongst chapter teams.

I.2.13. Approval meetings

Invitation letters must notify country representatives of the likelihood of continuation of discussions for more than a day or two past the set end date of the approval of the reports. The delay in the in-person approval of the Synthesis report resulted in a steadily declining participation of developing countries due to prearranged departures. This needs to be avoided in the future to ensure the credibility of the IPCC by involving all countries until the very last minute of decision making.

One government noted that the fact that the in-person approval session for the Synthesis report ran late, made it impossible for developing country delegates who were unable to extend their stay or had smaller delegations. The government suggests that the IPCC Secretariat consider ensuring that the IPCC sessions are held within the stipulated time of the meeting, thus ensuring the full participation of participants from developing countries.

Another member government expressed concern “about the precedent set of having plenaries run far past the announced timing of the meeting closure, especially with regards to the situation where many participants need to leave an approval plenary before the process was complete. This practice is overly burdensome on delegates and authors and leads to reduced participation and must be addressed in AR7. First, sufficient time for the approval session should be provided given the length of the SPM, and a realistic schedule should be created to ensure that all sections of the report are given adequate time for consideration by Panel members. If the report is not approved within the time allotted, alternative arrangements should be made for finalizing the report in a virtual format or at a *bis* session, where full participation could be assured, as opposed to continuing the meeting with only a few delegations. As mentioned above, having a plan for the approval sessions ahead of the session and virtual meetings to perform a first reading may also help limit the possibility of the approval session running past the deadline. The IPCC should consider other options for streamlining the approval process, including by formalizing the process for contact groups and huddles so that they are not called on an ad hoc basis.

Please note that this issue is also addressed under “Regional Representation”.

I.2.14. Professionalize organizational aspects

One country highlighted that “the policy relevance of the IPCC has greatly increased, as climate change is now relevant to all aspects of society and the economy. The demand for climate knowledge has increased and, accordingly, more reports have been produced in the current cycle than ever before. At the same time, the scope of the reports and the amount of literature to be assessed have also grown. This poses significant challenges for all involved in the IPCC's work, in particular for scientists, but also governments. The organizational setting should, therefore, be professionalized further so that the IPCC can continue to fulfill its mandate to deliver assessment reports of the highest quality.”

I.2.15. Opportunities for digitalization

One country noted that “Innovative digital tools are becoming available with unprecedented capacities. These will fundamentally transform our lives, including the social environment, the way we work, and our economy. Such tools may be useful for the IPCC's work (e.g., for identifying relevant literature or facilitate the review process), but some might require a dedicated monitoring in order to keep pace with rapid developments (e.g., the relevance of advanced artificial intelligence (AI) for the IPCC process, also as a competitor.”

I.2.16. Enhancing collaboration and exploring synergies with other bodies and processes

Enhancing collaboration between IPCC and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) was noted by several member governments.

One country stressed that “there is indisputably a proven interlinkage between the areas of biodiversity and ecosystem health and climate change. In the past, IPBES and IPCC convened for a joint workshop. Since then, IPBES has already made some bottom-up decisions to foster synergies between the two areas of work. However, the IPCC has been reluctant to take on the discussions on how to exploit synergies with IPBES and other (UN) bodies beyond the UNFCCC” and recommends that “the Panel shall, with a standing item on its agenda, exploit synergies with IPBES and other (UN) bodies beyond the UNFCCC. The decisions of the Panel on the matter can be of formal and informal nature, targeting top-down and / or bottom-up approaches of collaboration.”

Another country indicated that the “IPCC should consider, where appropriate, ways in which collaboration with other bodies on cross-cutting issues may be facilitated while preserving the foundations of the IPCC, for example, through joint side events or inclusion of relevant authors for issues that cut across the mandates of multiple UN bodies such as biodiversity or health.”

One government suggested “enhancing collaboration between IPCC and IPBES since “climate change has a significant impact on biodiversity, and the potential role of nature-based solutions in mitigation and adaptation strategies is increasingly recognized. Collaboration between the two organizations can help to provide a more comprehensive understanding of these issues and inform more effective policy responses.”

I.3. Views on Communication

There is an overall agreement that the AR6 cycle enhanced communication in many ways and through new products having been developed and made available. In addition, the training, supporting documents, and support provided by the IPCC to the authors was recognized and highly appreciated.

I.3.1 Communication to public

Member governments expressed the importance of communication with the public. However, concerns were expressed regarding “the product outcomes not being too simplified to the level that it loses their scientific value” and that “scientific content must be preserved in any communication through any media”. A country pointed out that “the communication experts in Working Groups are not scientists, their role should be only to work on simplifying the messages produced in the first place by the scientists”. A developing country member government stressed that “it is imperative that scientific findings of the various assessment reports are translated into politically relevant outcomes to scale-up current adaptation and mitigation strategies that will galvanize non-state actors and fuel the coordination and collaboration of both state and non-state actors to do and sustain urgent climate action on the ground.”

One country noted that there is still considerable scope for simplifying and clarifying the language to make it more accessible, genuinely, to policymakers and also to citizens at large.

Another member government noted that “as the profile of the IPCC has risen, the audience for IPCC products has also broadened and become more diverse. IPCC needs to identify the primary audiences for various products, noting that the IPCC sometimes seems to be attempting to serve too many audiences at one time. For example, messages in the Summary for Policy Makers that are directed at policymakers should have a greater focus on communicating findings based on analyses at the regional and local levels where these policymakers operate. Technical audiences, which will want detailed scientific information and assessments, should look to the technical summary or underlying chapter for this information and not expect it to be featured prominently within the Summary for Policy Makers. Additional technical products or other derivative products that speak to particular audiences or stakeholders (e.g. “Summary for Youth” or “Summary for Farmers”, etc.) may be also considered to further amplify IPCC findings to these communities. The IPCC will need to institute adequate review processes to ensure that these reports remain consistent with the underlying assessment while not requiring full Panel approval of the text of these products line-by-line.”

The idea of establishing a task force on communications early in the seventh assessment cycle, drawing from members of the Bureau, member government representatives and TSU staff was proposed by a member government. The Task Force “should aim to capture and share best practices and be informed by the latest research and understanding of effective science communication.”

I.3.2. Communication between authors and governments

One country is of the view that “Increasing opportunities for engagement between governments and authors during the report production process would enhance the policy relevance of reports” and “welcomed the introduction of webinars to support the reviews of reports and in preparation for approval sessions.” The webinar format used by WG III was thought to be particularly helpful for allowing longer presentation of sections and new concepts to be presented by authors. Similar initiatives for engagement should be retained in the following cycle, including earlier on during the scoping process.”

Another country stressed the need to “plan for webinars or workshops that allow for more interactive communication with authors to better understand the science and the outcome from the underlying models/scenarios ahead of any report approvals. Workshops and webinars between government representatives and the authors are important to clarify main concepts which would reduce the time needed in the plenary for clarifications.”

Many governments highlighted that the online sessions during AR6 have shown that pre-structured sessions – preceded by informative Q&A sessions - can be very conducive to focused discussions and efficient and effective use of time. Thus, this should be maintained to physical sessions. The very useful and informative Q&A sessions should be held well before the adoption sessions.

I.3.3 Outreach events

It was mentioned by one country that the IPCC outreach program could be expanded to include a wider audience such as the private sector, civil society organizations and the general public. In the same submission the government stressed the importance to communicate the highlights of the reports in a less technical language - one that resonates with all audiences”.

The IPCC could also maximize the use of non-traditional forms of media (i.e., social media, video games) in further communicating climate-related messages, including capacity-building sessions in understanding this media. These are vital strategies, considering efforts for spreading climate denialism and disinformation on social media.

One government noted that producing outreach materials in the six official languages of the United Nations facilitate the access of different regions and groups to learning resources and provide more users with convenient access to scientific information on climate change.

It has been suggested by a member government to launch an outreach campaign in developing countries, which could be supported by the own country hosting the event. This developing country government demonstrated willingness to support and cooperate with the IPCC Secretariat in this regard and is ready to share its experiences on IPCC findings outreach at the national level.

A government from a developing country expressed the view that during the next assessment cycle, targeted outreach events should be organized and added to the IPCC calendar of events, serving to improve awareness of IPCC work and supplement the work done by the National Focal Points.

Another member government noted that outreach events are an important aspect of the IPCC's work and considers that "there are opportunities to reach wider audiences and try different communication channels for IPCC reports including multi-media approaches targeted to different audiences."

1.3.4. Interactive products – the success of the Interactive Atlas and the role of interactive infographics

Many governments have made explicit mention to the Interactive Atlas and indicate that more interactive elements should be added to the reports in the future.

One member government indicated that the geographical atlases were a positive innovation in developing products that can provide detailed, regionally specific information needed by many policymakers and that more could be done to build on the AR6 atlases in AR7 to present information in accessible formats and allow users to develop graphics that are relevant to their needs. Efforts to develop the AR7 atlases or other derivative products should start early in the cycle so that they can be released as close to the approval of the underlying report as possible and benefit from the opportunity to have multiple rounds of review by experts and governments.

One government indicated that the IPCC should continue to bring communication to a more professional level and make better use of new communication technologies, including interactive infographics. The newly developed Climate Atlas serves as an excellent example in this respect. During AR6 the testing of proposed figures amongst policy makers during the assessment process has contributed to improving the quality of figures and should be continued during the next assessment cycle. Nevertheless, IPCC is advised to also make use of infographics and make these also part of the production process by the WGs, rather than an add-on after finalization. In this way, the IPCC reports can be better used for education purposes, while keeping a check on the scientific accuracy of presentations."

Another member government noted that "infographics and graphics end up being the material that is most used for dissemination and communication, it should be advisable to make an extra effort to convert the key messages into infographics. For that purpose, it would be worthy to analyze if it is necessary to hire more graphic design experts. The government highlights the positive results of the Interactive Atlas and its usefulness, encouraging the further development of this type of tool that facilitate access to the information by the society.

The IPCC is increasingly making good use of social media as communication channels. However, the communication by IPCC is currently too much limited by the printed format of the IPCC reports. Often this still results in very complex figures, in an effort to include multiple insights at the same time.

One government suggests sharing more information on the application of new tools (such as interactive atlas) in research and teaching.

1.3.5 Workshops and Webinars

One government sees "IPCC Expert meetings and Workshops as very useful tools to further develop specific scientific themes, methods, and also for more IPCC process-relevant themes such as communication. Due to the intensity of the sixth cycle and constraints due to the global pandemic

COVID-19, there has not been that many of these during this cycle. We think that the work programme for the next cycle should allow for more Expert Meetings and Workshops. We also recognize that this might be one useful way for IPCC to collaborate with other relevant organizations and initiatives (IPBES, WCRP, C40, Global Carbon Project, etc.), similarly as was done virtually with IPBES in December 2020.

Another member government recommends planning for “webinars and workshops that allow for more interactive communication with authors to better understand the science and the outcome from the underlying models/scenarios ahead of any report approvals. Workshops and webinars are important to clarify main concepts which would reduce the time needed in the plenary for clarifications.”

I.3.6. Communication Products: Fact Sheets, Videos, Presentations, Figures

It was overall acknowledged that communication material, such as fact sheets per region and per sector, presentation slides and short videos were useful in communicating the key findings of the report in a simple and concise way.

One country acknowledges that the “dissemination of key messages from the IPCC reports using FAQs and factsheets. This approach helps to make the information in the reports more accessible and understandable to a wider audience. We recommend this effort to be continued and strengthened in AR7, for instance by also producing infographics explaining the functioning of IPCC”.

One government noted that “the IPCC is known for their outstanding figures” which have multiple uses, such as the media, teachers, and in policy briefs, but notes that the figures are increasingly “complex and hard to digest... and increasing graphics support would be helpful and could make the figures more interpretable”.

One member government recognized the “effectiveness of involving communication experts and recommends that their contributions to the preparations, joint message development, and training of authors and contributors be continued and further enhanced in the next assessment cycle. In that respect, a government recommends improving the training and professional preparation of the press conferences following report adoption meetings in the next assessment cycle, to avoid problems that occurred during AR6.

Another government noted its appreciation “all the new and innovative efforts that has been undertaken during this cycle” with regards to figures during this cycle. Recognizes that the involvement of experts on graphical design and consultations with different stakeholders “has significantly improved messaging” and stresses the importance of having these initiatives early in the production phase.

I.3.8. Use of the IPCC Logo

It was noted by some governments that the IPCC logo was used during AR6 in publications, presentations, and reports (by authors or by third parties) without the consent of the Panel and the assurance that these products adhere to IPCC procedures and approval processes. To maintain IPCC credibility, the panel guidance is needed on this matter to ensure adherence to IPCC rules whenever the logo is used.

The issue of the IPCC logo being used in publications that have not been part of a formal process decided by the Panel and not adhering to IPCC procedures was raised. This includes reports from authors or third Parties and power point presentations. Members stressed the need for clear guidance from the Panel and that rules need to be in place to ensure the appropriate use of the logo.

1.3.9. Artificial Intelligence and search optimization

One member government noted that “recent advances in generative artificial intelligence and natural language processing allow for unprecedented access to information drawn from a range of information sources. As the international authority on climate science, IPCC products should be a major source of information for such tools. Optimizing the next generation of IPCC products for these tools can make IPCC information more relevant and accessible to a wider audience. The Technical Support Units should explore opportunities to partner with organizations with relevant expertise for such optimization in AR7.”

1.3.10. Communications professionals in the Technical Support Units

One member government that submitted views of lessons learned engaging also the national authors noted that many authors noted the “usefulness of having communications professionals involved in the Technical Support Units, particularly those well versed in social media. For example, WGI Technical Support Unit leadership ensured that media materials and coherent talking points were provided to all authors during the release period, which allowed for messaging to be calibrated across authors, countries, and media. Many authors said the most important lesson they learned with regards to communications in AR6 was the importance of dedicating sufficient resources to communications and providing a wide range of communications platforms. The IPCC should consider formalizing communications as a key role of the Technical Support Units.”

I.4. Other general issues

- Recognition of the very convenient updating of the Paper Smart system which is now a very useful and efficient tool.
- The error protocol has proven good for transparency, but would benefit from improving a rapid response procedure, updating reports online according to the errata, and revision of the error protocol “including a guideline as to when to re-involve the Panel, and considering if Data Distribution Center data should also be covered.”
- Concern about the significant changes to the draft texts after the second-order review.
- Very late availability of reports translations and their availability in paper.
- Delays in delivering the online versions of published reports and translations.
- Given the workload in the Secretariat, the administration of the IPCC Scholarship should be outsourced to an organization that already administers grants, possibly a Foundation.
- Additional funding is needed for professionalisation of the IPCC’s organization, including funding of chapter Scientists; IT tools for the writing and review processes; training for gender and diversity awareness; child care during IPCC meetings; and support to the IPCC Data Distribution Center.
- Appreciation for the inclusion of indigenous knowledge in AR6.
- Bureau to ensure overall planning, oversight and foresight of the Panel’s work and its sessions over the entire cycle, under the guidance by the IPCC Chair and the ExCom, taking into account the workplan adopted by the Panel at the onset of the next cycle.
- Glossary.

CHAPTER II – VIEWS FROM BUREAU MEMBERS ON LESSONS LEARNED FROM THE SIXTH ASSESSMENT CYCLE

II.1. Organizational Elements

II.1.1. Transition between cycles (how to ensure a smooth transition, sharing experiences)

During the Bureau meeting many members indicated that this could include a meeting between the AR6 Bureau and the new elected Bureau, which will provide an opportunity for the sharing of experiences by the Technical Support Units, co-chairs, Vice-Chairs.

One member of the Bureau indicated that the Task Force on National Greenhouse Gas Inventories experienced few issues when transitioning to a new cycle due to the continuity of the support to the Technical Support Unit by his government. However, noted difficulties to deal with the implementation of the IPCC Error Protocol given the difficulty to contact the relevant authors when a long time has passed between the approval of a methodological report (e.g., the 2006 IPCC Guidelines for National Greenhouse Gas Inventories) and potential errors being claimed by users.

II.1.2. Number of deliverables in the cycle

Bureau members highlighted the challenges faced during AR6 due to an excessive number of products delivered and consider that such an ambitious number should not be repeated unless there is a significant change in the system and in the schedule. With the production of too many reports IPCC runs the risk of inconsistencies, reduced quality, and standard of the reports. The Bureau stressed the need to provide the TSUs, Bureau and authors with enough time to do quality work that is coordinated across chapters and Working Groups.

Members mentioned that the Panel should consider the capacity and working arrangements before deciding the workload in the AR7, as well as the risks from a compressed writing and review schedule. Also, it would be helpful to have clarity on the organization of the future work of the IPCC considering the Global Stocktake which could have an impact on the products to be produced by the IPCC during AR7.

One member noted the importance to “analyze how the IPCC reports were used in the 1st Global Stocktake, with a view to making it possible for future IPCC reports to be even more useful and influential.”

II.1.3. Cooperation with other external UN-bodies

Bureau members considered that cooperation with other external UN bodies should be enlarged to ensure, to the extent practicable, that data published by UN bodies (e.g., UNDP, WMO) are consistent with the findings from the IPCC, including in relation to the definitions adopted (glossary) by the Panel. Hence, a mechanism should be internally discussed to ensure a better communication with other agencies, as well as with other climate-related entities producing reports (e.g., IPBES). It was mentioned that the IPCC Vice-Chairs could have a role in this respect.

One Bureau member highlighted that “if the goal is to produce new products in collaboration with external UN-bodies, and if the resulting product will be co-branded as an IPCC product, it will be critical that key features of the IPCC procedures will be retained that ensure the balanced consideration of relevant knowledge and regional perspectives, and the robust review of drafts. In addition, one must anticipate considerable time being required to address issues where climate intersects with the core domain of other UN-bodies – this means that the time required to produce genuine new products will normally be longer than it takes to produce a Special Report. Where this is not possible, it may be necessary to consider a different type of product where the IPCC clearly only plays a supporting but not an authorship role, to protect the integrity and reputation of the IPCC.” This member highlights that “other forms of cooperation could consist of joint webinars and outreach activities, and IPCC authors and Bureau members acting as reviewers of products developed by other UN bodies that draw on IPCC material.”

II.1.4. Plenary, Bureau, ExCom, Author’s meetings (hybrid and face-to-face)

The Bureau discussed several possibilities to reduce the carbon footprint of IPCC meetings and indicated that there are several options that could be explored to minimize the carbon footprint of the IPCC. Depending on the agenda, the Secretariat should explore the possibilities to hold virtual meetings, which were reasonably successful during the COVID-19 pandemic. The members suggested the possibility to provide online access to participants who face challenges for in-person

participation or travel. Where travel is necessary, minimization of greenhouse gas emissions can be introduced as a criteria for booking travel with the IPCC Trust Fund.

One Bureau member notes that “there is increasing pressure to justify the carbon footprint of meetings, and every meeting needs to have a clear rationale and justification why holding it in-person is necessary, and to ensure it is conducted in a way that makes effective use of an in-person event. Meetings that consist only of plenary interactions and that contain mainly noting items are more difficult to justify as an in-person meeting.”

Another Bureau member noted that the Task Force Bureau holds annual meetings, and that experience has shown that in-person meetings are preferable due to the fact that some developing country members face internet connection problems.

One of the lessons mentioned during the Bureau meeting regarded the pros and cons of holding virtual author’s meetings. One Bureau member, however, highlighted that “in-person meetings are essential for writing reports that meet the standards for quality and consistency, but notes that virtual meetings are a very useful supplement.”

It was suggested that at the onset of the next cycle, a task group be created to discuss costs and implications of physical vs hybrid participation vs purely virtual sessions, when deemed possible.

In addition, the role and timing of the Bureau meetings should warrant more in-depth discussions to make the best use of the Bureau and its role within the IPCC whilst reducing overall greenhouse gas emissions.

Finally, one comment by a Bureau member highlighted the need to ensure (to the extent possible) efficient and universal participation from developing countries experts and representatives in virtual meetings. In several cases, limited connectivity and unstable internet service affects participation of those experts / representatives in virtual sections. However, the efforts by the IPCC Secretariat during the AR6 to support those experts and representatives has been appreciated.

II.1.5. Need for professional human resources support

This issue was raised by Bureau members and should be addressed broadly, engaging the future Technical Support Units and the Secretariat, for instance. One member mentioned that this type of support was used by Working Group I and was deemed to be very helpful. This experience could be shared with the new Technical Support Units, including the need to consider specific rules applied in different countries, although a harmonization of conditions across the different TSUs would be beneficial.

One member of the Bureau highlighted that “this issue is particularly relevant for TSU members, as IPCC Secretariat staff have recourse to WMO Human Resources support. TSU members are generally employed by an organization aligned with the Chair or Co-chair that they serve, which may or may not have experience in hosting international activities and individuals coming from a range of geographical and institutional backgrounds.” This member notes some complex issues in relation to human resources processes that could increase the “risk of burnout, unfair treatment and dismissal, and ineffective workplace relationships” and understands that the “IPCC, as an organization, will need to make attempts to provide a basic background support to TSU staff no matter who their actual employer is, while of course recognizing that ultimately the responsibility for employment matters rests with the actual employing institutions. This support could consist for example, of free and confidential counselling and legal advice, workplace coaching, and a legal representation in case workplace grievances that cannot be resolved easily.”

II.1.6. Role of Vice-Chairs (IPCC and Working Groups), authors, review editors.

The Bureau members acknowledged that the Vice-Chairs of the IPCC have had enhance roles during AR6 and positive lessons have been learned in this respect. However, there is a need for increased clarity regarding the roles and responsibilities of the IPCC Vice-Chairs, Vice-Chairs of Working Groups, and Task Force Bureau members. The same applied to the role of review editors, including their participation as authors and in approval sessions.

Clear Terms of Reference for the IPCC Vice-Chairs and Vice-Chairs of Working Groups should be developed in view of the lessons learned during AR6, including entrusting them with additional tasks such as, for instance, facilitating efficient cooperation among and within Working Groups.

One member of the Bureau indicates that “this is a large topic that needs thorough consideration by the new Bureau and that ideally, it could be addressed by the Panel, if time allows. Points to address include the responsibilities for supporting specific topics and chapters, for instance, and the need for securing consistency across chapters and Working Groups. A more formal assignment of responsibilities to Working Groups Vice-Chairs should strengthen the work.”

Another member suggests that “the Panel should formally review the terms of reference for the Bureau and its different types of members and seek to provide more detail and clarity in particular of the roles expected of IPCC Vice-Chairs, and how Working Group Vice-Chairs are expected to discharge the responsibilities that the existing Terms of Reference places on them. Given that the specificity in formally adopted Terms of Reference may still be limited, the Bureau may wish to produce its own informal, non-binding guidance document that spells out plans and expectations of those roles during the 7th cycle that also recognizes the particular pressures and ambitions for the 7th cycle and the skills of individuals elected into the Bureau.”

II.1.8. IT issues

During AR6, all the applications were designed/developed, set up and hosted by the Secretariat, and this was a novel approach compared to AR5. This has improved ease of access, provided consistent security and enhanced integration with other databases and applications. These products, offered in a timely manner to the Bureau members, Focal Points, TSUs, authors, delegates, students, and media have greatly facilitated the work of the stakeholders. Furthermore, necessary precautions have been taken to ensure that the products/services are available and accessible to all member countries, promoting transparency and inclusiveness. For AR7, it is highly recommended to continue with this effort while exploring means to promote further improvements to existing products and underlying technology and providing necessary training to support this important task. In parallel, there needs to be an open exchange of lessons learnt by TSUs on the applications developed and broad access to libraries, for instance.

During AR6, besides IT and infrastructure, additional work has been undertaken by the same team to meet the growing demands in the areas of logistics, conference management and preparation of the pavilion for the last 4 COPs. This is huge workload that has been added on top of managing all IT systems for the IPCC. The Secretariat should also consider aligning the positions with the other UN agencies and reinforcing staffing to meet these growing demands.

One member expressed that a “main concern at present is that a large responsibility for IT issues, including e.g. maintenance of the glossary database, rests on the shoulders of only one individual. The Secretariat urgently needs to increase its capacity to ensure robustness and timeliness of its IT support without undue reliance on a single individual.”

Another issue that was raised regarded the safety of IPCC using gmail or should the Panel have its own safe IT infrastructure professionally run.

II.2. Scientific work and related organization aspects

This section addresses four elements that have been identified and agreed by the Bureau members and include **general** points and more specific views regarding **publications, data issues, and authors**.

GENERAL

II.2.1. Number of reports per cycle and their timing, linkages, strategic planning

The members of the Bureau expressed concern about the workload during AR6 that resulted in great stress to the Technical Support Units, the co-chairs of the Working Groups and the Task Force on National Greenhouse Gas Inventories, the Secretariat, and others. An in-depth discussion by the Panel regarding the implications of the workload on the IPCC structure and authors is desired.

One member of the Bureau suggests that “if a greater number of deliverables is desired than what can be delivered within capacity constraints, then the Panel must consider and decide on new types of products, and/or make greater use of IPCC workshops and expert meetings or address information needs by the Panel.” The member notes that “the needs of the UNFCCC need to be considered when deciding on the IPCC workplan, but UNFCCC needs cannot override capacity constraints. Otherwise, this would increase the risk of producing IPCC products that do not meet the quality standards and procedures, and that would increase the risk of material errors in IPCC products.”

It has been noted by Bureau members that the experience with the number of deliverables during the AR6 represents the absolute limit of what can be achieved. One member noted that “producing three Special Reports also mean that there is no capacity to address emerging or contentious issues through IPCC workshops and expert meetings, or undertake other strategic engagement with stakeholders, which in turn could limit the relevance of future products. Structure engagements outside of and in advance of the pressure to produce reports is a key tool to advance knowledge and develop more integrated and interdisciplinary assessments.”

II.2.2. Different report formats

During the Bureau meeting, the members expressed their views regarding the format of the reports, for instance, should the assessment reports continue to be published at every 5-6 years, considering the advances in scientific knowledge and the cut-off date of reports? Could smaller, targeted publications (e.g. multiple Special Reports) keep IPCC *in tandem* with the pace of scientific literature and of policy interest? Could more flexible mechanisms be developed to update Methodology Reports, essential for the Enhanced Transparency Framework?

An issue that merits attention regards Technical Papers that presently can only be based on material already published by the IPCC, that constrains the use of new literature relevant to a given topic or discuss new cross-cutting issues.

One member suggests that “the Panel should consider whether it needs to develop a fundamentally new type of product, and whether to continue with the existing structure of three Working Groups for AR8. Such discussions will take several years to complete and reach a decision that does not simply default to the *status quo*” and hence discussions should start early in the 7th Assessment cycle.

II.2.3. Cooperation/integration between Working Groups and the Task Force on National Greenhouse Gas Inventories

The members highlighted the significant level of integration that was achieved in AR6 among the Working Groups and the TFI and indicated that this should be assimilated as a very positive lesson and note the need to enhance the cooperation and integration even more during the next AR7 cycle. For instance, should a Special Report (e.g., Cities and Climate Change) be initiated as soon as the

AR7 starts, engaging all WGs and TFI, as was the case of the 1.5°C Global Warming report in AR6? How to maintain the spirit of cooperation between the WGs and respective TSUs?

One member suggests that “the incoming Bureau, chair and co-chairs, and Technical Support Units should develop a shortlist of cross-cutting topics as early as possible and initiate means to address them”, including through the use of IPCC expert workshops and meetings.

The glossary is cited as a possible example to promote greater cooperation among the Working Groups and the Task Force on National Greenhouse Gas Inventories through the creation of a dedicated team of Technical Support Unit member, Bureau members and authors from different Working Groups and the Task Force.

II.2.4. Science-related meetings (Expert meetings, expert workshops, co-sponsored meetings)

Bureau members recognize that there is a need to discuss at more depth the lessons learned during AR6 regarding the number of expert meetings, expert workshops and co-sponsored meetings that could produce updated scientific knowledge on specific issues (e.g., CDR and SRM; differences between modelled and reported LULUCF estimates in inventories). Clear rules need to be agreed regarding these meetings and the reports to be produced, seeking an inclusive process engaging all participants. The IPBES and IPCC workshop was highlighted as an example to be used in the context of lessons learned.

II.2.5. Identification and implementation of cross-cutting issues

Some of the positive cross-cutting examples from AR6 should be jointly decided and enhanced by the three Working Groups and the Task Force on National Greenhouse Gas Inventories, such as the successful joint work on a shared glossary, cross-WGs boxes and author’s engagement across Working Groups.

One Bureau member also noted the successful joint organization between the Task Force on National Greenhouse Gas Inventories and Working Group I and stresses the importance of continued organization of joint expert meetings or workshops across Working Groups and the Task Force.

PUBLICATIONS

II.2.6. Review process

Bureau members noted that the number of comments on draft reports by both experts and governments has grown significantly from AR5 to AR6 and demonstrated concern on how to efficiently deal with this increasing trend and suggested some possible ways forward. For instance, would it be possible to change from the spreadsheet-based review comment process to a more efficient system, such as existing tools that could be offered on a server and would make reading, processing and entering author responses quicker and easier? This issue needs thorough consideration by the new Bureau and the Technical Support Units.

One Bureau member expresses concerns with “potential under-review of some chapters and sections” and stresses the importance of enlarging the number of experts that represents a balance across geographical regions and context of other sections.” The same Bureau member notes the challenges with the use of spreadsheets to respond to review comments and that it “would be worthwhile to commission professional help to develop possible options to advance the mechanics of how we deal with review comments.”

II.2.7. Delay in delivering the published reports and translations

Bureau members noted that the issue of report's publication delays, as well as report translations have been brought to the attention of the Panel at different sessions. One example of the delay in the delivery of the reports and translations was provided with reference to the Global Warming of 1.5°C report, approved in 2018 and published only in 2022. It is important to identify the causes of the delays in the publications and work together with the Secretariat to overcome these constraints early in the process. In addition, a plan for the translations (including the review of the translations by Bureau members, as appropriate), could ensure that faithful and robust translations would be carried out before publication. A suggestion was given to institute a committee with clear Terms of Reference, including the review of the terms of the contract with the publisher, noting that this could have implications to WMO that might need to be resolved.

One Bureau member notes that “the delays experienced in publications during the AR6 cycle are indefensible” and suggests that the new Bureau works with the Secretariat to address this issue and that a standing publications committee could be useful to ensure that any barriers to an effective and efficient publication process can be identified and addressed in a timely manner.

The members noted that the Secretariat retains responsibility for arranging the translation of IPCC products and raised some questions, such as: How can the Secretariat be supported by relevant expertise to deliver high-quality and timely translations of IPCC products? What is the role of IPCC Bureau members, IPCC member governments, IPCC authors and contracted outside expertise?

II.2.8. Contract with publishers

Bureau members noted that specific and custom-made rules in the contracts with the publishers should be agreed upon and the whole process made much more transparent. Lessons learnt from the Secretariat and the TSUs should be shared early on to avoid repeating recurrent issues with publishers.

II.2.9. Publication of DOI and accessibility

Members noted that previous recommendations to the DOI have not been resolved thus creating a problem with authors that need recognition of their work as early as possible. They suggested that this issue be resolved jointly by the Technical Support Units and the Secretariat as early as possible.

One Bureau member noted that “during the AR6 cycle, the Task Force on National Greenhouse Gas Inventories experienced two issues in relation to the use of the Task Force products by external entities. One is that the contents of a Methodological Report (2019 Refinement) were heavily copied with some modifications in a publication by another organization. The other is that the Task Force has received several requests from private companies to allow them to incorporate the Task Force's Emission Factor Database into their own commercial products”, which have not been accepted.

The member noted that the present IPCC copyright policy does not ensure that some issues can be properly addressed, and demonstrates “concern that the inappropriate use of contents of IPCC products by other entities in their own products may lead to widespread misunderstanding of IPCC's messages by many people.”

DATA ISSUES

II.2.10. Role of TG data and support

Bureau members recognize the important role of the Task Group on Data Support for Climate Change Assessments (TG-DATA) and the Data Distribution Centre (DDC) and stressed the need to enhance their use during AR7. The suggestion to have planned webinar series, as those focused on the use of IPCC Working Group III AR6 Scenarios Database and Scenario

Explorer was mentioned. Another idea was on promoting interactive sessions highlighting the data aspects of using the Database and the Explorer, including data availability and FAIR data principles (see FAIR below) and on how to access and terms of use of data. How to source adequate support for these functions was one concern raised.

It was a general understanding that more transparency could be provided on the work carried out by the Task Group on Data Support for Climate Change Assessments (TG-DATA) and the Data Distribution Centre (DDC) early on during the AR7.

II.2.11. Experience and training in the implementation of FAIR principles (findable, interoperable, reusable) data in the AR6 assessment

Some members highlighted the need to share experiences from the AR6 cycle regarding the implementation of FAIR principles and how they could be more broadly disseminated and applicable by all Working Groups and the Task Force on National Greenhouse Gas Inventories.

One Bureau member shared a comment by some Task Force Bureau members, as follows: “Inventory compilers have communicated a need for more transparency in the way the IPCC default emission factors and other parameters have been derived and to which circumstances they apply. In the future, efforts to describe and document the references, research, and measurement data, which IPCC default values are based on, should be increased. The Task Force Bureau should identify and assign appropriate responsibilities in this effect. The role of the IPCC Emission Factor Database in archiving, explaining, and giving access to the background data and applicability of the default values is emphasized in this effort.”

II.2.12. Limited access to data/libraries

A general concern expressed by the Bureau members regarding the accessibility to the relevant scientific literature, which is sometimes challenging to authors from some developing regions. The access to libraries, such as UNEP’s library was also mentioned. This issue could be discussed among the Technical Support Units, to identify ways to overcome these limitations and to provide insights on what worked well. Questions such as “how to facilitate/ensure literature access by Global South authors? How to support Global South authors in getting enough licenses if the choice for a licensed product should be made?”.

II.2.13. Limited availability of data, particularly in some developing countries

The limited availability or lack of enough regional data has been raised as a limiting factor for more robust regional findings. The new Bureau could discuss questions such as “How to incentivize/facilitate publications in developing countries? What could the role of Focal Points be in this respect?”. Some members highlighted the need for more attention to the handling of pre-publication literature and grey literature during review, ensuring that expert reviewers have easy access to all preprints and grey literature during the review periods.

AUTHORS

II.2.14. Authorship ethics (assigning authorship)

Bureau members raised this issue that is understood as having a direct link with the ethical codes of conduct and calls for the application of principles that include reliability, honesty, respect and accountability when identifying authors and their personal contribution to the IPCC work. Who are authors and the sequence of authorship in any publication needs to be discussed, including who decides, criteria, core science principles of fairness, honesty and responsibility.

One member makes these points clear when indicates that “IPCC needs to consider what the principles are for being listed as author. In Working Group I changes were made during the process,

related to both the Coordinating Lead Authors and Lead Authors and harmonization across Working Groups would be desirable. During the SyR process several issues related to authorship occurred, related to both the report itself and the Annexes. The importance of performance and contributions needs to be addressed. Not following the core principles of science will damage the IPCC.”

Another Bureau member provides several elements that should be addressed by the new Bureau, including the “establishment of a clear procedure across Working Groups for the removal of non-performing authors; authorship of Summary for Policy Makers that requires not only topic-specific expertise but also an ability to see this topic within a wider context and the dynamics of the report as a whole; and issuance of guidance to coordinating lead authors about the Bureau retaining responsibility for appointment of lead authors, and the need to maintain balance across lead authors teams, to clarify rights and expectations.”

II.2.15. Author selection and criteria, including on the Summaries for Policy Makers

Bureau members recognize that although the IPCC principles and procedures provide some elements for the selection of authors, all efforts should be carried out to ensure regional balance in all products of the IPCC. The role of the Focal Points in identifying potential authors, particularly from developing countries should be enhanced to ensure a larger number of qualified nominations that can facilitate to achieve regional balance. It was proposed that the criteria used to select authors, coordinating lead authors, review editors, chapter scientists be made more transparent. In this respect, several Bureau members noted that many developing countries’ Focal Points are not functional and stressed the need to enhance their capacity to enhance engagement, in particular in identifying national experts and scientific literature.

Another point raised regarding the selection of authors was the potential inclusion of key stakeholder communities, such as non-governmental organizations and the corporate sector.

II.2.16. Management of authors teams

One Bureau member noted that “differently from Special Reports and Assessment Reports for which only the Summary for Policy Makers is modified at the final approval plenary session, for the Task Force on National Greenhouse Gas Inventories’ Methodological Reports not only the Overview Chapter but also the longer report are modified at the final adoption/acceptance plenary session. However, because only a limited number of authors can attend the adoption/acceptance plenary session, a lot of modifications in the longer report may be made without relevant authors’ consensus. The Task Force experienced this problem during AR6 cycle, when the 2019 Refinement was considered at the 49th session of the IPCC.”

II.2.17. Chapter scientists (role, engagement, authors?)

Members raised the issue of the chapter scientists, in particular the lack of rules/procedures in place regarding the selection or participation of chapter scientists in the Working Groups’ reports. However, there is a general recognition of the important role played by the chapter scientists during AR6, supporting the collection of data and articles, which helped to save author’s time during the report development. Members stressed the need for the Panel to decide on the appropriate procedures to be applied regarding the potential elevation of chapter scientists as contributing or lead authors, for instance, acknowledging and managing potential conflicts of interest that may arise. Questions such as how chapter scientists are selected and what are their roles and how to ensure diversity and equity in the selection process were raised.

One member of the Bureau mentioned that “given that Lead Authors are selected with great care and many considerations – while a Chapter Scientist is often selected by a Coordinating Lead Author – the process of elevating a Chapter Scientist to a Lead Author position is not straightforward. But many Chapter Scientists have done an enormous job and deserve clear recognition for that. There is no simple and easy answer to this, and the new Bureau needs to consider this issue.”

Another member notes that the “elevation of chapter scientists is a difficult issue, as there is a tension between recognizing substantive inputs that chapter scientists may make to figures and text, and maintaining a balance of authorship that is not biased towards those chapter scientists that can draw on greater institutional support and that may predominantly come from institutions in high-income countries.”

II.2.18. Equity, diversity, and gender issues

Bureau members recognize that during AR6 the Panel has given greater consideration to aspects related to equity, diversity and gender, and this is clear by several decisions taken during the course of the cycle, culminating with the decision to have a survey launched by an external company aiming to engage all those that participated in the AR6 process, including Bureau members, authors, review editors, chapter scientists and Secretariat. The results of the survey are expected to provide more transparent information regarding these issues and help the Panel decide on the process to be followed, if deemed necessary.

One government highlighted that “the establishment of Gender Action Team and Code of Conduct during this cycle is imperative for the IPCC process to further enhance inclusivity and raise gender, regional and cultural awareness. One area that still needs attention is identifying and implementing potential means to ensure similar and safe working conditions and social security for staff in all Technical Support Units.”

II.2.19. Code of Conduct

Bureau members stressed the importance to have a Code of Conduct agreed at the onset of the AR7 for all those involved. The Gender Action Team (GAT), responsible for leading the execution of the Gender Policy and the Implementation plan has been informally working on a Code of Conduct so as to develop a Code that meets the needs of the IPCC (hence, not automatically adopting a Code of Conduct developed by other institutions/agencies (e.g, WMO, UNEP). This is an issue to be dealt with and agreed by the WGs and the TFI. A single Code of Conduct is needed to work for all. In addition, the ethical codes of conduct for science and research and their technical applications was mentioned (as approved in 2017 by its 193 Member States (MS), flagging that MSs should establish suitable means to address the ethics of science and research integrity, through developing education and training regarding the ethical dimensions of science, establishing and supporting science ethics policies and committees, and stimulating the professional ethics of researchers including their intellectual integrity, sensitivity to conflict of interest and vigilance as to the potential consequences of their research and development activities, including technical applications. A question raised was “how to overcome the challenges faced during AR6 for not having a common, agreed Code of Conduct?”.

One member stressed the need to formalize a Code of Conduct “as a modus operandi for all Working Groups and activities as part of the Synthesis report. Most crucially, the Code needs a means of implementation that seems to be currently lacking.”

II.2.20. How to better provide support to authors, including special circumstances

One member suggested that the Working Group’s Vice-Chairs should have a special responsibility for the authors coming from their region and support them. This can improve inclusivity and help authors that are new to the IPCC process and find it difficult to get involved.

II.2.21. Regional balance, Global South cooperation

Bureau members stressed the importance of ensuring regional balance, including strengthened South-South cooperation (this issue was also addressed in item **II.2.15 – Author selection and criteria**).

II.3. Communication

During the Sixth Assessment cycle the outreach programme was strengthened and expanded leading to the organisation of regional events presenting both the findings and work and activities of IPCC.

II.3.1. Outreach events

Many positive lessons have been learned from AR6 regarding outreach events. The Bureau highlighted the need for a clear guidance from the Panel with regard to the support to this type of event, material presented and disclosed, including guidelines on use of the IPCC logo and discussion on the contents presented. Suggestions to plan webinars with environmental NGOs, youth generation, and a diverse number of stakeholders was suggested.

One Bureau member “strongly support greater efforts for outreach, especially in regions where knowledge of or direct engagement with the IPCC is not strong. This could be supported by more active collaboration between the Secretariat and WMO, which has its own strong network with national meteorological services, and UNEP.”

Another suggestion by one member is that “IPCC should make efforts to partner with other organizations that can help arrange outreach events of particular interest to certain stakeholders or regions. Collaborations with stakeholders could also include the development of tailored outreach products” ... and “would encourage ways of generating different types of outreach products.”

II.3.2. Special outreach events (sharing products in a more efficient way – TFI experience)

The Bureau noted the need for the Panel to provide a clear guidance on special outreach events. As an example, the TFI continues to develop software for reporting net emissions using the IPCC 2006 GLs, the 2019 Refinement to the 2006 GLs and the 2013 Supplement to the 2006 IPCC GLs: Wetlands (the last two, as appropriate). The software has served, through time, as the basis for the development of the Common Reporting tables under the UNFCCC.. Presently, the TFI and the UNFCCC Secretariat are working together to seek the interoperability of the IPCC software with the UNFCCC Common Reporting Tables reporting tool. This would greatly facilitate the reporting of developing countries, in particular under the Enhanced Transparency Framework. Outreach events to developing countries on the use of the IPCC software is fundamental if the software is to have added value, and should be implemented together with the UNFCCC Secretariat.

One member of the Bureau included additional considerations regarding the demarcation between outreach events and training and capacity building – the latter is not within the IPCC’s mandate. The member noted that “it should be highlighted that, for many years in the past, such outreach by the Task Force on National Greenhouse Gas Inventories has been done through provision of technical support from the Task Force Technical Support Unit to regional training workshops organized by other international organizations such as the UNFCCC Secretariat. In other words, the Task Force itself was not the organizer of such events. Indeed, it is difficult for the Task Force itself... to organize such events, because of shortage of human and financial resources. Nevertheless, the UNFCCC (CMA to Paris Agreement) has recently invited the IPCC (essentially the Task Force) to do so, which is very problematic”.

II.3.3. Recommendations from the 2016 IPCC Expert Meeting on Communication

There is a general sense with the Bureau that communications during AR6 has been greatly improved and that part of this is due to the first meeting held at the onset of AR6 - the Expert Meeting on Communication. The report provided inputs on the need for improved communications and provided suggestions on how to achieve better communication of science to all. The Panel should decide early on a follow-up expert meeting on communication, to have external views regarding improved communication during AR6 and what more needs to be done during AR7. The Panel should also agree if one expert meeting is sufficient, or a follow up after the first special report is approved would be merited.

II.3.4. Webinars / Expert Meetings / Workshops

Webinars are not an intrinsic part of the IPCC work, but they could be an effective tool to communicate science for different audiences. For instance, planned webinars by the Co-chairs of WGs and TFI (or authors that can provide webinars in different languages) could be a valuable (and more informal) tool that could be instrumental for different stakeholders (e.g., school teachers, academics, students). Webinar series by the IPCC Task Group on Data Support for Climate Change Assessments together with the Data Distribution Centre could be planned to meet WGs and TFI needs, as appropriate.

The Bureau raised the question regarding the organization of Expert Meetings to identify gaps in scientific knowledge and data to stimulate other organizations (e.g., WMO, through the Global Climate Observation System (GCOS) to produce them (particularly data to feed climate models).

II.3.5. Visual representations

This bullet point was included in the list of elements agreed by the Bureau members given specific contributions from some of the members. It is acknowledged that visual representations require an enormous amount of time and hence, requires hiring professionals to take over the challenge. This issue should be discussed among the Working Groups to have a harmonized approach to the visual representations not only in the reports, but other materials (e.g., outreach).

One member “encourage more effort to enhance accessibility of IPCC graphics” and indicates that “a key step is the involvement of visual communication specialists at a very early stage” and the “post processing of approved figures into their constituent elements, so that they can be used to gradually build up figures as part of the power point slides”. The member notes that “the creation of visual outreach packages could be an important element of outreach efforts, but requires Technical Support Units resources after the completion of the approval process that needs to be built into funding for the Technical Support Units.

II.3.6. Engagement with the youth and indigenous groups

Bureau members indicated the need to engage youth and indigenous groups in the work of the IPCC, potentially through webinars. Would it be possible to give voice to the youngest generation in the IPCC governance? This was one question raised.

CHAPTER III – VIEWS FROM THE TECHNICAL SUPPORT UNITS ON LESSONS LEARNED FROM THE SIXTH ASSESSMENT CYCLE

During the Bureau meetings, views from the Technical Support Units (TSUs) were also invited, since the TSUs have numerous responsibilities during the process of producing the IPCC reports. The TSUs were requested by the Co-Chairs to submit written comments on lessons learned during the Sixth Assessment Report (AR6).

The elements provided below reflect the cross-Working Group TSU lessons learned shared in writing.

Key Messages

III.1 Capacity Limits

There are limits in terms of capacity on the number of reports that can adequately be implemented in a cycle. The Sixth Assessment Report (AR6) cycle was unprecedented with three Special Reports, three Working Group Contributions, and a Synthesis Report, together with related Expert Meetings and Workshops. This was notwithstanding the additional challenges of a pandemic which also led to an extended duration of the assessment cycle. The AR6 workload pushed many Bureau members, Authors and TSU members beyond any reasonable expectations and pushed feasibility of undertaking the assessment, including efforts to strengthen consistency across the assessment products, beyond what would be an acceptable limit. There is a tradeoff between report production and the number of other activities, including Expert Meetings and Workshops, that can be undertaken and that contribute to the development of products and help to pave the way for future report considerations. Greater consideration should be given to the realistic number of products that may be produced in a cycle, the strategic timing of Expert Meetings and Workshops, and, in particular, where overlaps in processes such as scoping, drafting, review, preparation of summary products, and the approval periods occur.

III.2 Upgrade of the Technology Used for the Assessment Process

The assessment process is being undertaken with tools that do not match needs of the current context, including the increasing body of literature, assessment of non-English literature and 'grey' literature and other forms of knowledge, increasing numbers of review comments, and an increased need for transparency regarding data. The consistent implementation of state-of-the-art tools across Working Groups is needed for Authors to work with review comments, manage references, and for the preparation of figures, including assembling metadata, code and data, and communicating during the process. A collaborative drafting platform is urgently needed. Professional high-quality software is needed to provide an effective collaborative drafting tool for authors, an accessible review mechanism suitable for a large volume of participants from across the globe, and a mechanism that links reviews to drafts and allows for efficient consideration, effective implementation of changes, and transparency in the written response. The timely purchase of such software, including technical support for its use, would be an investment that would advance the IPCC and support the authors and reviewers in their roles.

III.3 Access to Literature and Computing Resources

The AR6 included resources for Authors to access literature and computing resources for data analysis and processing. The UNEP Library and the process of requesting pdfs via the helpdesk has not been successful in providing the direct access to literature that all authors require. A coordinated approach is needed that allows for real-time direct access to the broad range of available literature via online catalogues. Two partners in the IPCC Data Distribution Centre (CEDA, DKRZ) provided Authors with access to servers and datasets to undertake analyses and produce figures for the report. Server-side analysis capabilities were used to some extent by authors, though this resource has also been under-used and would need awareness and capacity building.

III.4 Chapter Scientists

Chapter Scientists are an essential part of the report writing process and authors teams, and they perform a very diverse range of critical tasks for chapters. Chapter Scientists are early career researchers thus potential future authors for the IPCC. The role of a Chapter Scientist requires clarification, including as a formally defined role within the IPCC procedures with a consistent set of Terms of Reference to ensure cases of overburden do not occur, and including guidance on support and acknowledgement for contributions.

III.5 Ensuring an Inclusive Process

Efforts have been undertaken during the AR6 to highlight the need to address issues of inclusiveness, diversity and implicit bias across the author teams. Although some TSUs were able to obtain funding

or in-kind support for training with authors, it was limited and far from sufficient. Dedicated funding and planning for inclusion of training and support from the start will benefit the next cycle. For example, the role of Coordinating Lead Authors is key to building relationships in chapter teams, and their roles as facilitators and leaders of participatory and inclusive group practices should be considered during the selection and induction process. Likewise, while a Code of Conduct was developed by the Working Groups during the AR6 was a key step forward, a gap remains in the process to address issues. A pathway for the development of a process and professional resources, including training for all, to support addressing issues as they arise is needed.

III.6 Support Cross-Working Group Collaboration

AR6 was characterised by enhanced collaboration across Bureau, TSU and Authors of Working Groups, as demonstrated through the cross-Working Group boxes and other inputs in the Working Group contributions to the Sixth Assessment, the Glossary, cross-Working Group guidance notes, and cross-Working Group activities at Lead Author Meetings and other meetings. Collaboration was most successful where work started early, consistency was maintained across Working Groups in treatment of the material, transparent processes were implemented for collaboration and effective 'handshakes' were planned for dependencies between the assessments. This required dedicated Bureau leadership and TSU support.

III.7 Co-location of TSUs

The enhanced support of all three Global South Co-Chairs by having dedicated TSU staff co-located with them during the AR6 cycle was an essential step forward. Consideration to the establishment, funding, and organization of co-located TSUs needs immediate and considered focus following elections to ensure coordinated support and full participation of both Co-Chairs.

III.8 Cross-TSU Collaboration

One of the most successful aspects of this cycle has been the strong collaborative and supportive way of working between the TSUs. The preparation of the Special Reports would not have been possible without this ability to connect TSU teams together, it set the conditions for continued close collaboration during the preparation of the Working Group reports and was essential to the successful implementation of all the approval sessions of this cycle. Teams across the TSUs - be it science, operations, communications, graphics, data curation, or IT - worked together closely, often on a daily basis, and consulted to develop planning and support for the process, building on the respective lessons learned at each step of the cycle. An important step forward has been the integration of science communication experts who have supported Authors and Bureau members in the development of key messages and resources. The TSUs have also worked to increase the transparency of the IPCC by supporting data and code curation efforts and the implementation of FAIR data principles for the first time in the IPCC.

III.9 TSU Links with IPCC Secretariat

The collaboration between the TSUs and Secretariat could be further enhanced and would benefit from more interaction when planning certain stages of the process, from start-up to handover to the next cycle. Institutional memory would be much improved through a coordinated approach between the Secretariat and TSUs that sets processes in place early in the cycle.