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Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation referred to in decision 7/CMA.3

Subsidiary Body for Implementation
Fifty-seventh session
Sharm el-Sheikh, 6–18 November 2022
Agenda item 14
Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation referred to in decision 7/CMA.3

Workshops under the Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation

Report by the secretariat

Summary

This report contains information on the implementation of the Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation. It incorporates the summary reports of the four workshops held in 2022. The workshops focused on the themes of (1) enhancing understanding of the global goal on adaptation and reviewing progress towards it; (2) enhancing adaptation action and support; (3) methodologies, indicators, data and metrics, monitoring and evaluation; and (4) communicating and reporting on adaptation priorities. The summary reports on the four workshops cover the proceedings, deliberations and outcomes.

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Abbreviations and acronyms

AC	Adaptation Committee
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BTR	biennial transparency report
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CTCN	Climate Technology Centre and Network
FAO	Food and Agriculture Organization of the United Nations
GCF	Green Climate Fund
GEF	Global Environment Facility
IPCC	Intergovernmental Panel on Climate Change
LDC	least developed country
LEG	Least Developed Countries Expert Group
LoCAL	Local Climate Adaptive Living Facility
NAP	national adaptation plan
NAP Global Network	National Adaptation Plan Global Network
NC	national communication
NDC	nationally determined contribution
ODA	official development assistance
SB	sessions of the subsidiary bodies
SBI	Subsidiary Body for Implementation
SBSTA	Subsidiary Body for Scientific and Technological Advice
SCF	Standing Committee on Finance
SDG	Sustainable Development Goal
SIDS	small island developing State(s)
TEC	Technology Executive Committee
UNCDF	United Nations Capital Development Fund
UNDRR	United Nations Office for Disaster Risk Reduction
UNEP	United Nations Environment Programme
UNSD	United Nations Statistics Division
WMO	World Meteorological Organization

I. Mandate

1. CMA 3 decided to establish and launch a comprehensive two-year Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation to start immediately after that session and to be carried out jointly by the SBSTA and the SBI.[1] It also decided that four workshops should be conducted per year, with the support of the secretariat and under the guidance of the Chairs of the subsidiary bodies.[2]

2. The CMA requested the secretariat, under the guidance of the Chairs of the subsidiary bodies, to prepare a single annual report on the workshops,[3] for consideration at the sessions of the subsidiary bodies coinciding with the sessions of the CMA.

3. SB 56 requested the secretariat, under the guidance of their Chairs, to prepare a summary of each workshop, in the context of preparing a single annual report on the workshops,[4] for consideration at SB 57, capturing progress and informing subsequent considerations by Parties under the work programme.[5]

II. Progress in implementing the work programme

4. The following activities were implemented under the work programme during its first year:

(a) A compilation and synthesis of the 63 submissions received from Parties and observers, into concept notes, prior to each workshop;[6]

(b) An IPCC event held during SB 56 in response to an invitation by the CMA to inform the work programme by presenting the findings of the contribution of Working Group II to the AR6[7] that may be relevant to reviewing overall progress in achieving the global goal on adaptation, and to engage in the work programme by clarifying methodologies and other elements related to the global goal;[8]

(c) A compilation and synthesis of indicators, approaches, targets and metrics that could be relevant for reviewing overall progress in achieving the global goal on adaptation, building on the 2021 technical report by the AC;[9]

(d) Four workshops and the respective summary reports thereon, contained in annexes I–IV.

5. The objectives of the work programme[10] are to, inter alia:

(a) Enable the full and sustained implementation of the Paris Agreement, towards achieving the global goal on adaptation, with a view to enhancing adaptation action and support;

(b) Enhance understanding of the global goal on adaptation, including of the methodologies, indicators, data and metrics, needs and support needed for assessing progress towards it;

[1] Decision 7/CMA.3, paras. 2–4.
[2] Decision 7/CMA.3, para. 12.
[3] As per decision 7/CMA.3, para. 16.
[4] As per decision 7/CMA.3, para. 16.
[5] See FCCC/SBSTA/2022/6, para. 159, and FCCC/SBI/2022/10, para. 192.
[6] As per FCCC/SBSTA/2022/6, para. 155.
[7] IPCC. 2022. *Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. H Pörtner, D Roberts, M Tignor, et al. (eds.). Cambridge, United Kingdom: Cambridge University Press. Available at https://www.ipcc.ch/report/ar6/wg2/.
[8] See decision 7/CMA.3, para. 10.
[9] See FCCC/SBSTA/2022/6, para. 157.
[10] In accordance with decision 7/CMA.3, para. 7.

(c) Contribute to reviewing the overall progress in achieving the global goal on adaptation as part of the global stocktake referred to in Article 7, paragraph 14, and Article 14 of the Paris Agreement with a view to informing the first and subsequent global stocktakes;

(d) Enhance national planning and implementation of adaptation actions through the process to formulate and implement NAPs and through NDCs and adaptation communications;

(e) Enable Parties to better communicate their adaptation priorities, implementation and support needs, plans and actions, including through adaptation communications and NDCs;

(f) Facilitate the establishment of robust, nationally appropriate systems for monitoring and evaluating adaptation actions;

(g) Strengthen implementation of adaptation actions in vulnerable developing countries;

(h) Enhance understanding of how communication and reporting instruments established under the Convention and the Paris Agreement related to adaptation can complement each other in order to avoid duplication of efforts.

6. During the four workshops held under the work programme in its first year of implementation, an attempt was made to address the breadth of all the objectives listed in paragraph 5 above, although the need for further elaboration in some areas was identified.

7. The overarching objective of each workshop was to enable the full and sustained implementation of the Paris Agreement, towards achieving the global goal on adaptation, with a view to enhancing adaptation action and support.[11]

8. The first workshop, on enhancing understanding of the global goal on adaptation and reviewing progress towards it, was held in conjunction with SB 56, from 8 to 9 June 2022. The workshop had approximately 400 participants who participated in-person and was webcast live. The theme of the first workshop focused mainly on the objectives listed in paragraph 5(b–c) above.

9. The second workshop, on enhancing adaptation action and support, was held from 30 to 31 August 2022. The virtual workshop had 400 participants and was webcast live. The workshop advanced the work under the work programme by focusing on the objectives listed in paragraph 5(d) and (g) above.

10. The third workshop, on methodologies, indicators, data and metrics, monitoring and evaluation, was held in a hybrid format from 17 to 18 October 2022, with the in-person element taking place in Cairo. The workshop was attended by over 200 in-person and virtual participants. In this workshop the discussions focused on the objectives reflected in paragraph 5(b) and (f) above.

11. The fourth workshop, on communicating and reporting on adaptation priorities was held on 5 November 2022, in conjunction with SB 57. The workshop was attended by over 300 in-person and virtual participants. Workshop discussions focused on the objectives reflected in paragraph 5(e) and (h) above.

12. Virtual participation is often accompanied by challenges such as time zone differences and connectivity issues. Nonetheless, workshop deliberations proceeded smoothly, with balanced, inclusive and active participation from virtual and in-person participants alike. The modalities evolved over the course of the four workshops towards greater interaction and inclusivity, including through the incorporation of breakout groups, facilitated panel discussions and presentations by Parties, relevant UNFCCC constituted bodies, organizations, experts and practitioners.

[11] See decision 7/CMA.3, para. 7(a).

III. Way forward

13. In addition to capturing progress that has been made in advancing the technical work under the work programme, the summary reports on the four workshops offer useful input for identifying gaps and opportunities, based on which the themes for next year's workshops can be developed. This would allow for in-depth understanding and achievement of all objectives of the work programme, including those that were not fully discussed or addressed in the first year of implementation.

14. CMA 4 will be invited to consider the report of the subsidiary bodies on progress in implementing the work programme and to take any action it deems appropriate.[12]

[12] FCCC/SBSTA/2022/7/Rev.1, para. 18, and FCCC/SBI/2022/12, para. 59.

Annex I

Summary of the first workshop under the Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation

I. Introduction

A. Mandate

1. CMA 3 decided to establish and launch a comprehensive two-year Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation, to start immediately after that session and be carried out jointly by the SBSTA and the SBI. It also decided that four workshops should be conducted per year, with the support of the secretariat and under the guidance of the Chairs of the subsidiary bodies.[1]

2. SB 56 requested their Chairs to prepare a summary of each workshop, in the context of preparing a single annual report on the workshops for consideration at SB 57,[2] capturing progress made and informing subsequent considerations by Parties under the Glasgow–Sharm el-Sheikh work programme.[3]

B. Proceedings

3. The first workshop under the Glasgow–Sharm el-Sheikh work programme was held from 8 to 9 June 2022 during SB 56 following an IPCC event on 7 June 2022 under the work programme on the contribution of Working Group II to the AR6.[4] The workshop, which was webcast and attracted over 400 participants. The workshop was co-moderated by Christina Chan (United States of America) and Binyam Gebreyes (Ethiopia).

4. Marianne Karlsen, SBI Chair, and Patricia Espinosa, UNFCCC Executive Secretary, opened the workshop with welcoming remarks, which were followed by a presentation by the secretariat providing an overview of the submissions from Parties on the work programme[5] and relevant previous work under the Convention and the Paris Agreement. Facilitated discussions took place over the course of the two-day workshop, which concluded with remarks from Zita Kassa Wilks, Rapporteur of the SBSTA.[6]

II. Summary of discussions

5. In line with the theme of the workshop, enhancing understanding of the global goal on adaptation and reviewing progress towards it, and with a view to learning from relevant knowledge and practices, three questions were put forward by the co-facilitators to facilitate discussions during the workshop:

(a) How should the global goal on adaptation be conceptualized?

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[1] Decision 7/CMA.3, para. 2–4 and 12.

[2] As per decision 7/CMA.3, para. 16.

[3] FCCC/SBSTA/2022/6, para. 159, and FCCC/SBI/2022/10, para. 192.

[4] IPCC. 2022. *Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. H Pörtner, D Roberts, M Tignor, et al. (eds.). Cambridge, United Kingdom: Cambridge University Press. Available at https://www.ipcc.ch/report/ar6/wg2/.

[5] A compilation and synthesis of the submissions is available at https://unfccc.int/topics/adaptation-and-resilience/workstreams/glasgow-sharm-el-sheikh-WP-GGGA.

[6] The concept note for and webcasts of the workshop are available at https://unfccc.int/topics/adaptation-and-resilience/workstreams/glasgow-sharm-el-sheikh-WP-GGGA#_-9-June-2022---First-workshop-on-Enhancing-understanding-of-the-global-goal-on-adaptation-and-reviewing-progress-towards-it.

(b) What good practices for goal-setting are there at different levels and under other forums?

(c) What examples of relevant targets and goals are there at different levels?

B. Conceptualization of the global goal on adaptation

6. Participants started by reflecting on the current impacts of climate change in their countries or regions, and on the gap between adaptation needs and responses; and highlighted the value of developing a common understanding of the global goal on adaptation. They then unpacked the goal by sharing their views on the aspects addressed below.

2. Principles

7. Many participants highlighted that aspects of the goal should be aligned with the principles of the Convention and the Paris Agreement, including contributing to equitable access to sustainable development and eradication of poverty. Some underscored, in this regard, the provisions of Article 7, paragraph 2, of the Paris Agreement on recognizing adaptation as a global challenge faced by all, with local, subnational, national, regional and international dimensions, requiring a long-term global response to climate change to protect people, livelihoods and ecosystems.

3. Components

8. Some participants stressed that the elements of the global stocktake referred to in Article 7, paragraph 14, of the Paris Agreement should also be essential components for the global goal on adaptation, namely recognizing the adaptation efforts of developing countries, enhancing implementation of adaptation action, reviewing adequacy and effectiveness of adaptation action and support, and reviewing overall progress in achieving the global goal.

9. Others categorized the possible components for the goal along the adaptation cycle, including data collection and assessment, planning, implementation, and monitoring and evaluation. Some highlighted that support should be factored in throughout the cycle.

4. Characteristics

10. Participants highlighted that the global goal on adaptation should:

(a) Be oriented over the long term, given the need for a long-term global response rather than only urgent and immediate action;

(b) Reflect specific contexts and be country driven;

(c) Be holistic and comprehensive and reflect the transboundary and cascading nature of climate impacts and risks;

(d) Encompass local and indigenous knowledge and consideration of women, youth and vulnerable groups;

(e) Consist of different targets that may be iteratively adjusted to reflect changes over time, such as increased climate risks, the adequacy of the goal in the light of each global stocktake, and new findings and recommendations from the IPCC.

5. Scales and thresholds

11. Most participants highlighted that the global goal on adaptation should consist of several targets at different scales, such as global, regional (transboundary), national and local.

12. Some reflected on the layered approach discussed at the informal launch of the Glasgow–Sharm el-Sheikh work programme,[7] which encompasses different thresholds for ambition with regard to the outcome of adaptation action: the ‘survival’ threshold, meaning ensuring the minimum level of resilience for the survival of ecosystems and humanity; the

[7] The dates of the event were the same as those announced during the closing plenary of the Conference of the Parties at its twenty-sixth session: 16 to 17 May 2022.

'status quo' threshold, which entails offsetting the negative effects of climate change in order to preserve the status quo and level of development; the 'SDG' threshold, where the SDGs are attained and retained over the long term, even in the presence of climate change; and the 'transformation' threshold, where the transformational aspirations of countries towards attaining scaled-up levels of sustainability and resilience are achieved even in a world living with climate change.

13. In discussing this approach, some participants argued that the global goal on adaptation should represent aspirations beyond retaining the status quo, because the latter would not lead to a desirable future. Participants emphasized that the goal must reflect a desirable outcome for both current and future generations towards a better life, rather than just survival. In addition, many believe that the goal should inspire countries to strive towards the transformation threshold. Finally, recognizing that it would be challenging to set one uniform threshold, some highlighted the usefulness of viewing adaptation success through a spectrum of action and aspirational ambition.

6. Linkages

14. Participants highlighted linkages between the global goal on adaptation and other work and processes under the Convention and the Paris Agreement, including the global stocktake, the work programme for urgently scaling up mitigation ambition and implementation, the ad hoc work programme on the new collective quantified goal on climate finance and implementation of the enhanced transparency framework. They mentioned that the Glasgow–Sharm el-Sheikh work programme could facilitate a clear understanding of such linkages.

15. Some elaborated that the work programme should include identifying synergies with the global stocktake, contributing to determining the global goal on adaptation and providing inputs for the first and subsequent global stocktakes. Some mentioned that the goal is a moving target that is linked to mitigation ambition, referring to Article 7, paragraph 4, of the Paris Agreement. In this regard, many emphasized the need for ambitious mitigation action in order to reduce emissions to net zero globally by mid-century to stay on track to keeping global temperature rise to 1.5 °C and ensure that adaptation is still feasible.

7. Methods and approaches

16. Several participants referred to the work of the AC on approaches to reviewing overall progress in achieving the global goal on adaptation, and the challenges associated with such approaches. In their view, progress in relation to the components of the global goal needs to be reviewed applying a combination of quantitative and qualitative methods. For example, while the number of NAPs could be aggregated quantitively, reduction of vulnerability would need to be assessed using nationally or locally determined indicators.

17. In the same vein, participants emphasized the usefulness of combining top-down and bottom-up approaches. For example, relevant global targets under the SDGs, the Sendai Framework for Disaster Risk Reduction 2015–2030, the IPCC, WMO and other United Nations processes can be combined with adaptation targets identified by countries in their national planning instruments. Regarding the global outlook, some participants suggested prioritizing achievement of SDG targets relating to water, food security, biodiversity and health, that is sectors in which system transitions can be effected.[8]

C. Goal-setting under other forums

18. Most participants highlighted the importance of learning from other processes and forums in terms of goal-setting at different levels and for various sectors. In particular, many regarded the aforementioned IPCC event under the work programme as valuable and

[8] The contribution of Working Group II to the AR6 focuses in particular on transformation and system transition in relation to energy; land, ocean, coastal and freshwater ecosystems; urban and rural infrastructure; and industry and society.

informative. It was suggested to use the following stepwise approach in order to make efficient use of input from other forums:

(a) Synthesize targets under other multilateral frameworks and forums, such as the SDGs and the Sendai Framework (the top-down approach) with targets identified by Parties in their reports to the UNFCCC, such as adaptation communications and national determined contributions (the bottom-up approach);

(b) Highlight the areas of commonality and gaps emerging from that synthesis, in the light of the findings in the contribution of Working Group II to the AR6;

(c) Identify good practices for goal-setting under other forums and in Parties' reports and establish synergizes with work relating to the global goal on adaptation so as to minimize duplication of efforts;

(d) Set new targets under the global goal on adaptation to complement existing ones.

D. Examples of relevant targets at different levels

19. Participants shared examples of countries' relevant strategies, approaches and indicators, including:

(a) Canada's use of more than 200 indicators, 21 of which at the national level and the rest local and regional indicators, in developing a national adaptation strategy towards achieving transformative adaptation;

(b) The European Union adaptation preparedness scoreboard and the Pacific region's pilot project of developing an adaptation preparedness scoreboard;

(c) The European Union's adaptation goal of being resilient to unavoidable impacts of climate change by 2050 (according to its 2021 adaptation strategy) in line with the Paris Agreement and European climate law;

(d) The updated version of the adaptation component of Tunisia's NDC, which is based on a precise review of national and sectoral vulnerabilities, taking account of latest climate projections. The component integrates gender, land-use planning and natural disaster risk reduction aimed at enhancing resilience and reducing vulnerability to climate change, and considers necessary transformations to ensure inclusive and sustainable socioeconomic development;

(e) The measurement framework of the United Kingdom of Great Britain and Northern Ireland for flood defence, which is in the form of a grid with one axis showing the quality of planning (e.g. having flood management plans) and the other showing outcome (e.g. number of new houses being built in high-risk areas);

(f) Zambia's revised NDC, which includes a set of indicators and targets that can be collated from the bottom up and fed into the work under the global goal on adaptation.

20. Some Participants made reference to targets under other processes and forums that could be relevant to the global goal on adaptation, including:

(a) The target under the Sendai Framework of substantially reducing global disaster mortality by 2030, namely to lower average global mortality per 100,000 people in 2020–2030 compared with that in 2005–2015, and the related target of the International Federation of Red Cross and Red Crescent Societies to reduce mortality due to climate and weather-related events;

(b) The target under SDG 13 to integrate climate change measures into national policies, strategies and planning;

(c) Quantitative targets of the Risk-informed Early Action Partnership, such as making one billion people safer from disaster by 2025 and one more billion people being covered by new or improved early warning systems. These targets entail longer-term risk management systems and are supported by public awareness campaigns;

(d) The goal under the Race to Resilience initiative of non-State actors helping to make four billion people more resilient to climate change impacts by 2030;

(e) The goal set in 2021 under Feminist Action for Climate Justice of increasing the percentage of global climate finance flows in mainstreaming gender, including a 65 per cent increase in gender-responsive bilateral and multilateral climate finance by 2026.

21. Some participants proposed new targets or indicators:

(a) Targets for costs associated with global temperature rise of 1.5 and 2 °C as well as with projected impacts at 1.5 °C;

(b) A target for climate finance flows and improving implementation of adaptation action;

(c) A target for accessibility of adaptation finance, such as reducing the average time taken for financing entities to approve adaptation projects;

(d) A target for accelerated global coverage of early warning systems;

(e) A global target for tracking adequacy of resources for meeting adaptation needs;

(f) A global target for assessing whether adaptation action is commensurate with climate risk, taking into account transboundary issues;

(g) A target on fundamental needs based on countries' self-assessment of whether they can meet their fundamental needs, such as for water and food security;

(h) Climate risk assessment as a common indicator;

(i) A target for improving data availability and strengthening climate services;

(j) A global transformational adaptation target for tracking whether adaptation is leading to improved human well-being by reviewing adaptation communications or the adaptation section of BTRs.

22. It was suggested that national priorities and needs identified in developing country Parties' adaptation communications, NAPs and NCs could be a significant input to the development of commonly accepted global priorities for reviewing progress of adaptation implementation.

E. Inputs for future workshops

23. Participants shared their views on the organization of subsequent workshops under the Glasgow–Sharm el-Sheikh work programme, such as involving breakout groups and round tables to make the workshops more interactive.

24. They encouraged the active participation of representatives of other forums, such as the Convention on Biological Diversity, the United Nations Convention to Combat Desertification and the Sendai Framework, in the workshops to share experience of good goal-setting practices.

25. Participants considered further active engagement of the IPCC in the workshops to be crucial and suggested focusing on its findings related to enabling conditions for effective adaptation action, such as in chapter 17 of the contribution of Working Group II to the AR6, and in chapters focusing on regions, such as Africa.

26. Some suggested focusing subsequent workshops on priority sectors and transboundary issues.

27. Finally, it was suggested that relevant materials and inputs from UNFCCC constituted bodies and programmes, including the AC, the SCF and the Nairobi work programme on impacts, vulnerability and adaptation to climate change be used to contribute to the work under the work programme.

Annex II

Summary of the second workshop under the Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation

I. Introduction

A. Mandate

1. CMA 3 decided to establish and launch a comprehensive two-year Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation to start immediately after that session and to be carried out jointly by the SBSTA and the SBI. It also decided that four workshops should be conducted per year, with the support of the secretariat and under the guidance of the Chairs of the subsidiary bodies.[1]

2. SB 56 requested the secretariat, under the guidance of their Chairs, to prepare a summary of each workshop, in the context of preparing a single annual report on the workshops,[2] for consideration at SB 57, capturing progress and informing subsequent considerations by Parties under the work programme.[3]

B. Proceedings

3. The second workshop under the work programme[4] was held virtually from 30 to 31 August 2022 and webcast live, with over 400 registered participants. The workshop was moderated, in breakout groups, by Britta Horstmann (Germany), Alvin Chandra (UNEP), Theresa Seetoh (Singapore), Åsa Sjöström (Sweden), Patience Damptey (Ghana), Shella Biallas (United States), Binyam Gebreyes (International Institute for Environment and Development), Gladys Santis (Chile), Sara Traerup (UNEP Copenhagen Climate Centre), Anne Hammill (International Institute for Sustainable Development), Jason Spensley (GEF) and Vositha Wijenayake (Sri Lanka).

4. The SBI Chair opened the workshop with welcoming remarks. The participants took part in facilitated breakout group discussions under the four themes of the workshop and the moderators reported thereon at the end of each day. At the end of the second day, the SBSTA Chair, Tosi Mpanu Mpanu, closed the workshop with concluding remarks.

II. Summary of discussions

5. Building on the first workshop under the work programme, the objectives of the second workshop, on enhancing adaptation action and support, were to:

(a) Share experience, best practices and lessons learned in relation to scalable and replicable adaptation action, including nature-based solutions, at the local, regional and national level to incentivize and inspire further adaptation action globally;

(b) Discuss adaptation gaps and needs, and scaling up adaptation action and support;

(c) Recognize adaptation efforts;

[1] Decision 7/CMA.3, paras. 2–4 and 12.
[2] As per decision 7/CMA.3, para. 16.
[3] FCCC/SBSTA/2022/6, para. 159, and FCCC/SBI/2022/10, para. 192.
[4] The concept note and agenda for the workshop, webcast and all presentations are available at https://unfccc.int/topics/adaptation-and-resilience/workstreams/glasgow-sharm-el-sheikh-WP-GGGA#eq-4.

(d) Consider the adequacy and effectiveness of adaptation action and support, with an emphasis on exploring ways of addressing the adaptation needs of developing countries, particularly the most vulnerable, through adequate means of implementation.

6. The discussions under each of the four themes of the workshop are summarized below, structured around the topics addressed in the corresponding breakout groups.

A. Enhancing adaptation planning and implementation, including recognition of efforts

1. Adaptation gaps and barriers and ways to overcome them

7. In a presentation, a representative of the Botswana National Climate Change Committee and Special Advisor to the Africa Adaptation Initiative identified major gaps in climate information and weather data, which hinder adaptation. For example, only 10 per cent of Africa has ground-based observation networks and 54 per cent of its surface weather stations are unable to capture data accurately. Many countries in the region lack weather stations capable of regular reporting. However, adequate climate information is needed to inform adaptation planning. A representative of the Swedish National Knowledge Centre for Climate Change also shared the European Union's experience in national adaptation strategy and identified the need to speed up adaptation action and address adaptation gaps.

8. Participants mentioned the varying availability of data and gaps in information at different stages of national planning and the urgent need to address those gaps. Some reflected on the lack of infrastructure for collecting data and information and on the gaps in relevant technical capacity at the earliest stages of adaptation priority planning and reporting. Others recognized data and information gaps at later stages of the process, which had implications for monitoring and evaluation. Several participants highlighted that finance remains a critical barrier to adaptation as current flows of adaptation finance are inadequate to meet needs for planning adaptation and implementing adaptation solutions. One participant mentioned that current assessment by the Adaptation Gap Report suggests that estimated costs of adaptation in developing countries could reach USD 155 – 330 billion per year by 2030 with that figure, increasing significantly to USD 310 – 555 billion per year by 2050 (based on current 2020 prices) *Adaptation Gap Report 2021*.[5]

9. Participants discussed possible solutions for overcoming such gaps and barriers, including:

(a) Strengthening climate data and information management, for example strengthening climate information services and early warning systems was identified as an option for limiting losses resulting from climate events;

(b) The importance of capacity-building in areas including knowledge and science, and for proactive long-term planning and national reporting to support climate-resilient development was highlighted;

(c) Some participants proposed to strengthen adaptation policy and regional collaboration and to improve inclusive governance, such as through locally led and community-based approaches, that consider gender aspects and local context. The work programme – and the UNFCCC process more broadly – could contribute to bridging the gaps identified across regions and enhancing ambition;

(d) The importance of mainstreaming adaptation in planning and policies at different levels (national, regional, local) and coordinating across levels and sectors was emphasized. Participants highlighted that it is essential to undertake long-term planning and identify priorities, through an iterative process, to support climate-resilient development;

[5] Available at UNEP. 2021. *Adaptation Gap Report 2021 – The Gathering Storm: Adapting to climate change in a post-pandemic world*. Nairobi: UNEP. Available at https://www.unep.org/resources/adaptation-gap-report-2021.

(e) Participants identified the need to enhance access to climate funds for promoting climate-resilient agriculture, developing infrastructure and strengthening project pipeline development;

(f) Other suggested solutions to safeguard vulnerable populations included to strengthen social protection and better integration of climate risk management into the design of social protection programmes;

(g) Some participants suggested promoting nature-based solutions for adaptation.

10. Several participants shared their experience of enhanced adaptation action:

(a) The European Union adaptation policy cycle as a tool for long-term planning. All European Union member States have a national adaptation strategy and a national or sectoral action plan, and some also have regional plans. The policy cycle includes monitoring and evaluation and is in line with the vision under the European Green Deal of a climate-resilient society by 2050;

(b) Locally led solutions in Solomon Islands. In the absence of infrastructure and funding, rural communities have developed their own adaptation methods, such as, faced with rising sea levels, building stone walls; housing on higher ground; and, where saltwater intrusion affects agriculture, higher beds for plantations;

(c) Mainstreaming adaptation in Sweden. Sweden integrates adaptation policy into 'business as usual' work, rather than through a dedicated fund for adaptation. For example, cities integrate adaptation considerations into their planning and development;

(d) Early warning systems in Jamaica. In a pilot program for climate resilience and improvement of climate data and information management, there has been some success at reducing impact in certain areas from flooding;

(e) The Netherlands' system of linkages at different levels to protect the country from flooding, in which a specially designated government official acts as an intermediary between subnational and local government entities, provinces and the national Government. This coordination has allowed for better planning in the event of flooding;

(f) The Climate Change Act 2008 of the United Kingdom of Great Britain and Northern Ireland, which lays the foundation for national adaptation policy, including a five-year cyclical nationwide climate change risk assessment that enables identification of adaptation priorities and additional needs; and the establishment of the Climate Change Committee, which advises the national Government. The United Kingdom is in the process of developing an adaptation pathways programme with the aim of embedding the theory of change approach in adaptation planning, particularly at the local level.

2. Assessing adaptation needs and setting targets

11. In their respective presentations, representatives of the African Group and the AC drew attention to the needs of developing country Parties and shared reflections on the findings in the 2021 AC technical paper.[6] The presentations highlighted the gaps in relation to assessing needs and the support available for addressing those needs.

12. Participants recognized the value of existing UNFCCC processes, such as for NDCs and NAPs, in identifying adaptation needs. One participant suggested that needs assessment should take a participatory approach and take account of local needs. Some sources of information on adaptation needs were suggested, including the NDC synthesis report,[7] the NAP Global Network's NAP Trends[8] and the World Resources Institute's Climate Watch trends.[9]

[6] See AC. 2021. *Approaches to reviewing the overall progress made in achieving the global goal on adaptation*. Bonn: UNFCCC. Available at https://unfccc.int/documents/309030.

[7] See document FCCC/PA/CMA/2021/8/Rev.1 for the latest published version.

[8] See https://trends.napglobalnetwork.org/.

[9] See https://www.wri.org/initiatives/climate-watch.

13. Participants discussed possible approaches to building a framework for activities under the Glasgow–Sharm el-Sheikh work programme. One suggestion was to use an approach similar to the IPCC categorization of sectors, breaking down the work by subgoals or targets with a set of indicators. It was generally accepted that the goals should have global relevance while reflecting local, national and regional contexts. Some participants suggested that synergies with other frameworks and forums, including the SDGs[10] and the Sendai Framework for Disaster Risk Reduction 2015–2030,[11] should be considered under the work programme.

14. Regarding methodologies for target setting, some participants suggested that the aforementioned subgoals and targets should be robust, measurable, time-bound and global, while reflecting national circumstances and local context and taking into account the provision of support and means of implementation under the UNFCCC. One participant, recognizing linkages to mitigation goals, proposed that subgoals and targets under the Glasgow–Sharm el-Sheikh work programme take into account different global temperature increase scenarios. One observer organization shared their experience from using the Economics of Climate Adaptation framework[12], an open-source methodology that allows for risk quantification.

3. Transformational adaptation addressing complex, compound, cascading and transboundary risks and climate-resilient development pathways

15. The presentations by representatives of the Stockholm Environment Institute and of Working Group II to the AR6 focused on how the goal of transformational adaptation is to effect deep and long-term societal changes that can in turn influence overall sustainable development. It was highlighted that transformational adaptation requires transition of the five systems identified by the IPCC: energy; industry; society; urban, rural and infrastructure; land, and ocean, coastal and freshwater ecosystems. It was also highlighted that there is a narrowing window of opportunity to mitigate the impact of climate change on social ecological systems. Becoming climate resilient requires not only transformational adaptation but also mitigation, system transitions and sustainable development. Some participants identified transformational adaptation as essential to their adaptation strategies, along with short-, medium- and long-term planning.

16. Participants discussed how compound, cascading and transboundary risks can be triggered, including by extreme weather events, geopolitical issues, and events in other regions or changes in natural systems (e.g. water availability, fish stocks) that are felt through trade and supply chains. The coronavirus disease 2019 pandemic, for example, demonstrated the interdependency of all countries, regardless of their level of development. Climate change and risks are becoming increasingly complex and more difficult to manage. The type of change needed therefore requires knowledge of countries' vulnerability to economic, political, social and cultural factors. It was stressed that existing adaptation plans and policies are not explicitly designed to address cascading and transboundary risks.

17. The Glasgow–Sharm el-Sheikh work programme was considered a good opportunity to invite new actors, such as trade ministries, or new coalitions of Parties and non-Party stakeholders to get involved in overcoming obstacles to and raising ambition for transformational adaptation. One participant referred to a published study on transboundary risks from the Nordic perspective, which focuses on collaboration, sharing of experience and exchange of best practices, rather than on risks. Participants shared their observations regarding barriers to address transboundary risks, including data and information gaps and potential political sensitivities. One participant shared the experience of regional cooperation on adaptation and highlighted that this is currently limited to exchange of best practices. In the same vein it was suggested that, the Glasgow–Sharm el-Sheikh work programme could act as an invitation to new actors, which are not currently involved in adaptation work, such as trade ministries.

[10] See https://sdgs.un.org/goals.
[11] See https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030.
[12] See https://eca-network.org/eca/.

18. Although many NAPs have been produced, only some contain information on transboundary risks. One participant mentioned the need for supplementary guidance on addressing transboundary risks in NAPs in order to increase the availability of transboundary data. Another participant mentioned the possibility of using the network of the LEG as a channel for requesting the development of such guidance. A third participant highlighted the need for finance and improved regional and international cooperation on trade and supply chains for addressing transboundary risks.

B. Enabling conditions, including recognition of adaptation efforts

1. Institutional frameworks, policies and instruments

19. A representative of Uruguay shared experience of a regional project, adaptation to climate change in vulnerable coastal cities and ecosystems on the Uruguay river. In their presentation, a representative of Climate Policy Radar recognized the increase in adaptation-related legislation and policies since 2015.[13] The *Adaptation Gap Report 2021*[14] published by UNEP states that approximately 79 per cent of countries have at least one adaptation planning instrument at the national level. Such instruments include central coordination bodies, regulations, incentives, direct investments and funding, targets, planning, monitoring and evaluation, access to finance, inclusive governance and local ownership, scientifically grounded policies and actions, capacity-building, technology transfer and development.

20. According to the report, however, only 26 per cent of countries have dedicated monitoring and evaluation systems in place for adaptation and less than 50 per cent of countries have undertaken an evaluation of their adaptation plans. One participant shared their experience of a regional adaptation project and the challenges encountered in connection with lack of institutional arrangements. At the same time, the participant noted that the regional approach enabled joint problem-solving and strategy design, which facilitated development of sustainable adaptation solutions.

21. Several participants shared their experience of strong institutional frameworks, which helped them to make informed decisions and prioritize adaptation actions on the basis of their local, regional and national priorities. Some of the participants shared experience of aligning their institutional frameworks with their NDCs, NAPs and adaptation communications. Participants were of the view that establishing the right legal and institutional frameworks and/or mainstreaming adaptation in these frameworks is important for understanding needs, priorities and gaps and for ensuring the adaptation cycle is iterative and allows for assessment of results and effectiveness of adaptation measures. In addition, inclusive governance, ownership of adaptation strategies and implementation measures and efforts to build upon existing adaptive capacity were raised as key considerations in developing and strengthening effective institutional frameworks, policies and instruments for adaptation.

22. One participant recognized the challenge, particularly for the LDCs and SIDS, of accessing finance for establishing monitoring and evaluation frameworks. Some participants highlighted the need for capacity-building and support for creating the enabling conditions needed for establishing institutional frameworks and overcoming barriers related to lack of human capacity, information and awareness, and technology.

2. Governance and engaging non-Party stakeholders

23. A representative of WWF shared experience-based insights on inclusive governance and engaging non-Party stakeholders in adaptation planning, emphasizing that there is no one proven approach. A representative of Australia shared their country's experience, highlighting the benefits of involving non-Party stakeholders, such as improved planning and implementation processes thanks to the consideration of specific needs and vulnerabilities (e.g. local languages and local context).

[13] See https://climatepolicyradar.org/.

[14] As in footnote 24 above.

24. Some participants found involving non-Party stakeholders to be critical at all stages of the adaptation process and essential for creating enabling conditions for enhanced adaptation action and transformational change towards climate-resilient development. One participant shared the view that recognizing indigenous peoples' rights to self-determination is key to sustainable development. Participants recognized common barriers to participation of non-Party stakeholders, such as difficulties in explaining and understanding the science, language barriers and, in some cases, lack of institutional capacity to include all local perspectives in adaptation planning and implementation.

25. Some participants and observers organizations shared examples of engaging non-Party stakeholders, such as building on efforts and leadership solutions that indigenous peoples and local communities have developed; using storytelling and adapting science and knowledge to the local context; engaging with traditional local leadership in communities; and following the eight principles of locally led adaptation.[15] One participant shared the view that inclusive governance should apply to the local context to avoid having maladaptive consequences.

3. Role of the private sector

26. Representatives of Japan and South Africa presented their experience of adaptation strategies and working with the private sector. The critical role of the private sector in achieving the scale of action needed to meet adaptation needs was recognized. There are challenges inherent to involving the private sector, mainly around the need for the private sector to be profitable when not all adaptation efforts are profit-making initiatives. The private sector is needed for financial support, technology transfer and skills-sharing. One participant raised the issue of the process for accessing funds from the GCF, which is too lengthy for most private sector investors.

27. Participants shared possible solutions for overcoming such challenges, including creating enabling governmental conditions, such as collaboration between governments, the private sector and civil society. One participant shared ways to overcome the barriers to private sector engagement, such as engaging with small and medium-sized enterprises, providing grants, setting up local government and enterprise partnerships, and setting up funds to bridge the gap between early-stage planning and the challenge of attracting investment in adaptation. Some other participants suggested linking the private sector to various international processes and multilateral banks, such as the NDC partnership adaptation accelerator, the Adaptation Fund or the GCF. It was suggested that workshops could be held under the Glasgow–Sharm el-Sheikh work programme on how to involve the private sector in adaptation planning and implementation.

28. One participant shared their experience of engaging with the private sector in key areas of climate action, namely in manufacturing technology that can contribute to adaptation action in other sectors of the economy and help to increase resistance to adverse environmental conditions; and implementing adaptation and mitigation action within business facilities, such as climate monitoring, developing low-emission production technologies, using renewable energy sources, transitioning to circular economy as part of their corporate social responsibility. Some participants stated that private sector activities were complementary to national policy and often filled gaps created by a lack of State resources or expertise. Another approach suggested was that private organizations should mainstream adaptation in their business practices and decision-making, for example as part of their corporate social responsibilities, such as to invest in adaptation action.

29. One participant raised concerns that the private sector should not be used as a replacement for the fulfilment of agreed and existing international financial obligations, while, at the same time, they acknowledged that the private sector is critical for providing the supplementary finance needed to scale up adaptation.

[15] See https://www.wri.org/initiatives/locally-led-adaptation/principles-locally-led-adaptation.

C. Enhancing adaptation support, including recognition of adaptation efforts

1. Adaptation support gaps and barriers and ways to overcome them

30. Representatives of the LDCs and UNEP presented their experience regarding adaptation support gaps, barriers and potential solutions. Several participants found that limited finance remains the main barrier to adaptation action, including the widening gap between adaptation finance needs and support provided, which is supported by the findings in the contribution of Working Group II to the AR6. Another related barrier is the lack of technical capacity to apply for financing through the GEF, the GCF and the Adaptation Fund. Participants suggested that the Glasgow–Sharm el-Sheikh work programme should drive ambition of adaptation action and address the urgent need for financial and capacity-building support for vulnerable communities, in particular the LDCs and SIDS.

31. Participants discussed several potential ways to build technical capacity for reporting on and developing and implementing climate-resilient projects, including engaging the LEG and improving education and collaboration platforms. Participants highlighted the urgency of minimizing delays in and streamlining the burdensome processes of accessing multilateral finance. Some participants suggested that mainstreaming adaptation in national planning and improving monitoring and evaluation processes could help to enhance such technical capacity, improve NAPs and facilitate, consequently, access to finance for implementing identified actions.

2. Planned adaptation finance: gaps, needs and opportunities

32. A representative of Ghana presented from the perspective of the African continent on the topic adaptation finance in Africa and the capacity challenges faced when trying to access adaptation finance. A representative of the GCF provided an update on the Fund's policy framework, including action on enhancing access to support, such as updating the accreditation framework. This update included the project-specific assessment approach; updating the simplified approval process; and updating the GCF Strategic Plan; as well as the second replenishment of the GCF.

33. Participants shared their experience of and identified some key barriers to obtaining finance for adaptation. It was recognized that preparing NAPs enables Parties to identify priorities and needs for funding; but it is clear that not all countries have the technical capacity to develop NAPs and assess their needs. Lack of such capacity makes it difficult to access finance through multilateral institutions and UNFCCC financial entities, such as the GCF, the GEF and the Adaptation Fund. Support is needed to overcome such challenges to enable easier access to funding, and for planning and especially implementing identified adaptation action.

34. Some participants suggested that there is a need for better understanding of the barriers to accessing finance and to simplify this process for accessing finance to overcome such barriers. One option would be to devolve the role of accredited agencies to subnational entities that recognize the need for national adaptation planning. Other possible solutions include recognizing the potential for engaging the private sector, which entails improving understanding of private sector motivation for investing in adaptation. Other participants argued that private sector finance is not sufficient to fill adaptation finance gaps.

3. Planned technology development and transfer, and capacity-building: gaps, needs and opportunities

35. Representatives of the TEC and Saudi Arabia provided, respectively, information on the work of the CTCN and the TEC and shared relevant country experience. It was identified that the enhanced transparency framework under the Paris Agreement and the BTR could be used as a means of reporting on finance, technology and capacity needs. The key finding in

the CTCN progress report[16] is that countries – with the help of technology solutions – can play an important role in securing the economic, institutional and social support needed to scale up technology solutions in other countries. The presenter from the TEC drew attention to recent scientific findings, including the importance of endogenous capacities and innovation systems for supporting technology transfer and adoption, as well as the urgency of focusing innovation and technology development on the adaptation responses identified by the IPCC as having low technological feasibility. It should be noted that research, development and innovation can take many years and developing countries require immediate transfer of existing technology to address urgent adaptation priorities in the near term. Striking this balance and advancing the development and use of technologies for adaptation will depend on cooperation between and the engagement of various actors, including different levels of government, the private sector, technology end users, research institutes and the UNFCCC.

36. Some participants noted the urgent need in developing countries for technology transfer, capacity-building and finance for adaptation. According to the SCF reports on the determination of the needs (financial, technology and capacity-building) of developing country Parties expressed through their national reports.[17] The report also provides an assessment and overview of climate finance flows in 2020, which identifies the difference between the share of adaptation finance compared to finance provided for mitigation. Support provided should be calibrated to actual needs and it is necessary to move beyond feasibility studies for adaptation projects towards on-the-ground implementation. Building endogenous capacities within countries to facilitate the transfer of hardware, software and orgware is also essential. Adaptation measures that are expected to have significant mitigation co-benefits should be considered a key opportunity for helping to achieve adaptation goals.

37. One participant suggested that, in the context of the global goal on adaptation, a quantified target for technology transfer could be useful. However, in view of the time that is required for research and development and the urgent need for adaptation action and implementation, innovation in the field of adaptation technologies needs to be balanced with the transfer of existing technologies. Quantified targets for adaptation technologies that attempt to capture the extent of technology transfer are often limited to the number of pieces of hardware transferred or financial indicators and it may be difficult to set targets in relation to orgware or software. It should be noted, however, that the search for the perfect indicators should not delay action.

38. Other immediate priorities were outlined, such as enabling suitable infrastructure or a suitable environment that would help to make concrete and effective adaptation action. In complement to that suggestion, another participant stated that enhancing national technical capacity is a more immediate goal. This may include capacity-building to assist with identifying necessary and appropriate technologies at the local and national level. Participants recalled the technology needs assessment process, which serves as a helpful basis for determining barriers to and enablers of adaptation action.

D. Adequacy and effectiveness of adaptation action and support

1. Adequacy and effectiveness of adaptation action and support, including approaches and metrics

39. In their presentations, representatives of Working Group II to the AR6 and the European Environment Agency explained that adaptation action has effects on many scales,

[16] See CTCN. 2021. *2021 Climate Technology Centre & Network Progress Report*. Copenhagen: CTCN. Available at https://www.ctcn.org/sites/www.ctcn.org/files/resources/CTCN_Progress_Report_2021.pdf.

[17] Available at SCF. 2021. *First report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement*. Bonn: UNFCCC. Available at https://unfccc.int/topics/climate-finance/workstreams/determination-of-the-needs-of-developing-country-parties/first-report-on-the-determination-of-the-needs-of-developing-country-parties-related-to-implementing.

including geographical and temporal scales, as well as on entities, sectors and societal groups. The representative of the IPCC introduced six possible dimensions and 20 related indicators through which the feasibility (ex ante assessment) and effectiveness (ex post assessment) of adaptation actions can be measured. In general, participants emphasized the need for any type of metrics to capture the affected people, particularly the most vulnerable and marginalized, and their societal choices.

40. Additionally, a representative from International Institute for Sustainable Development, presented a global perspective on the adequacy and effectiveness of support means and methods. A representative of the Marshall Islands shared their specific national experience, on developing their national strategy and their financial and technical needs for implementation.

41. The gaps between estimated costs and needs for finance were highlighted. Further, capacity-building, financial and technical support are needed to develop needed national transparency systems for reporting adaptation in BTRs, and other reporting mechanisms.

42. Participants recognized the need to accelerate implementation of adaptation and monitoring and evaluation of its outcomes, in addition to planning adaptation and monitoring outputs. Some shared the view that lack of monitoring and evaluation of outcomes – and the resulting limited understanding of effective adaptation – can be a reason for slow progress of implementation. Others underlined the increasing recognition that a focus on monitoring outputs rather than outcomes often leads to maladaptation.

43. Participants recognized that effective adaptation requires enabling conditions, including inclusive governance, adequate financing and political commitment, and that the establishment of such conditions requires adequate national and international support. Some participants highlighted the linkages between the Glasgow–Sharm el-Sheikh work programme and other processes under the UNFCCC and also other international agenda, such as the SDGs and the Sendai Framework. They mentioned that these linkages should be considered when determining specific quantitative and qualitative targets, indicators and metrics under the work programme.

44. Participants extensively discussed how specific national and regional indicators, which take into consideration the context of adaptation action, can be aggregated at the global level for assessing collective progress. In this context, participants agreed that new approaches and a combination of methodologies are needed and that the Glasgow–Sharm el-Sheikh work programme could serve as an important forum for discussing how to approach this challenge.

2. Linkages with the global stocktake and the global temperature goals under the Paris Agreement

45. The presentations by representatives of the Group of 77 and China and the Organisation for Economic Co-operation and Development focused on the adequacy and effectiveness of adaptation and support, and linkages with the global stocktake. It was highlighted that the global stocktake is an important milestone in the UNFCCC process, providing the opportunity to take stock of collective efforts and to 'course correct' by enhancing efforts in line with the global goals of the Paris Agreement; identifying data needs for reviewing adequacy and effectiveness of adaptation action and support; increasing understanding of available approaches to assessing the adequacy and effectiveness of adaptation action and support; and increasing understanding of how to increase such effectiveness.

46. It was also highlighted that information on both adaptation support (e.g. under Article 9 of the Paris Agreement) and action (e.g. under Article 7 of the Paris Agreement) are included in the inputs to the global stocktake. Participants emphasized the importance of assessing the adequacy and effectiveness of action and support in order to provide a complete picture of progress on adaptation under the UNFCCC, and using that assessment to inform enhancement of action and support and future global stocktakes.

47. Some participants alluded to the need to provide a more accurate picture of progress on adaptation globally for national monitoring and evaluation systems to enhance

understanding of the adequacy and effectiveness of adaptation action and whether adaptation action has been successful.

48. Methodological issues in terms of how to create synergies between the Glasgow–Sharm el-Sheikh work programme and global stocktake were highlighted, for example how the output from the work programme to inform the global stocktake could be formulated. One participant suggested, building on a diverse set of sources of input and adaptation initiatives, at the regional level, that could be fed into the work programme and subsequently into the global stocktake. One suggestion was to share information on regional adaptation initiatives at the UNFCCC regional climate weeks. Participants were interested in considering relevant processes, such as those involved in formulating the SDGs and the Sendai Framework, and gaining insights into experience under other forums of setting subgoals or targets.

49. Additionally, participants referred to the link between adequacy of adaptation response and the temperature goal referred to in Article 2 and noted that this link might not be a linear one.

50. Finally, participants reflected on the ‘learning by doing’ nature of the first global stocktake and agreed that more time is needed to comprehend the linkages between the Glasgow–Sharm el-Sheikh work programme and the stocktake. Participants highlighted that platforms such as the workshops under the work programme can provide opportunities to continue discussions on such challenging issues and to develop the methodologies required to review the adequacy and effectiveness of adaptation action and support.

Annex III

Summary of the third workshop under the Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation

I. Introduction

A. Mandate

1. CMA 3 decided to establish and launch a comprehensive two-year Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation to start immediately after that session and to be carried out jointly by the SBSTA and the SBI. It also decided that four workshops should be conducted per year, with the support of the secretariat and under the guidance of the Chairs of the subsidiary bodies.[1]

2. SB 56 requested the secretariat, under the guidance of their Chairs, to prepare a summary of each workshop, in the context of preparing a single annual report on the workshops,[2] for consideration at SB 57, capturing progress and informing subsequent considerations by Parties under the work programme.[3]

B. Proceedings

3. The third workshop under the work programme[4] was held in hybrid format from 17 to 18 October 2022 and broadcast live on YouTube,[5] with more than 200 registered in-person and virtual participants. It was moderated by Alvin Chandra (UNEP), Shella Biallas (United States), Funanani Muremi (South Africa) and Timo Leiter (Germany).

4. The workshop opened with welcoming remarks from the SBSTA Chair, a United Nations Development Programme representative, Alessandro Fracassetti and Yasmine Fouad, Minister of Environment of Egypt.

5. On the first day, the participants discussed themes of a global perspective such as global-level targets and indicators, including facilitated breakout group discussions. On the second day, the discussion focused on the regional, national and local levels. The SBI Chair closed the workshop with concluding remarks.

II. Summary of discussions

A. Global perspective

6. The workshop examined how other multilateral review mechanisms function under related conventions, processes and frameworks, and their journeys in setting baselines and defining goals.

7. The secretariat set the scene by summarizing the mandate for the Glasgow–Sharm el-Sheikh work programme, salient points from the first workshop and possible indicators, approaches and metrics that have appeared in previous reports. The presentation also provided several examples of forward-looking approaches, including the four-tier approach of target setting, outlined the challenges of both long-term goal-setting and extrapolation

[1] Decision 7/CMA.3, paras. 2–4 and 12.
[2] As per decision 7/CMA.3, para. 16.
[3] FCCC/SBSTA/2022/6, para. 159, and FCCC/SBI/2022/10, para. 192.
[4] The concept note and agenda for the workshop, and all presentations are available at https://unfccc.int/topics/adaptation-and-resilience/workstreams/glasgow-sharm-el-sheikh-WP-GGGA.
[5] See https://www.youtube.com/playlist?list=PLtD6YOC_kbMh-WBsuy-XwJV7_KJ2o-fj-.

from the present, and concluded with possible discussion points and questions for consideration.

8. A representative of the UNDRR presented on the lessons learned from the monitoring process under the Hyogo Framework for Action. Among them were the limitations of focusing too heavily on monitoring outputs as opposed to outcomes (considerable progress in governance and preparedness mechanisms (output), yet increasing disaster losses and damages (outcome)). This led to the Sendai Framework for Disaster Risk Reduction 2015–2030 being more outcome oriented (in which the success or failure of disaster risk reduction measures is determined through a decrease or increase in disaster impact). Reporting burdens on countries are also minimized as the SDGs, the Samoa Pathway and the New Urban Agenda 'borrow' indicators from the Sendai Framework.

9. The IPCC representative's presentation focused on concepts, approaches and indicators to guide adaptation. Examples included 'burning embers' diagrams assessing aggregate risk reduction at the regional and sectoral level. These can be used to present different risk levels in conjunction with increased warming under different adaptation scenarios (limited, incomplete and proactive adaptation). The presentation also discussed data aggregation and data availability as key considerations in identifying what types of data are available and where, and where knowledge might still persist. While many countries have monitoring and evaluation applications, these are still at early stages, whereas 170 countries have adaptation-related policies.[6]

10. The IPCC presentation also noted the need to consider limits to adaptation, including why and at what temperature levels these limits are reached. Awareness of such limits could be useful in tracking the effectiveness of adaptation, including economic; social/cultural; information, awareness and technology; human capacity; financial; and governance, institutional and policy.

11. A representative of the WMO spoke of extreme events in the past decade hindering national progress towards achieving the SDGs in connection with the work WMO is doing on adaptation. One area of such work is early warning systems; less than half of all countries currently have early warning systems in place. WMO is collaborating with key partners to deliver on the United Nations Secretary-General's goal on early warning systems within the coming five years.

12. The FAO presented on essential SDG metrics to assess progress towards the Glasgow–Sharm el-Sheikh work programme, with a focus on agriculture and food security indicators. The presentation included a comparison of the monitoring frameworks of the SDGs, the Sendai Framework and the Paris Agreement, with respect to quantitative goals or targets at the global level, development of a global monitoring and evaluation framework, and the adaptation objectives mentioned within them. It outlined the drivers of vulnerability, resilience and adaptive capacity and the SDGs that cover them. The FAO experience of supporting Guatemala in developing a system of monitoring, evaluation and reporting specific to agriculture was highlighted. It was pointed out that under the Glasgow–Sharm el-Sheikh work programme, countries will benefit from the advantages of relying on statistical information that is collected through other relevant international agreements, whose indicators can be easily compared. It will also reduce reporting burdens and be useful in reporting under the enhanced transparency framework and in compiling data for the BTR. Specific goals and indicators discussed are contained in appendix I.

13. The FAO presentation described the lessons learned regarding identifying indicators that reflect what is happening at the field level while being relevant for reporting at the national and international level. This involves extensive stakeholder consultation, stocktaking of policies and ongoing programmes, and building on existing data and experience from other programmes, such as the Adaptation Fund, the GCF and the GEF. The FAO is also working on existing monitoring and evaluation frameworks within national ministries, ensuring that reporting is facilitated at different levels. It is also investing a great

[6] See IPCC. 2022. *Climate Change 2022: Impacts, Adaptation and Vulnerability*. *Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. p.20.

deal of effort in the building of existing initiatives for data collection, data management and coordination with key sources of information.

14. The UNSD presentation focused on recent methodological developments in measuring climate change vulnerability and adaptation, based on the experience of developing a programme on climate change statistics at UNSD, a process which took more than 10 years. The final Global Set,[7] meant as a framework to be used by countries when preparing their own sets of climate change statistics and indicators, was adopted in 2020. It contains 158 indicators accompanied by 190 statistics, all nested within 34 topics. Methodological soundness is lowest for adaptation indicators in all regions, and highest for drivers. Data availability is the most challenging for the adaptation indicators in all regions. The grouping by policy area is not mutually exclusive and many indicators belong to more than one area. The Global Set is meant to help to streamline the supply of data for national policies and international reporting by mapping the commonalities, overlaps and gaps under multiple policy demands and statistical methods and guidelines. Criteria for the selection of indicators include consistency with existing thematic indicator sets and guidance, namely from UNFCCC/IPCC, FAO, SDGs, UNDRR, the United Nations Convention to Combat Desertification and the Convention on Biological Diversity, as well as with the Framework for the Development of Environment Statistics, and complementarity with existing regional climate change indicators.

1. Existing approaches and baselines in reviewing adaptation

15. Discussions on existing approaches were framed around baselines.

16. One participant suggested that the point of reference does not necessarily need to be a classical baseline. Some participants pointed out that country priorities could be the starting point of a baseline and a goal at the global level, when aggregated from existing sources of information within and beyond the UNFCCC process, combined with projections; this could address the nationally determined specificity of the adaptation process. Similarly, it was also suggested that actions and plans in NDCs, adaptation communications and NAPs could be aggregated and compiled in a way that identifies the many commonalities and convergences in the various sectors to develop a baseline as well as a goal.

17. One participant emphasized that, owing to context specificity, anything related to adaptation that went beyond what was nationally determined or anything that countries themselves did not decide on would be hard to quantify or aggregate.

18. Some participants discussed the interplay between needs-based approaches and risk-based approaches in setting baselines and goals and assessing progress on adaptation.

19. One participant suggested that vulnerability and adaptation indicators by UNSD could provide insight into measuring the existing vulnerability and adaptive capacity of populations across many socioeconomic areas at the baseline level.

20. Another suggestion was to look to existing examples to inform the development of a baseline, such as that of the UNDRR established baseline for early warning system coverage, which could inform the Secretary General's initiative on early warning systems for all, or of the WMO baselines for extreme climatic events from 2011 to 2020 and their connection to the SDGs.

21. Some participants suggested setting the baseline based on the desired outcome, with one questioned the purpose of the baseline and starting by mapping the outcome and working backward from there. Similarly, another participant felt it important to identify the ultimate goal and work backward from there, applying a theory of change perspective.

22. One participant suggested that one aspect to consider in terms of both indicators and baselines was how countries' systems were performing, a possible indicator being the number of countries with monitoring and evaluation systems in place. They also suggested looking at mainstreaming adaptation or ensuring that it was being taken up in sectoral policies, as well as having effective institutional frameworks or governance frameworks for adaptation

[7] See https://unstats.un.org/unsd/envstats/climatechange.cshtml.

in countries. Baselines could be expanded to include underlying drivers of vulnerability, which went beyond the UNFCCC process and were linked to broader development and poverty reduction efforts.

23. From their experience, one participant noted that even the baseline around disasters was imperfect, in particular with respect to challenges around measuring impacts, areas which require further work.

24. It was emphasized that the Glasgow–Sharm el-Sheikh work programme should add no extra reporting burdens to countries' existing obligations beyond what has been agreed on under the Convention and the Paris Agreement, with one participant emphasizing the need to build to the extent possible on the baselines from existing frameworks to tackle underlying drivers of vulnerability.

25. Support for adaptation was discussed throughout the workshop. A key theme was the inadequacy of current support levels, as well as challenges relating to access to finance and ensuring finance flows to where it is needed. Measuring adaptation finance as an indicator or set of indicators (alongside technology transfer and disbursement of funds) and considering it in the context of baselines were discussed.

2. Forward-looking and aspired state approaches

26. There were some deliberations on goal-setting and exploring the deeper fundamental assumptions about the future, for example, the four-tier approach to the Glasgow–Sharm el-Sheikh work programme, that could facilitate finding common ground for global and national goals and shared ambition as to what constitutes a well-adapted global community.

27. In this regard, a new holistic approach was explored, outlining a principle of setting aspirational goals around well-being that suggested that global-level targets should have as their pillars food security, water, biodiversity and health; a possible indicator concerns food security, namely ensuring global-level access to food with a view to reducing vulnerabilities in the future. Existing relevant targets under SDG indicators 1.5.4 and 2.C.1 were identified.

28. One participant highlighted that an aspired state of adaptation should take into account the transboundary impacts of climate change and the reimagination of the global commons, citing the example of the hydrological cycle and unequal distribution of water supplies. This tied in with several other participants' views that some existing indicators would need to be tweaked, for example, to reflect resource allocation, with UNFCCC and the work under the Glasgow–Sharm el-Sheikh work programme playing a central role in this.

29. One participant highlighted the global nature of the Glasgow–Sharm el-Sheikh work programme, stating that while it is important to have locally led metrics and indicators, it is also important to move beyond that and focus on something that would be relevant for the work programme and its collective nature, and as such should have aspirational targets that address its three objectives of the global goal on adaptation. They suggested a target of 50 per cent of vulnerable populations made resilient by 2030, rising to 100 per cent by 2050, as well as the expansion of coverage of early warning systems, which, it was later noted, is in line with the United Nations Secretary-General's goal of universal coverage by such systems within the next five years.

30. One participant considered that the work programme was forward looking, and that adaptation did not have an end point but was cyclical, making determining the aspired state of being adapted not only unachievable but also undesirable.

31. Many participants had common views on using starting points in the form of international frameworks and their various monitoring and reporting processes and mechanisms, from which goals, indicators, targets, framing and baselines could be derived or evolved, and from which to begin thinking about the Glasgow–Sharm el-Sheikh work programme. These included the Sendai Framework, the SDGs and other related conventions, as well as all the reporting elements under the UNFCCC, including NAPs, NDCs, adaptation communications, NCs, biennial update reports and BTRs, and related analyses such as needs assessment reports and others produced outside the UNFCCC process. It was suggested that a mapping exercise be carried out on all the above to make clear what information is available, in order not to duplicate already existing efforts and not to reinvent the wheel.

32. One participant highlighted the needs determination report by the SCF as being a good source from which to determine the priorities of developing countries and to use as a baseline. The report, combined with other documents that reflect the finance needed, provides a snapshot of aspirations. Such tools could provide a realistic basis on which to set an aspirational goal based on existing needs. In a similar vein, another participant felt that the Glasgow–Sharm el-Sheikh work programme should be an aggregation of different information and that the measurement of risks, impacts or adaptive capacities should be conducted in a nationally determined manner and then translated into financial needs.

33. Similarly, another participant felt that bringing together the four-tier thresholds of adaptation goal-setting, the SDGs, and the Sendai Framework, along with NDCs and NAPs, could set the basis for further developing the Glasgow–Sharm el-Sheikh work programme.

34. Several participants supported including a target for adaptive capacity, as it would have an impact on the overall vulnerability of a system or region, with one suggesting it as a way of understanding the situation in the interim while working through the challenge of measuring outcomes and impacts of adaptation efforts, and another suggesting using resilience attributes as a way to measure adaptive capacity.

3. Measuring outcomes and outputs

35. Participants distinguished between process-related indicators and those focused on outcomes. The presentation on the history of the Sendai Framework, for example, illustrated that relying solely on output or process indicators risks meeting targets but failing to achieve the main objective of reducing disaster impacts in the end.

36. Several participants acknowledged the difficulties in measuring something as complex as adaptation, noting that they see adaptation as more of a process with no end point. Several mentioned the difficulty in coming up with meaningful indicators at any level, some questioned establishing targets, seeing output/process indicators as sufficient, while others considered output/process and outcome indicators equally important. Some process indicators suggested included whether there was a national climate change risk assessment available, where there was a monitoring and evaluation system in place, and whether there was an adaptation plan in place, addressing the most important risks, which could work on a global level and take care of diversity.

37. One participant considered the key themes from the presentations as outcome-focused, and that it is important that the outcomes are reflected in the approaches taken. There is a need to set some targets, in a similar way to the SDGs and the Sendai Framework approaches. It was reiterated by many participants over the course of the workshop that the approach should not start from scratch but, rather, existing frameworks should be used.

38. Participants recognized that there is no ‘one size fits all’ solution, given the diversity of climate change impacts, data availability, technology and technological possibilities. A mixed approach is needed, taking into consideration that not all countries have monitoring and evaluation systems in place, as mentioned in the 2021 AC technical paper.

39. One participant mentioned the need for clarity and quantifiable obtainable targets by 2030. The approach should make clear what transformations are needed and how to connect the global expectation with outcomes.

40. Another emphasized the time sensitivity of adaptation outcomes, suggesting taking into consideration not just average temperature increase but also timescales in the identification and development of any indicator.

41. Some participants discussed the critical role of attribution in measuring adaptation outcomes, that is, ensuring that adaptation actions have actually been effective, and acknowledged that it is a major area for future research.

4. Quantitative and qualitative approaches and indicators

42. Participants noted that indicators can be either quantitative or qualitative in nature and offer combinations of methodologies where both kinds of indicator are used to develop a more holistic approach to assessing and managing climate risks.

43. Approaches like the IPCC 'burning embers' diagram could provide a qualitative yet data-backed approach for estimating risk levels and the different levels of adaptation that countries face (see para. 9 above).

44. Another approach discussed was the adaptation-maladaptation continuum, which has central concepts such as benefits to humans, benefits to ecosystems, equity outcomes, transformation potential and reduced greenhouse gas emissions. These could function as criteria or indicators to assess climate adaptation, while also noting the balance between successful adaptation and maladaptation. The IPCC representative highlighted the feasibility and effectiveness framework and the connection of adaptation with the SDGs and related indicators.

45. One participant stated the need for local, national and regional as well as global levels of indicators; the Sendai Framework, for example, has global-level targets, but national governments decide on their own priorities based on their own context and realities. Countries first need to consider their own situations and needs and establish their own priorities and actions, similar to mitigation targets.

46. Key areas where there should be global-level targets include food security, water, biodiversity and health. It was recognized that there are many metrics and indicators in the existing international processes. Indicators discussed included the following:

(a) Agriculture and food production: specific indicators related to the SDGs that cover ecological and socioeconomic drivers of vulnerability (e.g. indicator 15.3.1, proportion of land that is degraded over total land area, or 2.3.2, average income of small-scale food producers, by gender and indigenous status") and resilience and adaptive capacity (e.g. indicator 2.4.1, proportion of agricultural area under productive and sustainable agriculture);

(b) Health: indicators under SDG 3 (good health and well-being), the narratives under the 'burning embers' scenarios concerning heat-related morbidity and mortality, ozone-related mortality, dengue and other diseases carried by the Aedes mosquito, etc., as well as indicator 2.1.1 (prevalence of undernourishment), incidence of climate-related diseases, incidence of heat- and cold-related illnesses or excess mortality;

(c) Water quality: UNSD indicators, including the proportion of the population using safely managed drinking water services;

(d) Ecosystem services and natural resource assets: Adaptation Fund indicator 5, (ecosystem services and natural assets maintained or improved under climate change and variability-induced stress);

(e) The Sendai Framework's monitoring approach as having qualitative targets and quantitative indicators (e.g. on substantially enhancing international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of the Sendai Framework by 2030), with indicators largely focusing on ODA and other official flows (e.g. those provided by multilateral agencies, including for technology transfer);

47. The European Environment Agency highlighted the social side of adaptation indicators, for example, potential climate change impacts on schools or hospitals, which could be quantitatively measured despite representing a qualitative issue.

48. Discussions on a multisectoral approach arose, with one participant mentioning their efforts in integrating adaptation into all sectors, which they considered a successful approach but one which would make adaptation difficult to monitor and report on.

49. Participants also discussed vertical integration across levels from the local to the global, including the issues of decision-making at appropriate levels, the linking of national targets to the global goal, and how the adaptation processes at the local level could be reflected upward. One participant suggested applying the World Resources Institute's eight principles of locally led adaptation.[8]

[8] Available at https://www.wri.org/initiatives/locally-led-adaptation/principles-locally-led-adaptation.

B. Regional, national and local perspectives

50. Participants shared experience in using various indices, metrics and approaches for assessing the state of adaptation and setting goals used at the regional, national and local level. Matters related to support and monitoring and evaluation and indicators at the regional, national and local level were also discussed as a cross-cutting theme.

51. The workshop was informed by a range of expert presentations:

(a) Representatives of the European Environment Agency presented an overview of the Agency's work on adaptation indicators, highlighting its Climate-ADAPT platform and tools used to map climate adaptation;

(b) The Chair of the LEG presented an overview of the collaboration of the LEG with the AC and the SCF on methodologies for reviewing the adequacy and effectiveness of adaptation and support. The presentation highlighted its framing under current UNFCCC structures, specifically the varying roles of financial mechanisms, Parties, constituted bodies and United Nations organizations, under the decision-making responsibilities of the Conference of the Parties and the CMA. The presentation went on to highlight some preliminary criteria used by the LEG;

(c) The Co-Chair of the AC provided an overview of the development and application of monitoring and evaluation systems at the national and subnational level. The presentation highlighted 10 case studies and explained some of the observations, challenges and opportunities that were part of its findings;

(d) A representative of the Adaptation Fund gave a presentation on the Fund's results-based management and strategic results framework, which comprises both quantitative and qualitative indicators, contributing to its overall strategy of accelerating access to effective adaptation finance;

(e) A representative of LoCAL gave a presentation on tools and experiences used by a wide range of countries across regions to support locally led adaptation, including its Assessing Climate Change Adaptation Framework;

(f) A representative of the World Resources Institute gave a presentation on proposed quantitative metrics for tracking finance for locally led adaptation, as well as challenges and opportunities, developed as part of a 2021 working paper;

(g) A representative of the London School of Economics gave a presentation on the usefulness of adaptation indicators, specifying three key lessons that are applicable at the local, national and global level.

52. The indicators mentioned are also included in appendix I.

1. Regional perspective

53. The European Environment Agency shared its experience on adaptation approaches and indicators used through the Climate-ADAPT process across the European region. It presented its interactive report on Europe's changing hazards across six sectors, where quantitative indicators of climate data such as temperature rise are mapped across the continent and can be used to assess social vulnerability.

54. In their deliberations, participants discussed indicators and metrics used by countries of a particular region and the issues related to national approaches linking to the regional level. Several participants highlighted common challenges of a region in question, including aggregating information between different levels (local, national, regional), as well as identifying opportunities for sharing best practices across regions and scales.

55. With regard to region-specific data, a participant shared the results of an analysis of the NDCs and NAPs in the African region. This revealed that 417 indicators on adaptation

progress have been used for setting and assessing short- and medium-term targets,[9] many of which were aligned with either national visions or international processes, and that 72 per cent of targets in the different NDCs and NAPs involve enhancing adaptive capacity.

56. Participants also discussed some regionally specific experiences of applying monitoring and evaluation systems. In the case of the European Environment Agency's framework in the European Union, a participant elaborated on how monitoring and evaluation features within its Climate-ADAPT cyclical support tool use an applied approach that ensures monitoring and evaluation findings are fed directly into planning future adaptation actions. Results showed that 20 European Union member States have some level of monitoring and evaluation activity, albeit with differing scopes. In the case of the African region, a participant elaborated on challenges in the widespread application of monitoring and evaluation, related to the fact that in the region monitoring and evaluation is mostly applied for project-based activities, and the overall lack of projects on the ground make it difficult to form regional assessments.

57. The representative from the Adaptation Fund provided an overview of the number of projects and levels of funding in different regions. In the presentation[10] they shared the regional distribution of funding as Africa receiving 42 per cent and Asia-Pacific and Latin America and the Caribbean receiving 28 per cent and 26 per cent respectively. Participants raised a number of common support-related regional challenges for accessing finance flows, including lack of capacity to apply for funding among the LDCs and SIDS, the accreditation process and the long timescales between assessing needs and the finance flowing to where it is required.

2. National perspective

58. As part of a panel discussion featuring participants from Australia, Brazil, Canada, Egypt, Japan, Maldives, Saudi Arabia and Sweden, panellists shared experience on a variety of approaches in setting goals, using indicators and metrices at the national level, including the following:[11]

(a) Setting aspirational goals around well-being characteristics, such as a possible indicator on food security. Existing targets and quantitative indicators under the SDG processes were identified in this regard;

(b) Developing national-level indicators, taking into account geographical differences within a country by complementing adaptation strategies implemented by provinces, territories, municipalities and indigenous peoples, and by focusing on sectoral priorities of a given location;

(c) Using outcomes as indicators at the national or subnational and sectoral level;

(d) Developing adaptation actions aligned with NDCs which include mitigation co-benefits, such as planting trees to address desertification, and thus linking adaptation actions to consistency with the Paris Agreement temperature goals;

(e) Sectoral approaches, for example in agriculture, where qualitative indicators can be utilized, such as reducing vulnerability to prolonged droughts and enhancing animal welfare to maximize livestock efficiency;

(f) When developing a NAP, considering the relationship between adaptation actions on the ground and the hierarchical pathway to a national plan, while also noting that adaptation is a journey and the end point is difficult to define, and thus both quantitative and qualitative metrics need to be developed.

[9] African Group of Negotiators Experts Support. 2021. *Indicators for Tracking the Global Goal on Adaptation: Insights from 50+ African Countries.* Available at https://agnes-africa.org/wp-content/uploads/2021/10/Policy-brief-12_Indicators_for_tracking_the_Global_-Goal_on_Adaptation_insights_from_50_African_countries_07102021.pdf. See also appendix II.

[10] See Adaptation Fund presentation at https://unfccc.int/documents/618487.

[11] Some countries, when sharing their national experience, also reflected on the topic from their regional circumstances and perspectives.

59. There was general discussion and further national-level examples were shared. One participant highlighted national approaches being applied in countries across Africa, including goal-setting that involves clear baselines and targets in priority sectors, and quantitative indicators such as hectares of land, access to water resources and irrigation systems. Another intervention shared the experience of applying 10 principles of adaptation,[12] which then inform and shape wider government policies.

3. Local perspective

60. Presentations by representatives of the World Resources Institute and UNCDF LoCAL included experience and characteristics of locally led adaptation, highlighting themes such as governance, hierarchical finance flows and how monitoring and implementation systems can be implemented on the ground. The World Resources Institute proposed quantitative indicators for tracking local adaptation finance, specifically on subsidiarity, flexibility, patience and predictability and cross-cutting areas. UNCDF also shared a quantitative approach, Assessing Climate Change Adaptation Framework,[13] which tracks specific adaptation projects at the local level, but facilitates an aggregation process and sharing best practices.

61. In their subsequent discussions, several participants highlighted the governance processes utilized between the national and local level, ensuring that indigenous peoples' needs are reflected. One participant described how its NAP was designed to stimulate local-level monitoring and evaluation. Another participant revealed the challenge with its country's 290 local municipalities all competing for a portion of a very small pot for adaptation funding. Many participants noted the importance of vertical coordination between governmental bodies, and that there are many examples of effective sequencing of resource mobilization between central and local governmental actors.

62. Common challenges raised by participants regarding local adaptation indicators and metrics include a lack of available data, a need for dedicated institutional structures for monitoring and evaluation, how to most effectively engage with civil society actors, as well as bottlenecks in finance flows to the local level.

63. In relation to the application of the adaptation indicators at different levels and contexts, the participant from London School of Economics highlighted three important considerations. Firstly, it is key to understand that measurement standards can result in differing results depending on how they are applied. Secondly, that it is important to understand the contexts within which indicators are being applied, as a simple quantitative figure may have differing adaptation implications across regions. And thirdly, it is key that indicators should be linked to decision-making bodies, whether this be at the regional, national or local level.

64. Some participants reiterated that the Glasgow–Sharm el-Sheikh work programme should look towards a just and better future and deliver societal transformation, noting that this would be reflected at all levels. The participants explored the deeper fundamental assumptions about the future, for example, the four-tier approach to the work programme, which could provide a chance for finding common ground for global and national goals and shared ambition as to what constitutes a well-adapted global community. Despite discussions throughout the workshop looking at adaptation indicators at separate levels, it was considered that interlinkages between the local, national, regional and global levels exist and therefore should be considered within the work programme.

[12] See Climate Change Committee. 2021. *Independent Assessment of UK Climate Risk: Advice to Government for the UK's third Climate Change Risk Assessment (CCRA3)*. p.23. Available at https://www.theccc.org.uk/publication/independent-assessment-of-uk-climate-risk/.

[13] See UNCDF. 2019. *ACCAF: A UNCDF LoCAL Framework for Climate Change Adaptation Monitoring and Evaluation*. New York: UNCDF. Available at https://www.uncdf.org/article/7738/accaf-a-uncdf-local-framework-for-climate-change-adaptation-monitoring-and-evaluation.

C. Cross-cutting issues and linkages

1. Monitoring and evaluation

65. In its presentation, the AC provided an overview of the development and application of monitoring and evaluation systems at the national and subnational level, which will be fully explained in a 2023 technical paper. The draft paper considers monitoring and evaluation as a critical part of the adaptation cycles and highlighted 10 case studies from a diverse range of countries. The presentation highlighted the challenges of data collection and management, and the need for greater capacity, but also that by aligning with existing international commitments and reporting systems, and by establishing monitoring and evaluation systems quickly and then developing them over time, national-level monitoring and evaluation can provide enormous value.

66. In their discussions, participants shared their experience in developing and applying monitoring and evaluation. A presentation from the participant from the London School of Economics noted that there is no one blueprint for NAP monitoring and evaluation, with some countries taking an intention-based approach and others taking an evidence-based approach. One participant explained that most actions under its NAP come from sectors, and are developed by municipalities, and that tracking is done on an annual basis. Another intervention suggested that indicators and targets are linked, and if one changes owing to new knowledge or circumstances, so should the other.

67. In a dedicated breakout group setting, participants further discussed monitoring and evaluation systems, and shared experience and insights. One participant shared its sectoral tracking tool, and another explained how a NAP monitoring and evaluation system was developed. Participants highlighted differences between the initial process of monitoring indicators and the longer timescales at which evaluation takes place and subsequently feeds into future projects. Other points raised in the breakout group included theory of change, monitoring and evaluation fitting national contexts, and how monitoring and evaluation links back to decision-making.

2. Measuring progress on adaptation support and implementation

68. Measuring support and implementation for adaptation was discussed throughout the workshop and at a dedicated breakout group setting.

69. Key issues reiterated by several participants included the inadequacy of current support levels, challenges relating to access to finance and ensuring finance flows to where it is needed.

70. The Chair of the LEG informed participants about joint work with the AC and the SCF on adaptation support under existing UNFCCC frameworks, and highlighted possible criteria that can be used to measure it. These criteria include assessing institutional governance structures and regulatory frameworks, ease of implementation and accessibility of support for LDCs and SIDS. The presentation highlighted the ongoing work of the LEG in assisting LDCs to create and meet targets (such as through NAPs), develop monitoring and evaluation tools and increase access to funding mechanisms. The LEG is promoting a systems approach to adaptation action through the formulation and implementation of NAPs and is planning to develop specific indicators for every component of the system. The LEG responded to participants' questions relating to tracking finance, noting that although it does not have a specific process for this, it is reflected in its overall tracking of adaptation actions.

71. One participant noted that finance provisions should not increase national debt levels for developing countries, and that national circumstances and specific needs should be reflected in finance flows. Several participants emphasized the linkages to Article 9, paragraphs 2, 5 and 7, of the Paris Agreement to the discussion on the adequacy of support. One participant underscored the importance of considering research on specific adaptation needs, and how they have been met by adaptation actions implemented thus far. Others noted that adaptation finance is linked to both implementation and governance, and therefore defining where it fits within monitoring and evaluation processes and frameworks can be a complex process.

72. Participants discussed the issues of whether indicators for adaptation finance should inform or characterize the Glasgow–Sharm el-Sheikh work programme. Some participants stressed that adaptation finance is key to countries' abilities to implement actions, and therefore proper indicators and goals, indexes and metrics are critical in this area. Others pointed out that measuring adaptation finance does not show what progress is being made on adaptation, and single indicators do not reflect what is being invested globally.

73. Gaps in data and information availability, particularly in developing countries, was also discussed by participants and acknowledged by the IPCC, which noted knowledge gaps in all the chapters of the contribution of Working Group II to the AR6. WMO anticipated from the ongoing work on their current report that LDCs and SIDS face the biggest gaps in data on extreme events while in all probability facing their strongest impacts, and expressed hope that the report will highlight these gaps. This would allow for the strengthening of adaptative capacity and the use of this information as a foundation for accessing finance.

3. Linkages with other processes

74. Throughout the workshop, participants continued elaborating on the overall understanding of the global goal on adaptation, including how to ensure a holistic approach and ambition in setting the goals, and how it links with the global stocktake.

75. On the linkages between the global goal on adaptation and the global stocktake, some participants highlighted that it should be used to measure adequacy of support, and be able to recognize efforts of developing countries. Others noted that because of time pressures for 2023 and that the global goal on adaptation is not yet fully defined, the inputs of the global goal on adaptation into the global stocktake are unlikely to be perfect.

76. Several participants recalled that the global goal on adaptation must be consistent with the temperature goals of the Paris Agreement, with one suggesting that when considering the setting of quality global targets, this could be based on information linked to three different temperature scenarios and projected changed based on mitigation, ambition and commitments to reduce emissions. Others queried whether the global goal on adaptation should focus on specific targets due to the ambiguity of an 'end goal' for adaptation.

77. One participant cited the degree of loss and damage and the time and resources needed for recovery as a possible indicator, which would build on the new collective goal on climate finance in discussions on loss and damage. Another participant, however, stated that loss and damage should have its own process separate from adaptation as it had a different nature and different specificities from adaptation in terms of, namely in time, space and action, while an adaptation goal was medium to long term; they felt that linking loss and damage with adaptation would slow the latter down and create confusion when it came to implementation and support.

Appendix I

Examples of global, regional, national and local indicators

Thematic area	*Targets/Expected outcomes*	*Example indicators*
	Outcome 1: Reduced exposure to climate-related hazards and threats	1. Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis
	Output 1.1: Risk and vulnerability assessments conducted and updated	1.1 Number of projects/programmes that conduct and update risk and vulnerability assessments (by sector)
		1.2 Number of early warning systems (by scale) and number of beneficiaries covered and scale
	Output 1.2: Targeted population groups covered by adequate risk reduction systems	1.2.1 Percentage of target population covered by adequate risk reduction systems
	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1 Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased
	Output 2.1: Strengthened capacity of national and subnational centres and networks to respond rapidly to extreme weather events	2.1.1 Number of staff trained to respond to, and mitigate impacts of, climate-related events (by gender)
		2.1.2 Number of targeted institutions with increased capacity to minimize exposure to climate variability risks (by type, sector and scale)
	Output 2.2: Increased readiness and capacity of national and subnational entities to directly access and programme adaptation finance	2.2.1 Number of targeted institutions benefiting from the direct access and enhanced direct access modality
	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at the local level	3.1 Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses
		3.2 Percentage of targeted population applying appropriate adaptation responses
	Output 3.1: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1 Number of news outlets in the local press and media that have covered the topic
	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.1 Number of technical committees/associations formed to ensure transfer of knowledge
		3.2.2 Number of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders
	Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	4.1 Responsiveness of development sector services to evolving needs from changing and variable climate
		4.2 Physical infrastructure improved to withstand climate change and variability-induced stress
	Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.1 Number and type of development sector services modified to respond to new conditions resulting from climate variability and change (by sector and scale)

Thematic area	*Targets/Expected outcomes*	*Example indicators*
		4.1.2 Number of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale)
	Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress
	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1 Number of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)
	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.1 Percentage of households and communities having more secure access to livelihood assets
		6.2 Percentage of targeted population with sustained climate-resilient alternative livelihoods
	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1 Number and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies
		6.2.1 Type of income sources for households generated under climate change scenario
	Outcome 7: Improved policies and regulations that promote and enforce resilience measures	7. Climate change priorities are integrated into national development strategy
	Output 7: Improved integration of climate-resilience strategies into country development plans	7.1 Number of policies introduced or adjusted to address climate change risks (by sector)
		7.2 Number of targeted development strategies with incorporated climate change priorities enforced
Agriculture and food production	SDGs covering ecological and socioeconomic drivers of vulnerability	15.3.1 Proportion of land that is degraded over total land area
		2.3.2 Average income of small-scale food producers, by gender and indigenous status
		2.4.1 Proportion of agricultural area under productive and sustainable agriculture
		e.g. indicator 15.3.1. Proportion of land that is degraded over total land area
		2.3.2 Average income of small-scale food producers, by gender and indigenous status), and resilience and adaptive capacity (e.g. 2.4.1, proportion of agricultural area under productive and sustainable agriculture)
Health	Good health and well-being	Narratives under the ‘burning embers’ scenarios regarding heat-related morbidity and mortality, ozone-related mortality, dengue and other diseases carried by the Aedes mosquito
		2.1.1 Prevalence of undernourishment, incidence of cases of climate-related diseases, incidence of heat- and cold-related illnesses or excess mortality
Water quality	Safe drinking water	E.g. UNSD indicator on proportion of population using safely managed drinking water services

Thematic area	*Targets/Expected outcomes*	*Example indicators*
Ecosystem services and natural resource assets	Adaptation Fund	5: Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress
	Sendai Framework for Disaster Risk Reduction 2015–2030	Target F: Substantially enhance international cooperation to developing countries through adequate and sustainable support by 2030
		Indicators largely focusing on ODA and other official flows (e.g. ODA and other official flows provided by multilateral agencies, ODA and other official flows for technology transfer)
	Target A: Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality in 2020–2030 compared with 2005–2015	
	Target B: Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 in 2020–2030 compared with 2005–2015	
	Target F: Substantially enhance international cooperation to developing countries through adequate and sustainable support by 2030	ODA and other official flows provided by multilateral agencies; ODA and other official flows provided bilaterally; ODA and other official flows for technology transfer; ODA and other official flows for capacity-building; number of programmes and initiatives for the transfer and exchange of science, technology and innovation and capacity-building
	Target G: Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030	Number of countries with risk information and assessment. Number of people per 100,000 that are covered by early warning information
		Number of countries with monitoring and forecasting systems; percentage of local governments having a plan to act on early warnings
	SDG 1 No poverty	Restored and connected habitats can provide corridors for vulnerable species
	SDG 3 Good health and well-being	Green buildings, green spaces, clean water, renewable energy, sustainable transport in cities
	SDG 10 Reduced inequality	For more than 3.4 billion people in rural areas: improved roads, reliable energy, clean water, food security
	SDG 14/15 Life below water/life on land	Policies that increase youth access to land, credit, knowledge and skills can support agrifood employment
	United Nations Secretary-General's five-year goal of early warning systems for all	Early warning systems integrate hazard information with risk analysis to provide meaningful early warnings that enable action to minimize impacts
	SDG 1 No poverty	More than 100,000 premature deaths; fires cost approximately USD 16 billion, 1.9 per cent of gross domestic product
	SDG 2 Zero hunger	Losses of approximately USD 800 million/year for following three years of estate crops (palm oil, rubber and coconut)

Thematic area	*Targets/Expected outcomes*	*Example indicators*
	SDG 3 Good health and well-being	More than 500,000 people sought medical attention for respiratory illness
	SDG 4 Quality education	Approximately 4.7 million children stayed home from school
	SDG 15 Life on land	2.6 million ha land burned; smoke affected biodiversity
	SDG 13 Climate action	748 ± 209 Mt carbon dioxide estimated to have been released, peatlands accounted for one third of area burned
Availability and quality of water	SDG 6.4.1, 6.4.2	Change in water-use efficiency over time
		Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
Availability and quality of productive lands	SDG 15.3.1	Proportion of land that is degraded over total land area
Status of ecosystems supporting agriculture production	SDG 14.4.1, 15.1.1, 15.4.2	Proportion of fish stocks within biologically sustainable levels
		Forest area as a proportion of total land area
		Mountain Green Cover Index
Access to land	SDG 5.a.1, 5.a.2	Percentage of people with ownership of secure rights over agricultural land (by sex)
		Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control
Income and livelihoods	SDG 2.3.1, 2.3.2	Volume of production per labour unit by classes of farming/pastoral/forestry enterprise type
		Average income of small-scale food producers, by sex and indigenous status
Sustainable and resilient ecosystems	SDG 15.2.1, 14.7.1, 14.6.1, 14.b.1	Sustainable forest management, sustainable fisheries as a percentage of gross domestic product on SIDS, LDCs and all countries, degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing, policy/institutional framework which recognizes and protects access rights for small-scale fisheries
Status of diversity of genetic resources	SDG 2.5.1, 2.5.2	Number of plant and animal genetic resources for food and agriculture secured in either medium- or long-term conservation facilities (tier 1)
		Proportion of local breeds classified as being at risk, not at risk or at unknown level of risk of extinction
Integration of climate change measures into national policies, strategies and planning	SDG 13.1.2, 13.1.3, 13.2.1	Number of countries that adopt and implement national disaster risk reduction strategies in line with the UNDRR
		Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies
		Number of countries with NDCs, long-term strategies, NAPs and adaptation communications, as reported to the secretariat

Thematic area	*Targets/Expected outcomes*	*Example indicators*
Agricultural investment	SDG 2.a.1	The agriculture orientation index for government expenditures
Food security and nutrition status	SDG 2.1.1, 2.1.2	Prevalence of undernourishment (tier 1)
		Percentage of moderate/severe food insecurity in the population
Impacts on agricultural systems	UNDRR C-2	Direct agricultural loss attributed to disasters
Impact on people and society	SDG 1.5.2, 13.1.1	Direct economic loss attributed to disasters in relation to global gross domestic product
		Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
Vulnerability	Income of small-scale food producers (SDG 2.3.2)	Minimum wage for agricultural and non-agricultural activities
	Public investment in agriculture (SDG 2.a.1)	Budget allocation according to the Global Strategic Framework for Food Security and Nutrition
		Public investment in areas with high and very high rates of the Index of Vulnerability & Nutritional Food Insecurity
Risks and threats	Forest area (SDG 15.1.1)	Proportion of the forest area in the total extension of the country (per cent)
	Progress towards sustainable forest management (SDG 15.2.1)	Forest cover (ha) by forest type
	Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type (SDG 15.1.2)	Annual deforestation rate, national and departmental Forest fires: type of fire and area affected (ha); forest fires by forest type and affected area (ha)
		Protected areas: quantity and extension (ha) by management category
Food security and nutrition	Severity of food insecurity (SDG 2.1.2)	Prevalence of food and nutrition insecurity (in households)
	Prevalence of undernourishment (SDG 2.1.1)	Proportion of children <five years who are underweight for age
		Global malnutrition
		Proportion of children <five years with chronic malnutrition
Adaptation practices	Proportion of agricultural area under productive and sustainable agriculture (SDG 2.4.1)	Ha under improved agricultural productive systems
	Number of deaths and directly affected persons attributed to disasters (SDG 13.1.1)	
Resilience	Secretary-General's early warning systems goal	A target of 50 per cent of vulnerable populations made resilient by 2030, going up to 100 per cent by 2050, as well as the expansion of coverage of early warning systems
	A target for adaptive capacity	Using resilience attributes as a way to measure adaptive capacity
		Measuring adaptation finance as an indicator or set of indicators
	Global set and metadata[a]	Adaptation and vulnerability indicators contained in the Global Set

Thematic area	*Targets/Expected outcomes*	*Example indicators*
Food security	SDG 2.C.1	Measuring an increase in the number of functioning storage facilities
	SDG 1.5.4	Measuring an increase in the proportion of local governments that adopt and implement local disaster risk reduction strategies
	Exposure of vulnerable group to risk flooding	Ratio of percentage area at flood risk between administrative units in Q5 (top 20 per cent) and Q1 (bottom 20 per cent) of unemployment rate
		Ratio of percentage area at flood risk between administrative units in Q5 (top 20 per cent) and Q1 (bottom 20 per cent) of proportion of people over 65
Water and irrigation	Infrastructure in mountain ecosystem requires regular maintenance and renovation to maximize its use. Renovation includes 'climate proofing' of irrigation schemes so that the scheme remains functional	Number of local infrastructures made more resilient to climate change
Water and irrigation	Farm road improvement includes installation of waste pipes to drain out storm water and	Number of local infrastructures made more resilient to climate change
	using gravel in farm roads to make it pliable, particularly during monsoons	
Water and irrigation	Climate change impacted or dried up many water sources in the communities. Further, conventional water supply schemes which are supplied through open drainage are inefficient, resulting in loss and contamination. Pressurized piped water supply is being promoted in mountain areas	Number of local infrastructures made more resilient to climate change
Water and irrigation	Absence of proper drainage results in soil erosion, often causing flooding. Hence, the construction of storm water drainage ensures a regulated flow of storm water without causing any damage to the environment	Number of local infrastructures made more resilient to climate change
	Landfill management has more mitigation than adaptation benefits. Nonetheless, proper maintenance of landfill helps minimize pollution of water sources, thus ensuring availability of fresh water for both drinking and irrigation	Number of local infrastructures made more resilient to climate change
	Subsidiarity	Degree of meaningful involvement of local actors in decision-making related to financial transactions
	Subsidiarity	Ability of local actors to make decisions about finance for adaptation
	Flexibility	Level of external restrictions imposed on use of funds
	Flexibility	Ability of local actors to adjust to unforeseen changes
	Patience and predictability	Duration of funding
	Patience and predictability	Patience in achieving desired outcomes
	Patience and predictability	Predictability

Thematic area	*Targets/Expected outcomes*	*Example indicators*
	Cross-cutting	Tracking how much finance for adaptation flows to subnational levels
	Monitoring and evaluation	Number of countries with monitoring and evaluation systems
		Whether there is a national climate change risk assessment available
		Whether there is a monitoring and evaluation system in place
		Whether there is an adaptation plan in place
	A target for adaptive capacity	Using resilience attributes as a way to measure adaptive capacity

[a] *See https://unstats.un.org/unsd/statcom/53rd-session/documents/BG-3m-Globalsetandmetadata-E.pdf.*

Appendix II

Further reading recommended and shared by participants

European Environment Agency. Urban adaptation and social inequalities: https://www.eea.europa.eu/publications/urban-adaptation-in-europe; https://www.eea.europa.eu/publications/urban-adaptation-to-climate-change; https://www.eea.europa.eu/publications/just-resilience-leaving-no-one-behind.

International Institute for Environment and Development. Integrating climate risks into sustainable development evaluation: https://www.iied.org/21026iied.

African Group of Negotiators Expert Support. Indicators for tracking the global goal on adaptation: insights from 50+ African countries (October 2021): https://agnes-africa.org/wp-content/uploads/2021/10/Policy-brief-12_Indicators_for_tracking_the_Global_-Goal_on_Adaptation_insights_from_50_African_countries_07102021.pdf.

WMO. Global status of early warning systems: https://www.undrr.org/publication/global-status-multi-hazard-early-warning-systems-target-g.

World Health Organization. Overall progress that governments have made in the field of health and climate change to date. *2021 WHO Health and Climate Change Global Survey Report*; available at https://www.who.int/publications/i/item/9789240038509.

World Resources Institute. Locally led adaptation: https://www.wri.org/initiatives/locally-led-adaptation/principles-locally-led-adaptation.

Annex IV

Summary of the fourth workshop under the Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation

I. Introduction

A. Mandate

1. CMA 3 decided to establish and launch a comprehensive two-year Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation, to start immediately after that session and be carried out jointly by the SBSTA and the SBI. It also decided that four workshops should be conducted per year under the work programme, with the support of the secretariat and under the guidance of the Chairs of the subsidiary bodies.[1]

2. SB 56 requested the secretariat, under the guidance of their Chairs, to prepare a summary of each workshop, in the context of preparing a single annual report on the workshops,[2] for consideration at SB 57, capturing progress and informing subsequent considerations by Parties under the work programme.[3]

B. Proceedings

3. The fourth workshop under the work programme,[4] on communicating and reporting on adaptation priorities, was held in hybrid format on 5 November 2022 and was webcast live, with more than 200 registered in-person and virtual participants. The workshop was co-moderated by Pilar Bueno (Argentina) and Helen Plume (New Zealand).

4. The workshop opened with welcoming remarks from the Rapporteur of the SBSTA, Zita Kassa Wilks, on behalf of the Chairs of the subsidiary bodies.

5. Participants heard a range of expert presentations and engaged in discussions in plenary and in facilitated breakout groups. The SBI Chair closed the workshop with concluding remarks.

II. Summary of discussions

A. Reporting on adaptation under the UNFCCC and linkages with other international frameworks

6. A representative of the secretariat provided an overview of the arrangements for communicating and reporting on adaptation under the UNFCCC and its Paris Agreement, describing their evolution, general purpose, guidelines, interlinkages, types of information and potential synergies within the reporting arrangements.

7. The Chair of the Consultative Group of Experts provided information on the transition from the existing measurement, reporting and verification arrangements under the Convention to the enhanced transparency framework under the Paris Agreement, including timelines and challenges faced by developing countries, such as their capacity-building needs. The presentation highlighted training materials for reporting on adaptation in the

[1] Decision 7/CMA.3, paras. 2–4 and 12.
[2] As per decision 7/CMA.3, para. 16.
[3] FCCC/SBSTA/2022/6, para. 159, and FCCC/SBI/2022/10, para. 192.
[4] The concept note and agenda for the workshop and all presentations are available at https://unfccc.int/topics/adaptation-and-resilience/workstreams/glasgow-sharm-el-sheikh-WP-GGGA#__November-2022-%E2%80%93-Fourth-workshop-on-Communicating-and-reporting-on-adaptation-priorities.

BTRs. Almost all developing country Parties have submitted a NC, which includes a section on adaptation reporting. The Consultative Group of Experts conducts yearly assessment of existing and emerging problems and constraints for developing countries in preparation of the biennial reports and NCs.

8. A Co-Chair of the Facilitative Working Group of the Local Communities and Indigenous Peoples Platform shared expertise on the inclusion of knowledge and practices of indigenous peoples and local communities in NCs and reporting. The presenter highlighted that meaningful and equitable consideration of indigenous peoples and local communities in national reporting will help to deepen the collective understanding of adaptation needs and priorities and promote strengthening of adaptation action towards realizing a global goal on adaptation that ensures the resilience and integrity of nature. The Facilitative Working Group invited the Chairs of the subsidiary bodies to consider the engagement of indigenous peoples and local communities as a thematic focus area for future workshops related to the global goal on adaptation.

9. Following the presentations, participants engaged in a question and answer session and general discussions.

10. Many participants mentioned the voluntary nature of communicating and reporting on adaptation, the importance of avoiding reporting burden and duplication of efforts, and the different nature of legal requirements such as in terms of reporting obligations under existing arrangements. Some emphasized that not all adaptation-related information (in particular on support) might be captured in the adaptation-specific sections of reporting guidelines.

11. Many participants elaborated on the trends in current reporting on adaptation, in particular in terms of the reporting instruments used, the main types of information provided and whether available information is sufficient for assessing progress towards achieving the global goal on adaptation.

12. So far adaptation information has been included in 196 NCs, 154 NDCs, 50 adaptation communications, 53 long-term low-emission development strategies and 38 NAPs, indicating the large amount of such information available. It was highlighted that recent national reports contain a much higher number of quantified adaptation targets, which can provide a basis for reviewing progress towards achieving the global goal on adaptation in the future.

13. Several participants drew attention to gaps in information covered in the reporting and guidelines, such as methodological gaps related to estimating adaptation costs, conducting vulnerability assessment, understanding and articulating baselines for adaptation, and assessing needs under different climate scenarios.

14. In terms of addressing the gaps, some participants reflected on the absence of overarching guidance for reporting and communicating, as well as capacity-building for enhancing institutional capacity and for addressing reporting challenges. In this regard, the supplementary guidance for adaptation communications prepared by the AC was mentioned as a helpful resource. The work of the Consultative Group of Experts, including discussing adaptation aspects at the NDC-related workshop, and planned training in the African region, as well as the overall work of the LEG and the AC on providing technical resources and support to Parties, was highlighted in this regard.

15. On communicating and reporting arrangements under the UNFCCC for articulating national adaptation priorities, participants discussed their preferences, concerns, national experience and potential ways forward in the context of assessing progress towards the global goal on adaptation. In this respect several participants emphasized the importance of the principles of the Convention and not being bound by the existing reporting guidelines. Participants reiterated that building on existing reporting arrangements is essential for avoiding extra burdens on developing countries and duplication of efforts. They highlighted that reporting arrangements and relevant sources of information should inform the global stocktake. In this regard, it was underscored by many participants that the Glasgow–Sharm el-Sheikh work programme should not lead to new reporting requirements.

16. On the basis of national experience and conceptual considerations, participants identified many opportunities for benefiting from reporting synergies, including by defining

complementary roles for adaptation communications, NAPs and BTRs. Some participants distinguished NAPs as instruments for national-level planning and implementation, adaptation communications for communicating forward-looking aspirations and goals, and BTRs for reporting on progress. The AC Draft supplementary guidance for voluntary use by Parties in communicating information in accordance with the possible elements of an adaptation communication was mentioned as a helpful source for identifying such synergies.

17. Several participants continued elaborating on existing gaps, including lack of human resources, support for implementation, data, monitoring systems and institutional capacity. They mentioned challenges related to assessing the large amount of adaptation information in such a way as to directly contribute to the review of progress towards the global goal on adaptation.

18. In terms of opportunities, some participants suggested requesting the IPCC to develop methodologies for establishing connections between the science and reporting on progress of adaptation, including methodologies for assessing adaptation and vulnerability. Some highlighted the opportunities provided by the voluntary technical expert review of adaptation information for building capacity, and the potential for filling knowledge gaps under the Nairobi work programme.

19. On the role of UNFCCC arrangements for communicating and reporting on adaptation in enhancing adaptation-related implementation and collaboration at the subnational, national, regional and international level, participants discussed how existing reports are already facilitating understanding of action, barriers and needs in relation to adaptation – all of which are important factors in enhancing implementation and exploring opportunities for collaboration.

20. Participants highlighted ways in which existing reporting can be used to enhance implementation and collaboration in relation to adaptation. For example, the reporting arrangements provide opportunities for identifying available financial and other support, including private sector support for adaptation actions. The reports can serve as tools for communicating the business case for adaptation to the private sector, and their preparation facilitates integrating stakeholders into national climate efforts.

21. Several participants emphasized that, in order to strengthen the potential for existing reporting arrangements to lead to enhanced implementation and collaboration in relation to adaptation, the quality of reporting needs to be enhanced in order to leverage support. The use of repositories, databases and platforms and the identification of best practices and information at different levels were mentioned in this regard.

22. Some participants noted that expanding communicating and reporting to encompass different sectors and systems could be beneficial, and that building capacity of local institutions could lead to more effective adaptation action. Participants also noted that considering transboundary climate risks is essential for understanding the full scope of adaptation, and stakeholders should increase their understanding of how national adaptation actions can result in transboundary adaptation risks and benefits. Participants highlighted that assessing progress towards the global goal on adaptation and the global stocktake should be built on the ongoing relevant work of the UNFCCC constituted bodies. Further, the IPCC and other organizations have a potential role in filling methodological and information gaps.

B. Sharing of experience of current reporting on adaptation

23. A representative of the secretariat underlined the importance of incorporating ocean- and coastal-based adaptation priorities and actions in communicating and reporting on adaptation under the UNFCCC. Linking to key messages from the 2022 ocean dialogue, the presentation highlighted how integrated ocean-based solutions can be reflected in national climate policies and strategies. It also highlighted actions already being taken by constituted bodies and under the Nairobi work programme to support this work. At the national level, there are opportunities to establish linkages with communication and reporting under other United Nations organizations, such as the Convention on Biological Diversity. Science and

observations can provide indicators for reporting in adaptation communications and measuring collective progress.

24. A representative of South Africa shared experience in reporting on adaptation, describing South Africa's national climate change information system, which was designed to monitor the contribution of adaptation interventions towards achieving key goals in the national adaptation strategy. The system encompasses various tools, such as a response database, framework for climate services, vulnerability atlas and response toolkit. The system will be linked with governance at other levels.

25. A representative of Italy shared the country's perspective of communicating and reporting on adaptation and described how it contributes to the European Union's climate adaptation platform, Climate-ADAPT, which collects information from portals of all European Union member States and shares data and knowledge with interactive tools. It also provides opportunities for harmonizing tools of different regions and at different governance levels, and to enhance data availability.

26. A representative of the Adaptation Research Alliance shared experience of reporting on adaptation from an organizational perspective, specifically on the purpose, parameters and process of such reporting. It promoted a 'theory of change' approach, going from needs to inputs, actions, outputs and then to outcomes, which loop back into needs. The presenter highlighted the critical role of process outcomes, and three elements (Nature of impact, extent of impact and depth of impact) that should be measured in inputs: commitments, means of implementation and capacity-building.

27. Following the presentations, participants engaged in a fruitful discussion and question and answer session.

28. Several participants considered how the ocean dialogue might contribute to reporting and communication on adaptation. Some elaborated that Parties could enhance the consideration of ocean-based adaptation in national reports. Such work could be informed by, for example, the targets and indicators under the Convention on Biological Diversity or those for SDG 14. Further experience could be provided by the TEC and the Nairobi work programme expert group on oceans. The ocean-based adaptation solutions mentioned include mangrove restoration, enhancing fisheries infrastructure and blue carbon approaches, all of which have many co-benefits but limited potential for application in landlocked countries. Opportunities for joint mitigation–adaptation actions exist in the areas of agriculture and forestry.

29. In terms of national information platforms, the importance of involving stakeholders was emphasized. This can be promoted by, for example, working with subnational governments and multi-stakeholder platforms. Sophisticated information platforms, such as South Africa's climate change information system, can require a lot of resources for operation, data collection and ensuring functionality. One way to mobilize resources is to leverage existing observation networks, weather services and disaster management systems, as well as other governance levels. In this context, data quality in national reports could be enhanced by including information that clearly identifies the specific risk-reducing impacts of adaptation policies.

30. Participants discussed indicators for reviewing progress towards achieving the goals of the work programme identified in undertaking the above activities. One suggestion was to identify high-level metric and indicators relevant to reviewing progress to achieving the goals of the work programme that are connected with more specific ones at the local level. Indicators could include number of NAPs and proportion of vulnerable people and/or populations with access to specific adaptation tools, while recognizing that some metrics, such as population-based metrics, might not be suitable for other countries, e.g. population-based metrics. In general terms, it was suggested to articulate quantitative dimensions of vulnerability in order to measure vulnerability reduction.

31. One participant sought clarity on the approach to and methods used for tracking non-market costs of adaptation. The representative of the Adaptation Research Alliance explained that costs can be viewed as quantitative costs of implementing adaptation and as social costs relating to well-being, cultural assets and values.

C. Linkages to the global stocktake

32. Participants engaged in a general discussion on how existing options for reporting and communicating on adaptation could help in reviewing progress in achieving the global goal on adaptation, thereby contributing to the global stocktake.

33. Several participants highlighted in particular the strong interlinkages between the Glasgow–Sharm el-Sheikh work programme and the assessment of progress under the global stocktake. Several emphasized the importance of achieving further clarity about the relationship between the two processes.

34. A number of participants elaborated on how existing reports are a rich source of information to serve as a basis, and how those reports channel key types of information, such as on support needs, adaptation finance and data gaps, which can inform the global stocktake. In addition, several participants highlighted many other sources of information on adaptation action at different levels of governance, for example of cities, and in different regions, while others emphasized the importance of focusing on national reporting, which also captures information on action at other governance and sectoral levels.

35. Existing communication and reporting on adaptation was seen as a source of opportunities to identify baselines and metrics for adaptation. For example, the many quantitative and qualitative targets for adaptation provided in the NDCs and other documents were described as presenting ways to consider how progress towards achieving the global goal on adaptation can be measured against a common set of elements in those documents. It was further elaborated that Parties and stakeholders could cooperate on developing new indicators and metrics, such as by drawing on the SDG framework. One participant elaborated that it would be beneficial if the experts involved in the global stocktake and work in relation to the global goal on adaptation hold joint discussions to consider linkages and identify what kind of indicators could be useful in both regards. In this context, it was suggested to clarify which methodologies could be used to assess progress and what progress would be assessed against.

36. Several participants emphasized the importance of ensuring support for communication and reporting on adaptation, and the need to pursue scientifically informed reporting, both of which are required so that existing reports contain quality information that can be used for reviewing progress.