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Reporting from Parties not included in Annex I to the Convention
Term, composition, terms of reference and report of the Consultative Group of Experts

Problems, constraints, lessons learned and capacity-building needs in preparing national communications, biennial update reports and biennial transparency reports

Updated technical paper by the Consultative Group of Experts

Summary

This updated technical paper compiles and synthesizes information on problems, constraints, lessons learned and capacity-building needs identified by developing country Parties during the preparation of national communications, biennial update reports and biennial transparency reports. The paper will continue to inform the work of the Consultative Group of Experts in identifying and providing technical assistance to address the needs of developing country Parties in this regard and serve as a source of lessons learned for those Parties.

Abbreviations and acronyms

BTR	biennial transparency report
BUR	biennial update report
CGE	Consultative Group of Experts
ETF	enhanced transparency framework under the Paris Agreement
GHG	greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
LDC	least developed country
MPGs	modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement
MRV	measurement, reporting and verification
NC	national communication
NDC	nationally determined contribution
QA/QC	quality assurance/quality control
SIDS	small island developing State(s)
TASR*	summary report on the technical analysis of a biennial update report
TERR*	report on the technical expert review of a biennial transparency report

* Used exclusively in figure 1.

I. Introduction

A. Mandate

1. The Conference of the Parties, at its twenty-sixth session, adopted the revised terms of reference of the CGE,[1] which state that, in fulfilling its mandate to support implementation of the ETF, the CGE shall:[2]

(a) Facilitate the provision of technical advice and support to developing country Parties, as applicable, including for the preparation and submission of their BTRs, and facilitate improved reporting over time in accordance with the MPGs;[3]

(b) Provide technical advice to the secretariat on implementing the training for technical expert review teams referred to in paragraph 12(c) of decision 18/CMA.1.

2. As per the revised terms of reference,[4] the CGE, in providing technical advice and support, should, to the extent possible, identify and take into account, as appropriate, lessons learned and best practices, and the challenges, constraints and needs of developing country Parties in preparing, as appropriate, NCs, BURs, BTRs and national GHG inventories, including in relation to financial and other support available, as well as the areas for improvement and capacity-building needs identified in the technical analysis of BURs and the technical expert review of BTRs.

B. Scope

3. In response to the above mandate and as part of its workplan for 2025[5] developed at its 13th meeting, the CGE agreed to continue conducting an assessment of the existing and emerging problems and constraints encountered by developing country Parties in implementing the existing MRV arrangements under the Convention and the ETF, as well as lessons learned and capacity-building needs, and to update the technical paper prepared in 2024.[6]

4. This updated technical paper takes into account the following sources of information in addition to those consulted previously:

(a) The 14 NCs, 19 BURs, 56 BTRs, and 8 BTRs and NCs submitted as a single report submitted between 1 June 2024 and 31 May 2025;

(b) The 10 summary reports on the technical analysis of BURs and 1 report on the technical expert review of a BTR published between 1 June 2024 and 31 May 2025.

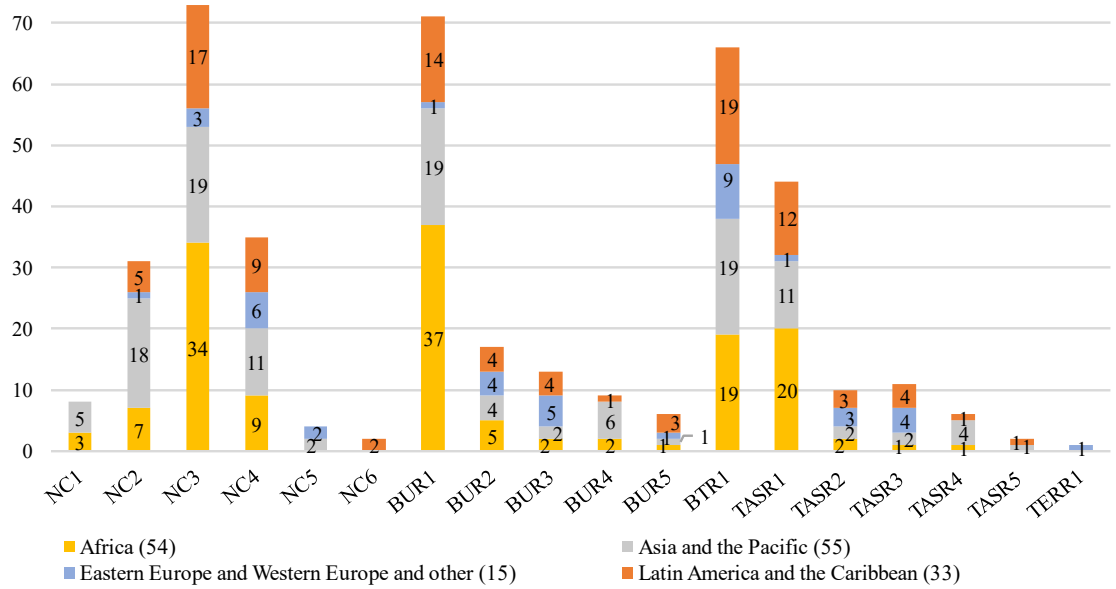
(c) An online stocktake survey conducted by the CGE between 23 April and 10 June 2025 with a view to gathering up-to-date feedback from developing country Parties on the status of implementation of the existing MRV arrangements and preparation for the ETF, including institutional arrangements in place at the national level, associated problems and constraints, lessons learned and capacity-building needs.[7]

5. This paper draws on 153 NCs, 116 BURs and 66 BTRs, including the 8 BTRs and NCs submitted as a single report mentioned in paragraph 44(a) above, which are the most recent submissions made by 157 developing country Parties or Parties not included in Annex I to the Convention as at 31 May 2025, and the 73 summary reports on the technical analysis of BURs and 1 report on the technical expert review of a BTR published as at the same date. In effect, the challenges and needs reported in previous NCs and BURs have been superseded with information from a more recent report, if available. The reports covered in

[1] Decision 14/CP.26, para. 1. The revised terms of reference are contained in the annex to the decision.
[2] Decision 14/CP.26, annex, para. 3.
[3] Decision 18/CMA.1, annex.
[4] Decision 14/CP.26, annex, para. 4(b).
[5] Available at https://unfccc.int/documents/645990.
[6] FCCC/TP/2024/6.
[7] The report on the survey is available at https://unfccc.int/documents/649189.

this paper range from the NC1 to the NC6, from the first to the fifth BUR, and from the first to the fifth summary report on the technical analysis of BURs. BTR1s and the reports on the technical expert review thereof are also included in the compilation and synthesis. Figure 1 provides an overview of the reports included in the compilation and synthesis carried out for this paper, by report and region.

Figure 1
Number of most recent reports compiled and synthesized, by report and region



Note: The figures in parentheses specify the number of developing country Parties whose reports were included in the compilation and synthesis for each region.

C. Possible action by the Subsidiary Body for Implementation

6. The Subsidiary Body for Implementation will be invited to consider this paper and to provide guidance, as appropriate, to the CGE.

II. Approach to the compilation and synthesis

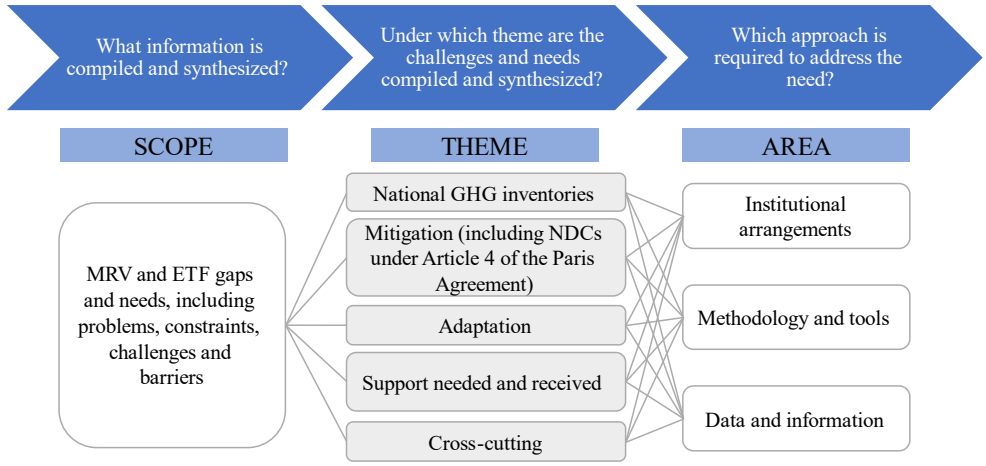
7. Between 1 June 2024 and 31 May 2025, the CGE compiled and synthesized information on the problems and constraints faced by developing country Parties and lessons learned in preparing NCs, BURs and BTRs, including the challenges and needs reported in their most recent reports and the capacity-building needs identified in the summary reports on the technical analysis of BURs and the report on the technical expert review of a BTR.

8. Developing country Parties reported challenges and needs in various ways, using terms such as “problem”, “constraint”, “gap”, “barrier”, “opportunity for improvement” and “lack of”. Given that incorporating information reported in a wide variety of ways into a specific data structure requires a strong analytical framework, the compilation and synthesis took into account various aspects of the challenges and needs reported.[8]

9. Figure 2 provides an overview of the approach to the compilation and synthesis, including the scope of the process and aspects of the information examined.

[8] For more details, see document FCCC/TP/2024/6, para. 8.

Figure 2
Analytical framework for compiling and synthesizing information on the challenges and needs reported by developing country Parties



10. To examine the aspects of the challenges and needs reported (see para. 8 above), developing country Parties were considered as follows:

(a) As a group (referred to as "global" in figures 3–5 and 7–12);

(b) By geographical region: Africa, Asia and the Pacific, Eastern Europe and Western Europe and other, and Latin America and the Caribbean;

(c) By taking into account the special circumstances of the LDCs and SIDS: one group consisting of the LDCs and SIDS, and one group consisting of developing country Parties that are not LDCs or SIDS.

11. The findings from the 2025 CGE stocktake survey referred to in paragraph 4(c) above have been summarized and included in the compilation and synthesis, where applicable.

III. Results of the compilation and synthesis

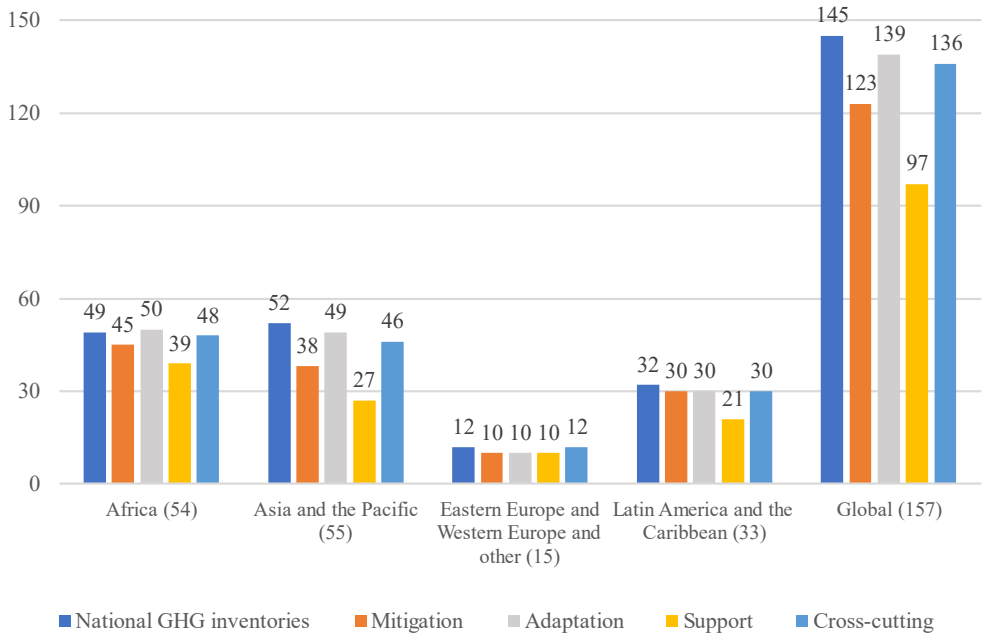
A. Overview of challenges and needs reported by developing country Parties

12. This chapter provides an overview of the challenges and needs, captured from the reports referred to in paragraph 4 above, broken down by theme and area, with reference to the regions and developing country Party groups referred to in paragraph 10 above.

13. Figure 3 shows the number of developing country Parties, by region and globally, that reported at least one challenge or need under each theme listed in figure 2. At the global level, the most commonly reported challenges and needs related to preparing national GHG inventories (reported by 145 Parties, or 92 per cent of the Parties whose reports were analysed), followed by reporting on climate change impacts and adaptation (139 Parties, or 89 per cent) and cross-cutting issues (136 Parties, or 87 per cent).

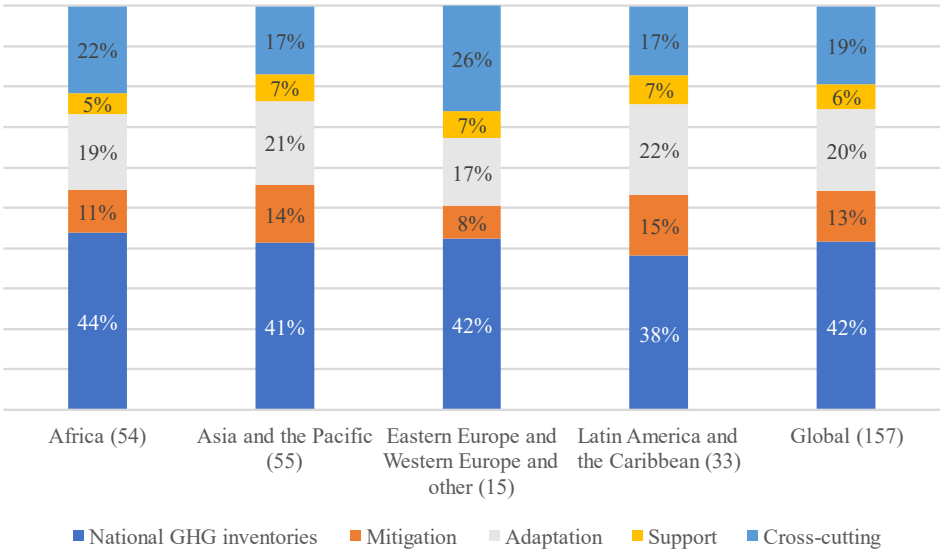
14. Figure 4 shows the thematic breakdown of the challenges and needs reported by developing country Parties, by region and globally. Although there were similar patterns in the order by frequency of the challenges and needs reported under the different themes, the share of each theme varied across the regions. Across all regions, the largest percentage of reported challenges related to preparing national GHG inventories. The next highest percentage of reported challenges for Asia and the Pacific and for Latin America and the Caribbean pertained to reporting on climate change impacts and adaptation, while for Africa and for Eastern Europe and Western Europe and other, it pertained to cross-cutting issues.

Figure 3
Number of developing country Parties that reported at least one challenge or need under each theme, by region and globally



Note: The figures in parentheses specify the number of developing country Parties whose reports were included in the compilation and synthesis for each region and globally.

Figure 4
Thematic breakdown of challenges and needs reported by developing country Parties, by region and globally

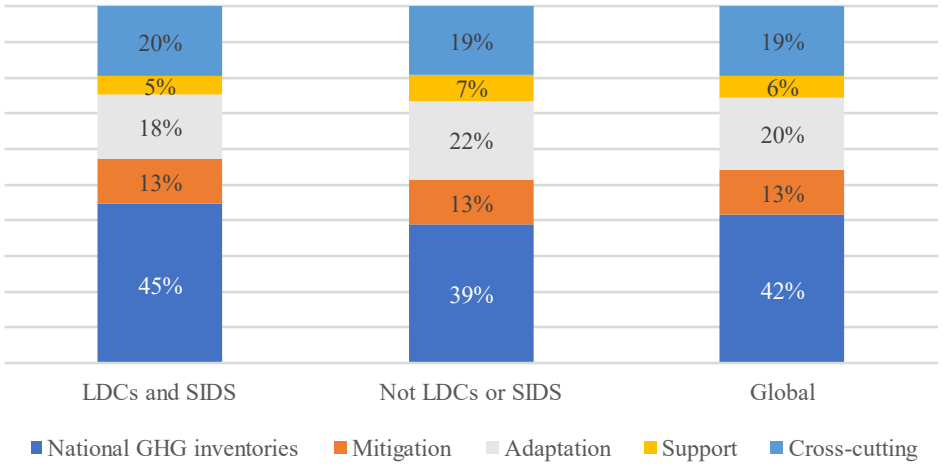


Note: The figures in parentheses specify the number of developing country Parties whose reports were included in the compilation and synthesis for each region and globally. The total percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded thematic-level percentages provided in the figure.

15. Figure 5 shows the thematic breakdown of the challenges and needs reported by developing country Parties, both globally and by developing country Party group. The thematic breakdown of challenges and needs reported by the LDCs and SIDS differs slightly from that of the developing country Parties that are not LDCs or SIDS. For instance, 45 per cent of the challenges and needs reported by the LDCs and SIDS are associated with

preparing national GHG inventories, compared with 39 per cent among the other developing country Parties.

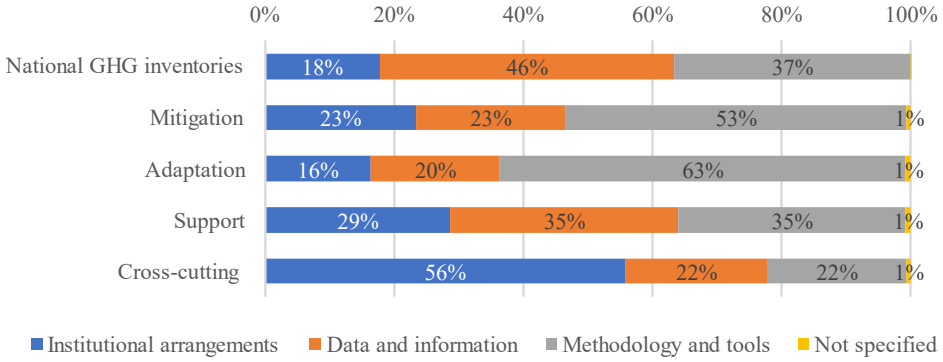
Figure 5
Thematic breakdown of challenges and needs reported, by developing country Party group and globally



Note: The total percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded thematic-level percentages provided in the figure.

16. The breakdown of areas in which challenges and needs were identified also differed by theme, as shown in figure 6. For the challenges and needs associated with preparing national GHG inventories, a significant portion (46 per cent) were in the area of data and information. For the challenges and needs associated with reporting on mitigation actions and progress in implementing NDCs and on climate change impacts and adaptation, most (53 and 63 per cent respectively) were in the area methodology and tools. For cross-cutting challenges and needs, the majority (56 per cent) were in the area institutional arrangements. The challenges and needs pertaining to reporting on support needed and received were almost evenly spread across the different areas.

Figure 6
Breakdown of areas in which challenges and needs were identified, by theme



Note: The total percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded area-level percentages provided in the figure.

B. Preparing national greenhouse gas inventories

17. With regard to preparing national GHG inventories, most of the challenges and needs reported related to data and information (45 per cent), followed by methodology and tools (38 per cent) and institutional arrangements (17 per cent). The three most frequently reported

categories of issues were availability of quality data (21 per cent), technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training (16 per cent), and data-collection process (15 per cent). Table 1 gives a breakdown by category of the identified issues in preparing national GHG inventories.

Table 1
Categories of identified issues in preparing national greenhouse gas inventories

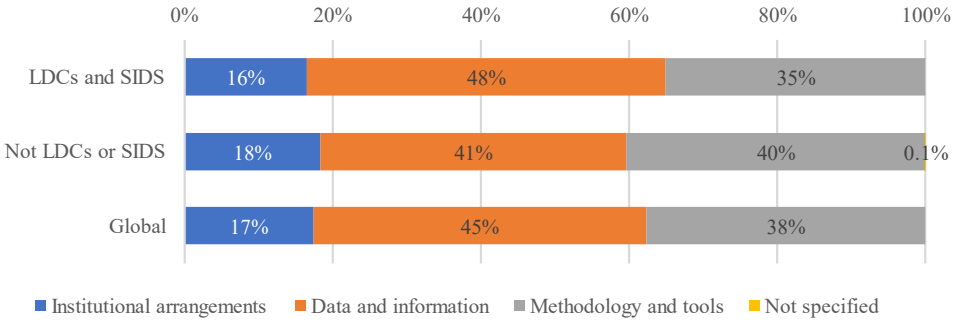
Category of issue (lack thereof or insufficient), by area	*Percentage of total reported issues under theme*[a]
Data and information	**45**
Availability of quality data	21
Data-collection process (including establishment of a database, data-sharing system and web-based knowledge management platform)	15
Data management process (including documentation, archiving, QA/QC protocols and uncertainty management procedures)	7
Accessibility of data (owing to confidentiality issues)	1
Methodology and tools	**38**
Technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training	16
Technical backstopping	12
Practical guidance, tools and methods	7
Technical capacity (and knowledge) for interpreting, analysing and translating data and information gathered using tools, methods, etc., including training	2
Technological infrastructure	1
Institutional arrangements	**17**
Institutional capacity to sustain and improve the MRV and transparency process over time	6
Coordination across sectors and institutions for collecting and sharing data	5
Policy or legal arrangements that mandate the preparation of national reports	3
Definition of roles and responsibilities across the institutions involved	1
Stakeholder awareness, especially in the private sector	1
Leadership (e.g. an entity appointed to undertake and coordinate data collection and data-sharing)	1
Total	**100**

[a] The total and area-level percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded category-level percentages provided in the table.

18. The percentage breakdown by area of reported challenges and needs related to preparing national GHG inventories differed by developing country Party group, although there were similar patterns in the order by frequency of the reported challenges and needs in those areas.

19. Notably, the share of challenges and needs reported in the area data and information was 7 percentage points higher for the LDCs and SIDS (48 per cent) compared with developing country Parties that are not LDCs or SIDS (41 per cent). Figure 7 provides a breakdown of the areas in which challenges and needs relating to preparing national GHG inventories were identified by the different groups of developing country Parties and globally. Box 1 provides examples from the categories with the three highest shares of the identified issues associated with preparing national GHG inventories.

Figure 7
Breakdown of areas in which challenges and needs relating to preparing national greenhouse gas inventories were identified, by developing country Party group and globally



Note: The total percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded area-level percentages provided in the figure.

Box 1
Category-based examples of issues associated with preparing national greenhouse gas inventories

Availability of quality data: Many developing country Parties identified as a challenge the lack of quality data (including historical data, activity data, disaggregated data, data for the complete time series, data consistent with IPCC guidelines and data from satellite imagery), resulting in difficulties in inventory preparation and high uncertainties in the reported estimates. Parties underscored that enhanced availability and quality of data would substantially improve their inventories by enabling them to conduct uncertainty analyses (including QA/QC procedures), develop country-specific correction and emission factors, and use higher-tier IPCC methodologies for estimating emissions.

Technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training: Many developing country Parties reported the need to strengthen national and sectoral experts' understanding of and capacity to apply IPCC guidelines, methodologies, tools and software, as well as UNFCCC reporting guidelines. Parties expressed the need to enhance their capacity to use higher-tier IPCC methodologies for estimating emissions; conduct uncertainty assessments; implement QA/QC procedures; and apply best practices, new methodologies and the latest technologies for GHG inventory preparation. They also shared capacity-building needs for specific sectors and relating to particular areas, such as remote sensing for monitoring land-use change. Furthermore, they emphasized the need to improve their capacity to use common reporting tables and the ETF reporting tools.

Data-collection process: Many developing country Parties reported challenges in collecting data for the preparation of national GHG inventories and the need for improvements such as conducting targeted surveys of and consultations with data providers to gather sector- and country-specific data. Developing and standardizing templates and mechanisms for collecting data was identified as a pressing need, and establishing or enhancing systems for gathering data and sharing information was seen as crucial. Building or strengthening the capacity of stakeholders to collect accurate data and provide them to inventory teams was also identified as a need.

C. Reporting on mitigation actions and progress in implementing nationally determined contributions

20. With regard to reporting on mitigation actions and progress in implementing NDCs, just over half of the challenges and needs reported related to methodology and tools (54 per

cent), followed by data and information (23 per cent) and institutional arrangements (23 per cent). Challenges relating to technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training, and challenges arising from lack of practical guidance, tools and methods both accounted for the largest share (21 per cent) of the total reported issues under this theme, followed by challenges with the data-collection process (10 per cent). Table 2 gives a breakdown by category of the identified issues in reporting on mitigation actions and progress in implementing NDCs.

Table 2
Categories of identified issues in reporting on mitigation actions and progress in implementing nationally determined contributions

Category of issue (lack thereof or insufficient), by area	*Percentage of total reported issues under theme*[a]
Methodology and tools	**54**
Technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training	21
Practical guidance, tools and methods	21
Technical backstopping	7
Technical capacity (and knowledge) for interpreting, analysing and translating data and information gathered using tools, methods, etc., including training	6
Technological infrastructure	0
Data and information	**23**
Data-collection process (including establishment of a database, data-sharing system and web-based knowledge management platform)	10
Availability of quality data	8
Data management process (including documentation, archiving, QA/QC protocols and uncertainty management procedures)	4
Accessibility of data (owing to confidentiality issues)	0
Institutional arrangements	**23**
Institutional capacity to sustain and improve the MRV and transparency process over time	9
Coordination across sectors and institutions for collecting and sharing data	5
Policy or legal arrangements that mandate the preparation of national reports	4
Stakeholder awareness, especially in the private sector	2
Definition of roles and responsibilities across the institutions involved	2
Leadership (e.g. an entity appointed to undertake and coordinate data collection and data-sharing)	1
Total	**100**

[a] The total and area-level percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded category-level percentages provided in the table.

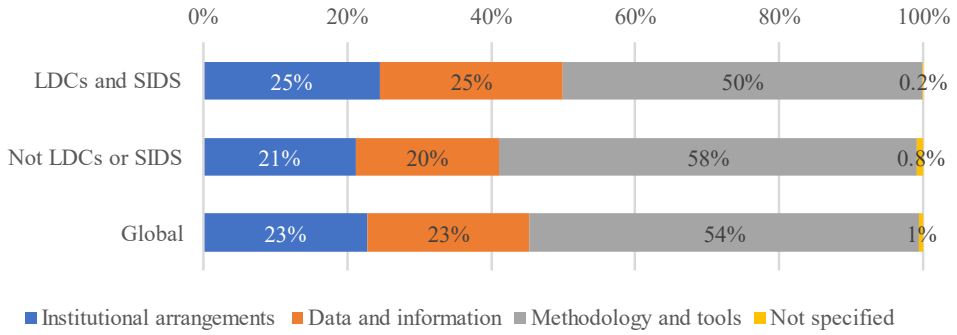
21. The percentage breakdown by area of reported challenges and needs relating to reporting on mitigation actions and progress in implementing NDCs differed by developing country Party group, although there were similar patterns in the order by frequency of the reported challenges and needs in those areas.

22. The LDCs and SIDS reported a higher share of challenges and needs in both the area institutional arrangements and the area data and information (by 4 and 5 percentage points respectively) than developing country Parties that are not LDCs or SIDS. Challenges and needs associated with the area methodology and tools constituted the largest share of challenges and needs reported for both groups of developing country Parties. Figure 8 provides a breakdown of the areas in which challenges and needs relating to reporting on mitigation actions and progress in implementing NDCs were identified by the different groups of developing country Parties and globally. Box 2 provides examples from the

categories with the three highest shares of the identified issues associated with reporting on mitigation actions and progress in implementing NDCs.

Figure 8

Breakdown of areas in which challenges and needs relating to reporting on mitigation actions and progress in implementing nationally determined contributions were identified, by developing country Party group and globally



Note: The total percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded area-level percentages provided in the figure.

Box 2

Category-based examples of issues associated with reporting on mitigation actions and progress in implementing nationally determined contributions

Technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training: Many developing country Parties face challenges in reporting on mitigation actions and progress in implementing NDCs, primarily relating to their limited understanding of and technical capacity to use methodologies and tools for estimating and analysing the impacts of mitigation measures. These challenges encompass identifying, assessing and prioritizing (including by conducting cost–benefit analyses) mitigation measures, by sector and by gas; establishing baseline emission levels and quantifying the impacts of measures against them; and tracking the progress (including by using indicators) and assessing the outcomes (both ex post and ex ante) of mitigation policies and measures, including those that are NDC targets. Parties also reported the need for capacity-building in the electronic reporting of information in common tabular formats to track the progress of NDC implementation and in the reporting on participation in international market mechanisms and related actions.

Practical guidance, tools and methods: Many developing country Parties reported the need to identify, develop and apply guidance, tools and methods for tracking the implementation of mitigation policies and actions, as well as for estimating and reporting the associated emission reductions. Specific needs identified in this area include formulating or improving baselines; developing mitigation scenarios on the basis of the policies and measures planned or in place; conducting emission reduction and co-benefit studies and analysing their results; assessing the socioeconomic and environmental impacts of mitigation actions; establishing indicators to facilitate the monitoring and reporting of progress, including progress in achieving the mitigation components of NDCs; and developing appropriate frameworks for tracking projects related to international market mechanisms.

Data-collection process: Many developing country Parties reported a need to enhance their capacity to collect quality data for assessing mitigation impacts; develop baselines; and conduct cost–benefit studies and other analyses. Some Parties noted their lack of a centralized system for collecting mitigation-related data, leading to their need to establish and maintain mitigation databases that could be used for collating information on implementing sector-specific mitigation actions and tracking progress in implementing and achieving NDC targets. Other needs were identified by Parties, including the need to strengthen their existing systems for monitoring progress in implementing mitigation measures, which could be done by

implementing improvements such as expanding the domestic MRV system to include all mitigation actions, and needs related to enhancing national capacity to collect and report requested information in accordance with the MPGs; developing or refining data-collection templates to aid subsequent data processing and analysis; conducting regular surveys for data collection; and addressing challenges such as high licensing and maintenance costs associated with data systems.

D. Reporting on climate change impacts and adaptation

23. With regard to reporting on climate change impacts and adaptation, most challenges and needs reported related to the area methodology and tools (63 per cent), followed by the areas data and information (19 per cent) and institutional arrangements (17 per cent). The need for technical backstopping accounted for the largest share (19 per cent) of total reported issues under the theme, followed by the needs for practical guidance, tools and methods (17 per cent), technological infrastructure (12 per cent), and technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training (12 per cent). Notably, the top three categories of issues for this theme all fall under the area methodology and tools. Table 3 gives a breakdown by category of the identified issues in reporting on climate change impacts and adaptation.

Table 3
Categories of identified issues in reporting on climate change impacts and adaptation

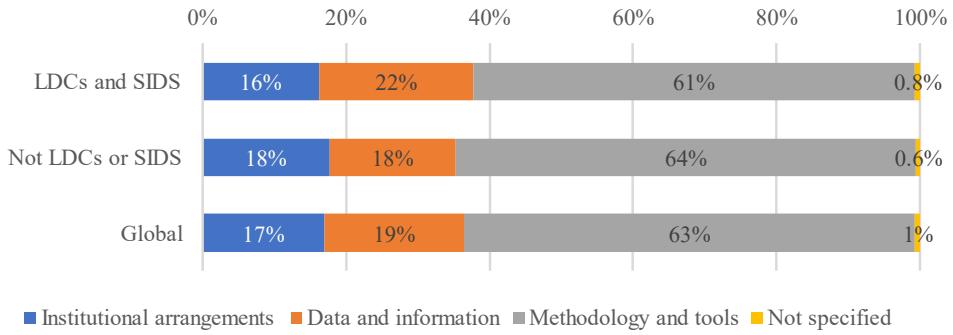
Category of issue (lack thereof or insufficient), by area	*Percentage of total reported issues under theme*[a]
Methodology and tools	**63**
Technical backstopping	19
Practical guidance, tools and methods	17
Technological infrastructure	12
Technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training	12
Technical capacity (and knowledge) for interpreting, analysing and translating data and information gathered using tools, methods, etc., including training	3
Data and information	**19**
Data-collection process (including establishment of a database, data-sharing system and web-based knowledge management platform)	9
Availability of quality data	8
Data management process (including documentation, archiving, QA/QC protocols and uncertainty management procedures)	2
Accessibility of data (owing to confidentiality issues)	0
Institutional arrangements	**17**
Coordination across sectors and institutions for collecting and sharing data	6
Institutional capacity to sustain and improve the MRV and transparency process over time	5
Stakeholder awareness, especially in the private sector	2
Policy or legal arrangements that mandate the preparation of national reports	2
Leadership (e.g., an entity appointed to undertake and coordinate data collection and data-sharing)	1
Definition of roles and responsibilities across the institutions involved	1
Not specified	**1**
Total	**100**

[a] The total and area-level percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded category-level percentages provided in the table.

24. The percentage breakdown by area of reported challenges and needs related to reporting on climate change impacts and adaptation differed by developing country Party group, although there were similar patterns in the order by frequency of the reported challenges and needs in those areas. The share of challenges and needs reported in the area data and information is 4 percentage points higher among the LDCs and SIDS compared with developing country Parties that are not LDCs or SIDS. Challenges and needs associated with the area methodology and tools constituted the largest share of challenges and needs reported for both groups of developing country Parties. Figure 9 provides a breakdown of the areas in which challenges and needs relating to reporting on climate change impacts and adaptation were identified by the different groups of developing country Parties and globally. Box 3 provides examples from four categories with the highest shares of the identified issues associated with reporting on climate change impacts and adaptation.

Figure 9

Breakdown of areas in which challenges and needs relating to reporting on climate change impacts and adaptation were identified, by developing country Party group and globally



Note: The total percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded area-level percentages provided in the figure.

Box 3

Category-based examples of issues associated with reporting on climate change impacts and adaptation

Technical backstopping: Many developing country Parties emphasized the need to enhance climate research that enables tailored, scaled-down climate modelling specific to national and local contexts and improves understanding of the multifaceted impacts of climate change, including its socioeconomic consequences for various sectors (e.g. agriculture, food security, biodiversity, energy, fisheries, livestock, infrastructure, public health, human settlements, coastal areas and zones, and water). Improvement in vulnerability and risk assessment and management was also considered an essential need. Some Parties pointed out the inadequacy of national funding and human resources allocated to research on climate change impacts and adaptation strategies. They noted it was crucial not only to enhance the research capacity of key stakeholders, such as public entities and research institutions, but also to ensure that research findings are used effectively. Moreover, the need to foster cooperation among stakeholder groups and between stakeholders at the regional and international level was also mentioned.

Practical guidance, tools and methods: Many developing country Parties reported a lack of appropriate tools and methodologies for monitoring climate change impacts, evaluating the effectiveness of adaptation measures and conducting vulnerability assessments. They highlighted a notable deficiency in analysing the impacts of climate change in an integrated manner against socioeconomic vulnerabilities – a deficiency evident in both national and local contexts and across sectors such as agriculture, coastal management, energy, forestry, infrastructure, public health, tourism, and urban and rural settlements. Some Parties emphasized the need to standardize methods (for, among other purposes, performing vulnerability assessments and defining tracking indicators)

employed by national and/or sectoral institutions to enhance the consistency of reporting. Various other needs were also identified by Parties, including in relation to tools for consistently collecting, managing and monitoring data in order to update data sets and databases; modelling techniques for forecasting and assessing climate risks; technology transfer relating to the development of localized climate scenarios; increased funding to support climate research programmes that build capacity for climate modelling; the development of criteria for assessing the co-benefits of mitigation and adaptation; and capacity-building in the area of methodologies for conducting vulnerability and adaptation studies.

Technological infrastructure: Many developing country Parties expressed the need to establish, maintain or upgrade technological infrastructure for collecting climate-related data and monitoring meteorological, atmospheric, oceanographic and terrestrial variables related to climate change. Such infrastructure includes weather forecasting centres, hydrological stations, meteorological stations and climate observation networks. Parties reported insufficient capacity to adequately characterize temporal and spatial variability related to climate change at the national level. Some Parties mentioned as a challenge the low density and uneven spatial distribution of climate observation stations across the country, while others mentioned outdated meteorological service instruments in need of calibration or renewal. Parties also reported the lack of qualified staff to operate observation networks and share information effectively with other stakeholders, as well as the lack of financial and material resources to maintain those networks, as challenges. Further, some Parties pointed to the need for automated recording equipment and other instruments to generate consistent, reliable and real-time climate data.

Technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training: Many developing country Parties face challenges in reporting on adaptation actions, primarily relating to their limited understanding of and technical capacity to use methodologies and tools for forecasting, mapping and monitoring the impacts of extreme weather events, especially for vulnerable sectors. Parties highlighted the need for cross-sector capacity-building on data collection, modelling, and scenario development for all sectors, and on monitoring and evaluation, and the implementation of early warning systems.

E. Reporting on support needed and received

25. With regard to reporting on support needed and received, the challenges and needs identified were evenly spread across the different areas. The distribution was as follows: 39 per cent under methodology and tools, 35 per cent under data and information, and 25 per cent under institutional arrangements. Under these areas, the need for practical guidance, tools and methods accounted for the largest share (26 per cent) of total reported issues under the theme, followed by challenges with the data-collection process (21 per cent) and the need to develop or maintain institutional capacity to sustain and improve the MRV and transparency process over time (12 per cent). Table 4 gives a breakdown by category of the issues identified in reporting on support needed and received.

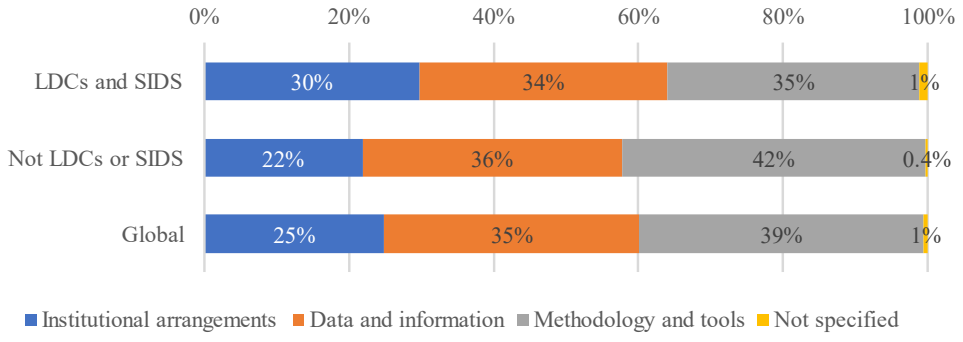
26. The percentage breakdown by area of reported challenges and needs related to reporting on support needed and received differed by developing country Party group, although there were similar patterns in the order by frequency of the reported challenges and needs in those areas. The share of challenges and needs reported in the area institutional arrangements is 8 percentage points higher among the LDCs and SIDS compared with developing country Parties that are not LDCs or SIDS. Figure 10 provides a breakdown of the areas in which challenges and needs relating to reporting on support needed and received were identified by the different groups of developing country Parties and globally. Box 4 provides examples from the categories with the three highest shares of the identified issues associated with reporting on support needed and received.

Table 4
Categories of identified issues in reporting on support needed and received

Category of issue (lack thereof or insufficient), by area	*Percentage of total reported issues under theme*[a]
Methodology and tools	**39**
Practical guidance, tools and methods	26
Technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training	9
Technical backstopping	4
Technical capacity (and knowledge) for interpreting, analysing and translating data and information gathered using tools, methods, etc., including training	0
Technological infrastructure	0
Data and information	**35**
Data-collection process (including establishment of a database, data-sharing system and web-based knowledge management platform)	21
Availability of quality data	9
Data management process (including documentation, archiving, QA/QC protocols and uncertainty management procedures)	4
Accessibility of data (owing to confidentiality issues)	0
Institutional arrangements	**25**
Institutional capacity to sustain and improve the MRV and transparency process over time	12
Coordination across sectors and institutions for collecting and sharing data	6
Leadership (e.g., an entity appointed to undertake and coordinate data collection and data-sharing)	3
Policy or legal arrangements that mandate the preparation of national reports	3
Stakeholder awareness, especially in the private sector	1
Definition of roles and responsibilities across the institutions involved	1
Not specified	**1**
Total	**100**

[a] The total and area-level percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded category-level percentages provided in the table.

Figure 10
Breakdown of areas in which challenges and needs relating to reporting on support needed and received were identified, by developing country Party group and globally



Note: The total percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded area-level percentages provided in the figure.

Box 4
Category-based examples of issues associated with reporting on support needed and received

Practical guidance, tools and methods: Many developing country Parties mentioned the need for guidelines, tools and efficient processes and systems for defining, identifying, tracking and reporting on capacity-building, technical and financial support needed and received. Some Parties noted that challenges in tracking climate finance arose from the lack of a common definition of climate finance, indicating the corresponding need for adoption of a definition in the national and international context; and from the lack of a common approach to classifying, monitoring and reporting on climate finance – one that ensures that stakeholders collect data on support needed and received consistently. Parties expressed the need to establish and operationalize MRV systems for support and to enhance the capacity of staff and national experts to identify gaps and constraints relating to reporting on support needed and received, as well as implement the most appropriate means for overcoming them.

Data-collection process: Many developing country Parties reported encountering challenges in collecting data and information on support needed and received owing to insufficient national technical capacity for data collection, the absence of a standardized data-collection process, and the relevant data being dispersed across ministries, private sector organizations, research and academic institutions, civil society organizations and other entities. They noted that a lack of streamlined information-sharing mechanisms among government departments, donors and other stakeholders can lead to duplicated project efforts and difficulties in estimating and reporting on support needed and received. One Party, which had received support through bilateral cooperation with other Parties and from multilateral climate funds, identified as a challenge the tracking and clear identification of all interventions relating to this support.

Institutional capacity to sustain and improve the MRV and transparency process over time: Many developing country Parties reported the need to strengthen national capacity to define, identify, classify and report on support needed and received. Enhancing human and financial resources to ensure continuous, accurate reporting on support needed and received – categorized by sector, theme (mitigation, adaptation, reporting or cross-cutting) and support type (finance, technology transfer or capacity-building), with detailed disaggregation – was identified as a specific need.

F. Cross-cutting issues

27. With respect to cross-cutting issues, most challenges and needs reported related to the area institutional arrangements (53 per cent), followed by the areas methodology and tools (26 per cent) and data and information (21 per cent). Challenges and needs pertaining to enhancing institutional capacity to sustain and improve the MRV and transparency process over time were most frequently reported (19 per cent), followed by those pertaining to the data-collection process (12 per cent), and coordination across sectors and institutions for collecting and sharing data (11 per cent). Table 5 summarizes the identified cross-cutting issues by category.

Table 5
Categories of identified cross-cutting issues

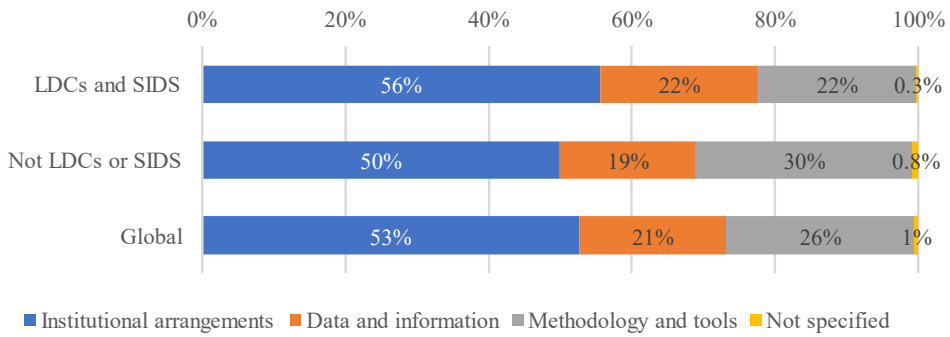
Category of issue (lack thereof or insufficient), by area	*Percentage of total reported issues under theme*[a]
Institutional arrangements	**53**
Institutional capacity to sustain and improve the MRV and transparency process over time	19
Coordination across sectors and institutions for collecting and sharing data	11

Category of issue (lack thereof or insufficient), by area	*Percentage of total reported issues under theme*[a]
Policy or legal arrangements that mandate the preparation of national reports	8
Stakeholder awareness, especially in the private sector	6
Leadership (e.g., an entity appointed to undertake and coordinate data collection and data-sharing)	5
Definition of roles and responsibilities across the institutions involved	4
Methodology and tools	**26**
Technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training	10
Practical guidance, tools and methods	7
Technical backstopping	5
Technical capacity (and knowledge) for interpreting, analysing and translating data and information gathered using tools, methods, etc., including training	2
Technological infrastructure	1
Data and information	**21**
Data-collection process (including establishment of a database, data-sharing system and web-based knowledge management platform)	12
Data management process (including documentation, archiving, QA/QC protocols and uncertainty management procedures)	5
Availability of quality data	3
Accessibility of data (owing to confidentiality issues)	0
Not specified	**1**
Total	**100**

[a] The total and area-level percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded category-level percentages provided in the table.

28. The percentage breakdown by area of cross-cutting challenges and needs differed by developing country Party group, although there were similar patterns in the order by frequency of the reported challenges and needs in those areas. The share of challenges and needs in the area institutional arrangements is 6 percentage points higher among the LDCs and SIDS compared with developing country Parties that are not LDCs or SIDS. Figure 11 provides a breakdown of the areas in which challenges and needs relating to cross-cutting issues were identified by the different groups of developing country Parties and globally. Box 5 provides examples from the three categories with the highest shares of the identified cross-cutting issues.

Figure 11
Breakdown of areas in which challenges and needs relating to cross-cutting issues were identified, by developing country Party group and globally



Note: The total percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded area-level percentages provided in the figure.

Box 5
Category-based examples of cross-cutting issues

Institutional capacity to sustain and improve the MRV and transparency process over time: Many developing country Parties reported challenges in meeting reporting commitments arising from the absence of an MRV system, limited technical capacity and insufficient financial resources. Some Parties indicated that they prepared national reports on an ad hoc basis, underscoring their need for a permanent MRV system under the Convention, which would not only enable timely reporting in the short term, but also improve reporting over time, leading to compliance with the enhanced reporting requirements under the ETF. Some Parties emphasized the need to establish and maintain expert teams. A high turnover of experts and government officers was noted as posing significant challenges to sustaining technical capacity, emphasizing the need for institutionalizing knowledge and providing ongoing capacity-building, training and learning support to experts and institutions involved in the MRV and transparency process.

Data-collection process: Many developing country Parties expressed the need to strengthen national capacity and enhance data collection and management in the area of transparency reporting. Parties identified the need to produce templates, standards and rules for data collection; digitize information records; address inadequacies in monitoring systems; and develop mechanisms with a view to allowing regular collection and sharing of data by data providers, including government departments and private sector organizations. The need for institutions responsible for data collection to understand the data they are collecting and to develop formats that streamline the collection process was identified, as was the need to enhance the technical capacity of other stakeholders.

Coordination across sectors and institutions for collecting and sharing data: Many developing country Parties identified the need for coordination mechanisms for data collection and data-sharing among stakeholders at different levels involved in preparing national GHG inventories and reporting on mitigation, adaptation and support needed and received, including organizations that lead those processes, government departments, private sector organizations and sectoral data providers. Some Parties also indicated the need to strengthen coordination and collaboration among research institutions, public entities and other actors involved in climate-related research in order to enhance its effectiveness.

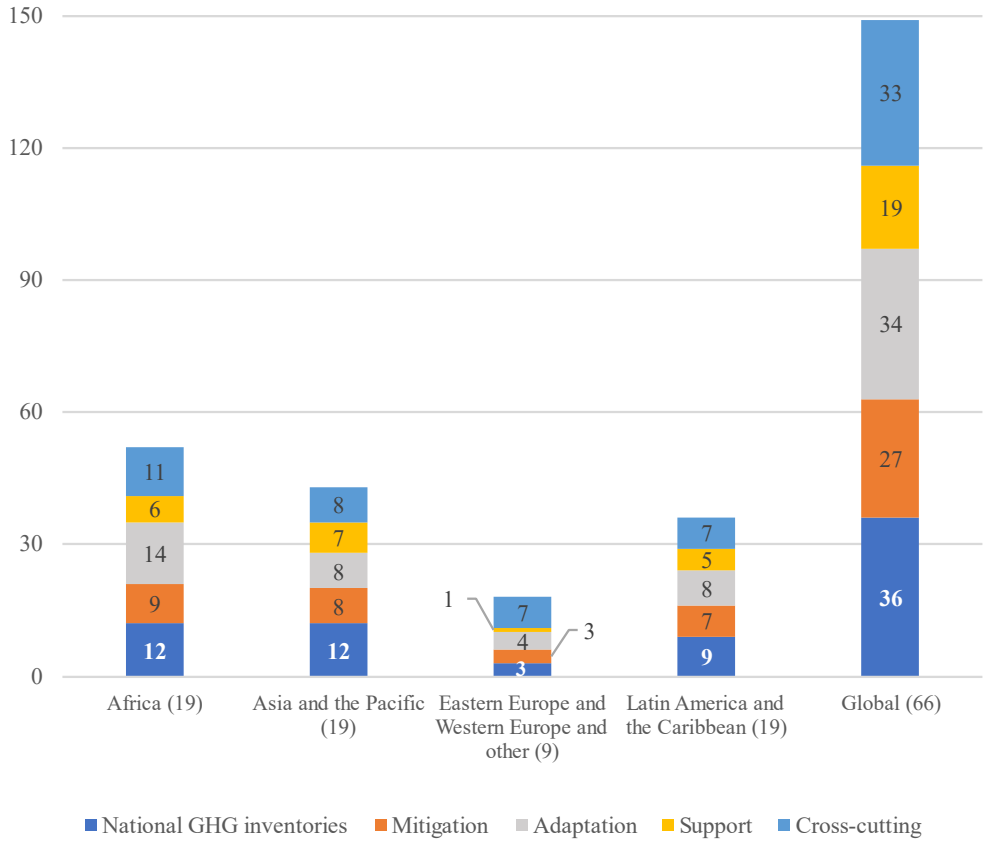
G. Examining the challenges and needs reported in biennial transparency reports

29. This chapter illustrates the needs and challenges reported in the BTR1 submissions alone. Figure 12 shows the number of developing country Parties, by region and globally, that reported in their BTR1s at least one challenge or need under each theme.

30. At the global level, the most commonly reported challenges and needs among Parties related to preparing national GHG inventories (reported by 36 Parties, or 55 per cent of the 66 Parties that submitted BTR1s), followed by reporting on climate change impacts and adaptation (reported by 34 Parties, or 52 per cent).

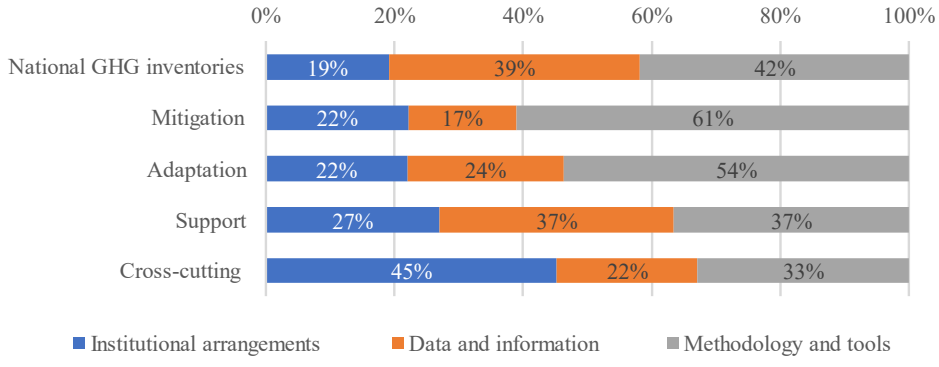
31. The breakdown of areas in which challenges and needs were identified in the BTR1s differed by theme, as shown in figure 13. Challenges and needs in the area of methodology and tools were most commonly associated with reporting on mitigation actions and progress in implementing NDCs (61 per cent), reporting on climate change impacts and adaptation (54 per cent) and preparing national GHG inventories (42 per cent). For cross-cutting challenges and needs, the largest share (45 per cent) was associated with the area institutional arrangements. The challenges and needs pertaining to reporting on support needed and received were evenly spread across the different areas, with a slightly reduced focus on the area of institutional arrangements.

Figure 12
Number of developing country Parties that reported, in their first biennial transparency reports, at least one challenge or need under each theme, by region and globally



Note: The figures in parentheses specify the number of developing country Parties whose reports were included for each region and globally.

Figure 13
Breakdown of areas in which challenges and needs were identified by developing country Parties in their first biennial transparency reports, by theme



Note: The total percentages were calculated using exact (not rounded) values and may therefore differ from the total percentages calculated with the rounded area-level percentages provided in the figure.

32. The breakdown of areas in which challenges and needs were identified in the BTR1s differed by theme, as shown in figure 13. Challenges and needs in the area of methodology and tools were most commonly associated with reporting on mitigation actions and progress in implementing NDCs (61 per cent), reporting on climate change impacts and adaptation

(54 per cent) and preparing national GHG inventories (42 per cent). For cross-cutting challenges and needs, the largest share (45 per cent) was associated with the area institutional arrangements. The challenges and needs pertaining to reporting on support needed and received were evenly spread across the different areas, with a slightly reduced focus on the area of institutional arrangements.

H. Emerging needs in relation to the enhanced transparency framework

33. The 2025 CGE stocktake survey included a section aimed at gauging the emerging needs of developing country Parties in relation to the ETF. A total of 62 respondents answered the survey. Respondents were asked to indicate the following:

(a) The extent to which they are familiar with the MPGs: 57 per cent of the respondents indicated that they are familiar with the MPGs but need more guidance and detailed information to identify needs in terms of implementing the ETF; 24 per cent indicated that they have limited knowledge of the MPGs; and 19 per cent indicated that they had sufficient knowledge of the MPGs;

(b) The status of planning for reporting under the ETF: 92 per cent of the respondents indicated that their country has a lead entity that coordinates preparation of BTRs with a permanent mandate, and 8 per cent indicated that their country does not have a lead entity for BTR preparation;

(c) Steps taken to date in preparing the BTR1:

(i) 52 per cent of the respondents indicated that external consultants or institutions were involved in BTR preparation; 42 per cent indicated that they were not involved; and 6 per cent indicated that the extent of their involvement is not yet decided;

(ii) Regarding a plan to allocate a domestic budget for compiling and submitting BTRs on a regular basis, including for maintaining a team of national experts, 8 per cent of the respondents indicated that their country has a plan that is fully operational; 13 per cent indicated that their country has a plan that is not fully operational; 27 per cent indicated that a plan is under development; and 52 per cent indicated that a plan is not yet in place;

(iii) Regarding a mechanism for obtaining funds from external sources to support the compilation and submission of BTRs on a regular basis, 34 per cent of the respondents indicated that their country has a mechanism that is fully operational; 13 per cent indicated that a mechanism is established but not fully operational; 26 per cent indicated that a mechanism is under development; and 27 per cent indicated that a mechanism is not yet in place;

(iv) Regarding preparation of the next BTR, among the respondents, 11 Parties are at the conceptual stage; 6 have submitted a funding proposal to the Global Environment Facility for preparing the report; 15 are setting up a coordination body or expert groups; 11 are collecting data or drafting components of the report; 3 have a first draft under review; 4 are at the finalization stage (i.e. final version under review and approval); and 12 have not started the process;

(d) The top three areas of capacity-building that can benefit their country in facilitating implementation of the ETF: The most frequently selected capacity-building area related to understanding the MPGs, common tabular formats and common reporting tables for the ETF, including the flexibility provisions (26 per cent), followed by areas related to use of the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* and preparation of the GHG inventory (20 per cent) and to reporting on tracking progress of implementation and achievement of NDCs (14 per cent).

I. Summary

34. Table 6 summarizes the two most frequently reported categories of issues identified in each area under each theme, as shown in tables 1–5. Areas and categories within each theme are listed in decreasing order of percentage.

Table 6
Two most frequently reported categories of issues identified by developing country Parties in each area under each theme

Theme	*Category of issue (lack thereof or insufficient), by area*
Preparing national GHG inventories	Data and information
	Availability of quality data
	Data-collection process (including establishment of a database, data-sharing system and web-based knowledge management platform)
	Methodology and tools
	Technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training
	Technical backstopping
	Institutional arrangements
	Institutional capacity to sustain and improve the MRV and transparency process over time
	Coordination across sectors and institutions for collecting and sharing data
Reporting on mitigation actions and progress in implementing NDCs	Methodology and tools
	Technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training
	Practical guidance, tools and methods
	Data and information
	Data-collection process (including establishment of a database, data-sharing system and web-based knowledge management platform)
	Availability of quality data
	Institutional arrangements
	Institutional capacity to sustain and improve the MRV and transparency process over time
	Coordination across sectors and institutions for collecting and sharing data
Reporting on climate change impacts and adaptation	Methodology and tools
	Technical backstopping
	Practical guidance, tools and methods
	Data and information
	Data-collection process (including establishment of a database, data-sharing system and web-based knowledge management platform)
	Availability of quality data
	Institutional arrangements
	Coordination across sectors and institutions for collecting and sharing data
	Institutional capacity to sustain and improve the MRV and transparency process over time

Theme	*Category of issue (lack thereof or insufficient), by area*
Reporting on support needed and received	Methodology and tools
	Practical guidance, tools and methods
	Technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training
	Data and information
	Data-collection process (including establishment of a database, data-sharing system and web-based knowledge management platform)
	Availability of quality data
	Institutional arrangements
	Institutional capacity to sustain and improve the MRV and transparency process over time
	Coordination across sectors and institutions for collecting and sharing data
Cross-cutting issues	Institutional arrangements
	Institutional capacity to sustain and improve the MRV and transparency process over time
	Coordination across sectors and institutions for collecting and sharing data
	Methodology and tools
	Technical capacity (and knowledge) for applying guidelines, guidance, tools and methods, including training
	Practical guidance, tools and methods
	Data and information
	Data-collection process (including establishment of a database, data-sharing system and web-based knowledge management platform)
	Data management process (including documentation, archiving, QA/QC protocols and uncertainty management procedures)