CGE Technical Paper 2023

Distilled

Updated technical paper on problems, constraints, lessons learned and capacity-building needs in preparing national communications and biennial update reports

Overview

Transparency

Transparency of climate action and support under the UNFCCC process includes measurement, reporting and verification under the Convention and the enhanced transparency framework under the Paris Agreement. Transparency is key to achieving the goals set out in the Convention and the Paris Agreement.

While countries have been engaging in the existing measurement, reporting and verification arrangements under the Convention for many years, the Paris Agreement established the enhanced transparency framework that applies common modalities, procedures and guidelines for all Parties with "flexibility... to those developing country Parties that need it in the light of their capacities".

Countries are at different starting points in terms of their capacities and experience in preparing for and implementing the enhanced transparency framework. While the existing domestic measurement, reporting and verification systems will provide a solid basis for countries to prepare for and implement the enhanced transparency framework, capacity-building for developing country Parties will remain crucial to ensure that all countries are able to engage fully and effectively in the new and enhanced processes and requirements established under the enhanced transparency framework.

Consultative Group of Experts Technical Paper 2023 Distilled

The Consultative Group of Experts is an expert group mandated to assist developing country Parties, through technical advice and support, improve their capacities to implement the existing measurement, reporting and verification arrangements under the Convention and the enhanced transparency framework under the Paris Agreement in a timely and sustainable manner.

With a view to providing technical assistance and support that responds to the needs of developing country Parties in a targeted and strategic manner, the Consultative Group of Experts continues to conduct an assessment of the existing and emerging problems and constraints, lessons learned and capacity-building needs of developing country Parties in implementing the existing measurement, reporting and verification arrangements and preparing for and implementing the enhanced transparency framework and prepares a technical paper annually containing the results.

The Consultative Group of Experts Technical Paper Distilled series aims at conveying the above information in a more condensed form that is conducive to highlighting salient points that may interest a broader range of support providers, experts and practitioners. It also provides a visual presentation of the information contained in the Consultative Group of Experts updated technical paper published in 2023.

The information on existing and emerging problems and constraints, lessons learned and capacity-building needs draws on the most recent national communications and biennial update reports submitted by developing country Parties, summary reports on the technical analysis of biennial update reports, and an online survey on transparency needs conducted by the Consultative Group of Experts in 2023.

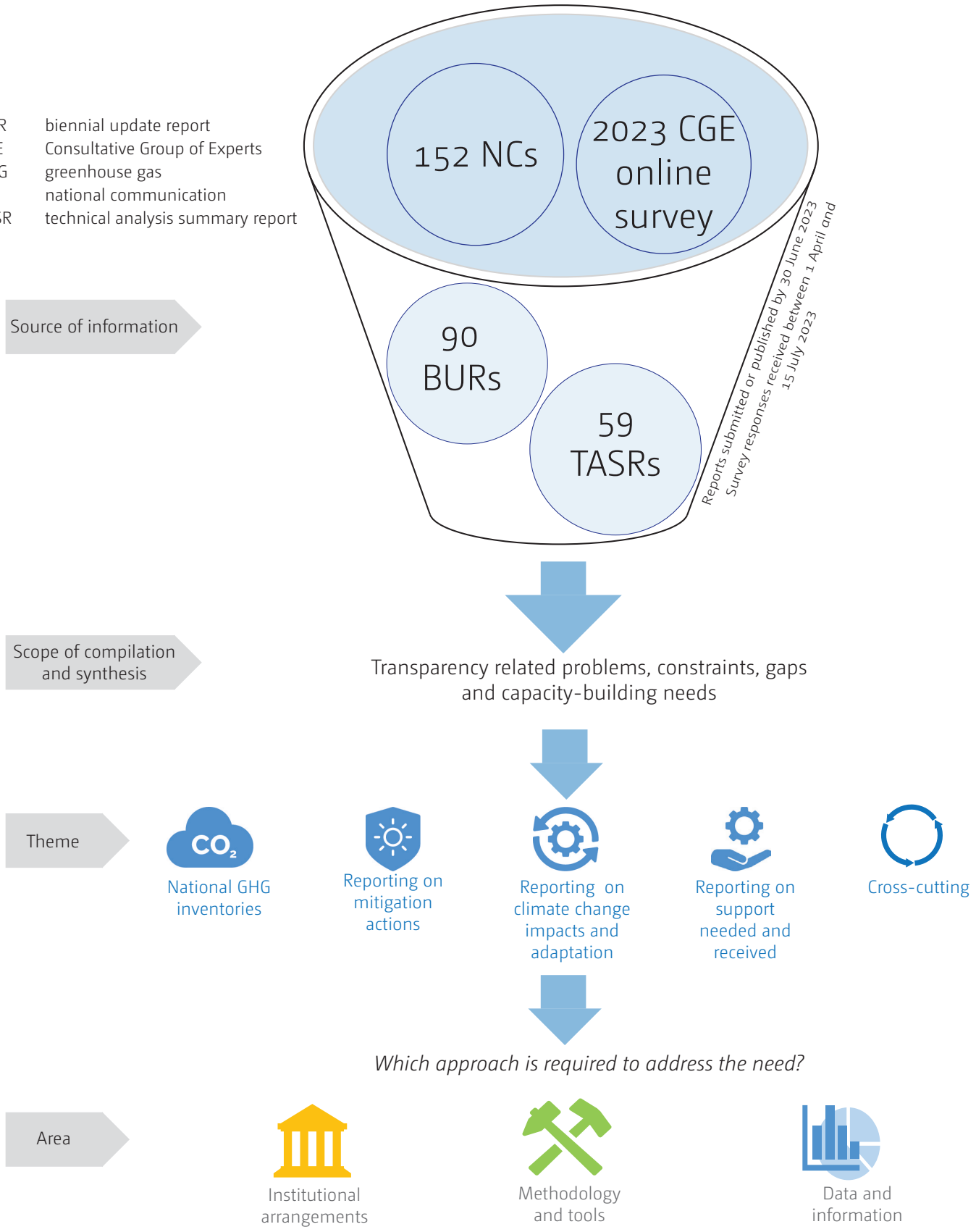
For more information, see the CGE Technical Paper 2023 (FCCC/TP/2023/5), available at https://unfccc.int/documents/632351

Disclaimer: Percentages may not add up to 100% exactly in some instances, as they are rounded to the nearest percent.

Approach to the compilation and synthesis of the information reported by developing country Parties

The information on problems and constraints, lessons learned, and capacity-building needs identified by developing country Parties was compiled from various data sources. The scope and aspects of the information examined is illustrated in the figure below.

BUR biennial update report
CGE Consultative Group of Experts
GHG greenhouse gas
NC national communication
TASR technical analysis summary report



The information reported by the developing country Parties was also examined through the following perspectives as outlined below.

Examining the information reported by developing country Parties through the following perspectives

By geographical region:

- Africa
- Asia-Pacific
- Latin America and the Caribbean
- Eastern Europe and Western Europe and other States

Taking into account special circumstances of the Least Developed Countries (LDCs) and Small Islands Developing States (SIDS):

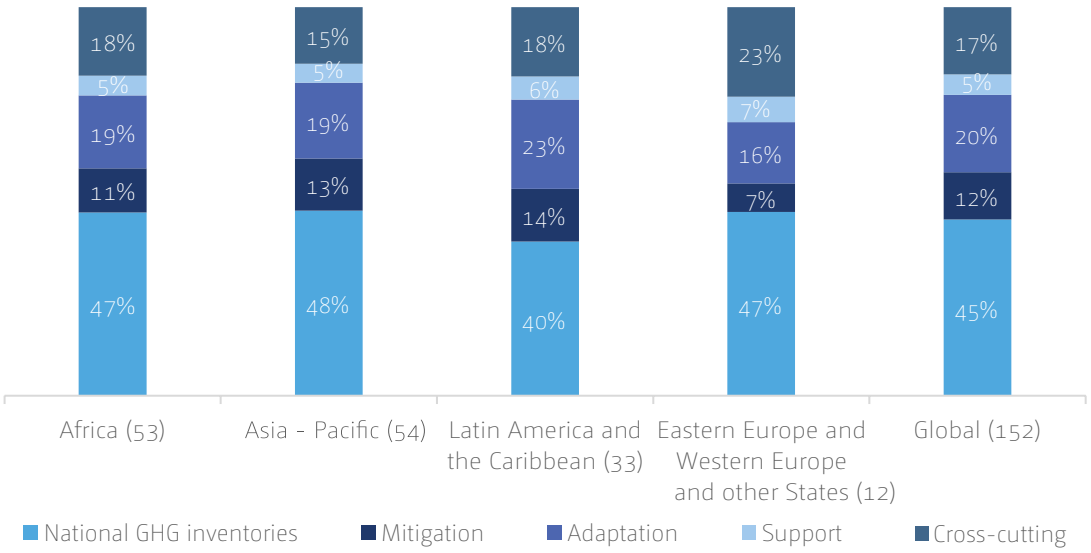
- Group consisting of LDCs and SIDS
- Group consisting of the other developing countries that are not LDCs or SIDS

For more information on the analytical framework and key terminology used for the compilation and synthesis of the challenges and needs, consult the CGE Technical Paper 2023 (FCCC/TP/2023/5).

Thematic overview of the challenges and capacity-building needs

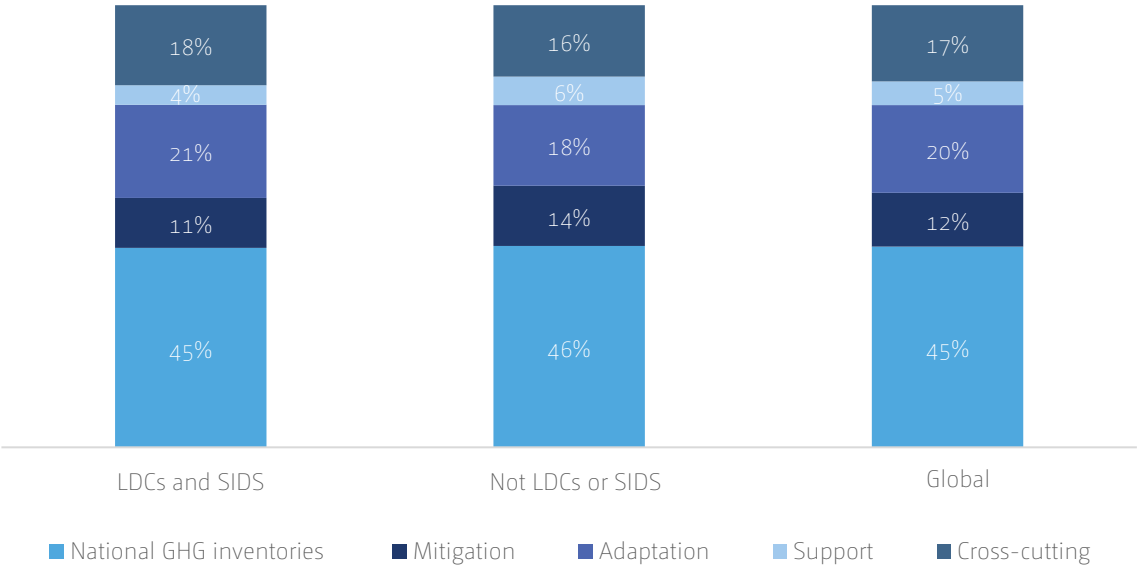
Global and regional picture

The themes under which the challenges and capacity-building needs were reported differed by region. The diagram below shows the thematic breakdown of the challenges and capacity-building needs reported by developing country Parties at the regional and global level.



Picture by group of developing countries

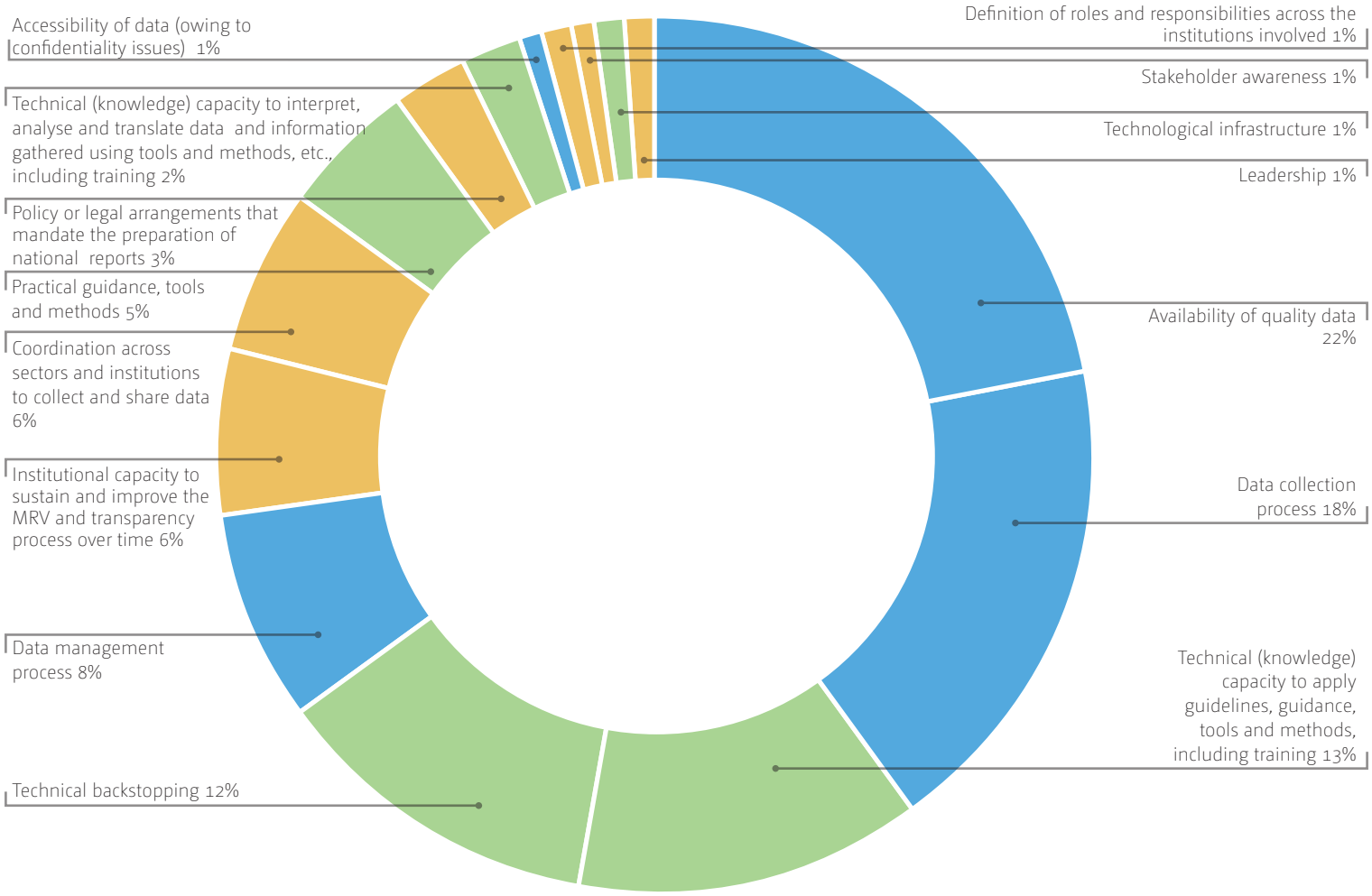
The percentage breakdown by theme of the reported challenges and capacity-building needs differed between the groups of developing country Parties, as illustrated in the diagram below.



National greenhouse gas inventories

Global picture

With regard to preparing national GHG inventories, most of the challenges and needs reported related to the area data and information (49 per cent), followed by the areas methodology and tools (33 per cent) and institutional arrangements (18 per cent). The three most frequently reported categories of issues were availability of quality data (22 per cent), data-collection process (18 per cent) and technical (knowledge) capacity to apply guidelines, guidance, tools and methods, including training (13 per cent). The diagram below summarizes the issues identified in relation to preparing national greenhouse gas inventories by category. See the boxes for examples from the three categories with the highest share among the issues identified.



AVAILABILITY OF DATA QUALITY Many developing country Parties reported substantial challenges posed by the poor quality and availability of data (e.g. historical data, disaggregated activity data, data for the complete time series, data consistent with IPCC guidelines), impeding the preparation of their national GHG inventories. They underscored that enhanced data availability and quality would substantially improve their national GHG inventories by allowing them to conduct uncertainty analyses (including QA/QC procedures), develop country-specific correction and emission factors and use higher-tier IPCC methodologies.

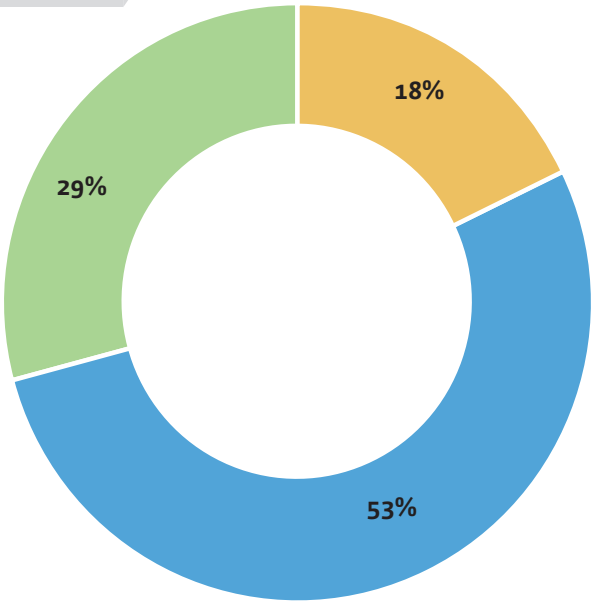
DATA COLLECTION PROCESS The data collection was reported as challenging by many developing country Parties. Some of these Parties identified the need to establish or improve the national system for collecting data and information pertaining to the GHG inventory, to sustain the national GHG inventory team and experts, and to strengthen the capacity of relevant institutions and data providers for data collection and entry. Data collection on a continuous basis through, for example, enhancing coordination, standardizing systems or methods, and conducting surveys and consultations was considered crucial to inventory preparation. Another major challenge reported by Parties was the collection of data in formats compatible with the IPCC guidelines.

TECHNICAL (KNOWLEDGE) CAPACITY TO APPLY GUIDELINES, GUIDANCE, TOOLS, METHODS, INCLUDING TRAINING Many developing country Parties expressed the need to enhance the technical capacity of national experts and institutions, particularly with regard to using IPCC guidelines, methodologies, tools and software and transitioning to higher-tier IPCC methodologies; conducting uncertainty assessments; and implementing QA/QC procedures. Parties also referred to the need for continued capacity-building with a view to keeping abreast with and applying best practices, new methodologies and latest technologies for GHG inventory preparation. A few Parties also mentioned the need for training on specific topics, for example remote sensing for land-use change monitoring.

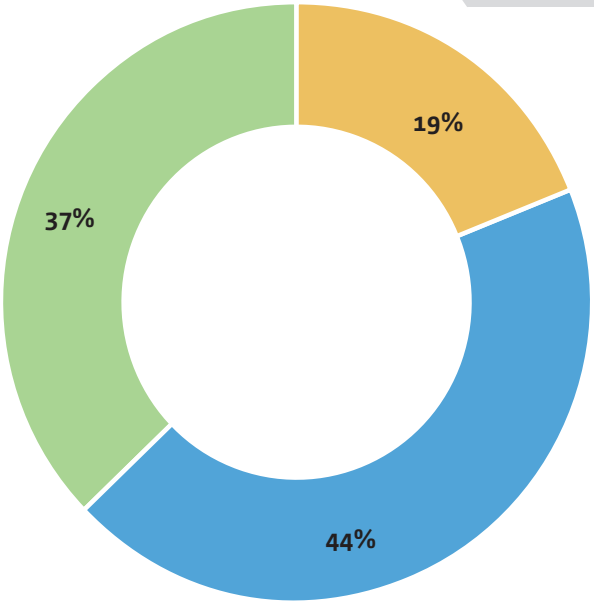
Breakdown of areas in which challenges and needs related to preparing national greenhouse gas inventories were identified, by developing country Party group and globally

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 reporting of challenges and needs in those areas. Notably, the LDCs and SIDS reported a 9 per cent higher share of challenges and needs in the area data and information than other developing country Parties that are not LDCs or SIDS. Diagrams below provide 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.

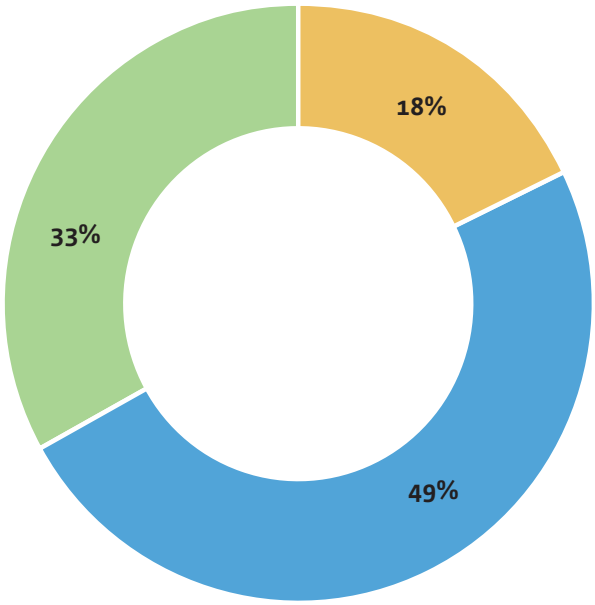
LDCs and SIDS



Not LDCs or SIDS



Global



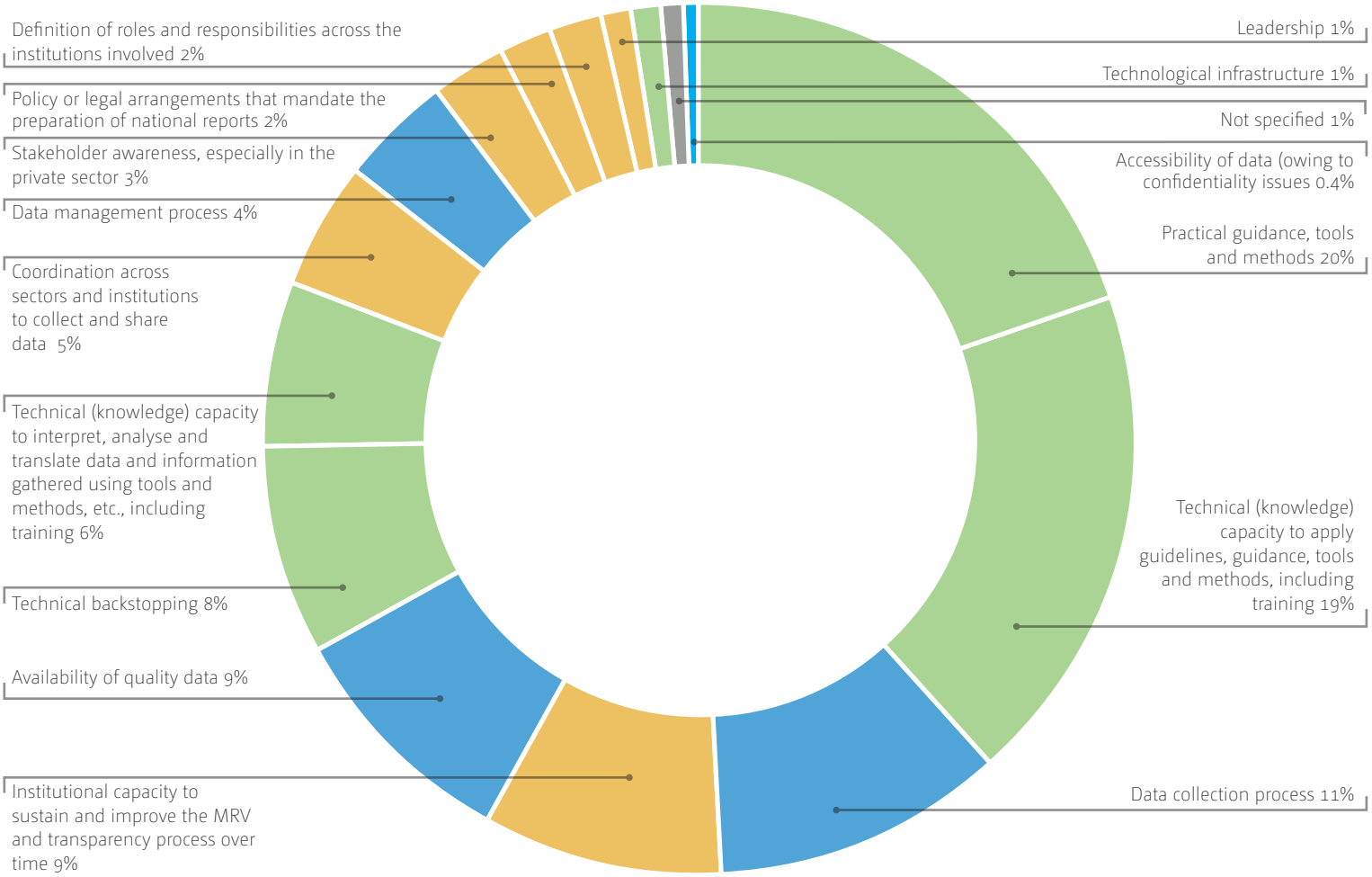
Issues associated with institutional arrangements
Issues associated with data and information
Issues associated with methodology and tools
Area of issues not specified

The number indicates the percentage of total reported issues under the theme.

Reporting on mitigation actions

Global picture

With regard to reporting on mitigation actions, more than half of the challenges and needs reported related to the area methodology and tools (54 per cent), followed by the areas data and information (24 per cent) and institutional arrangements (22 per cent). In particular, challenges due to lack of practical guidance, tools and methods accounted for the largest share (20 per cent) of total reported issues under the theme, followed by challenges pertaining to lack of technical (knowledge) capacity to apply guidelines, guidance, tools and methods, including training (19 per cent) and challenges with the data-collection process (11 per cent). The diagram below summarizes the issues identified in relation to reporting on mitigation actions by category. See the boxes for examples from the three categories with the highest share among the issues identified.



PRACTICAL GUIDANCE, TOOLS AND METHODS Many developing country Parties highlighted the need to develop and apply guidance, tools and methods for assessing progress in implementing mitigation policies and actions and for estimating and reporting the associated emission reductions. More specifically, needs identified in this area include formulating or improving baselines; developing mitigation scenarios on the basis of policies and measures; conducting and analysing the results of emission reduction and co-benefit studies; 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.

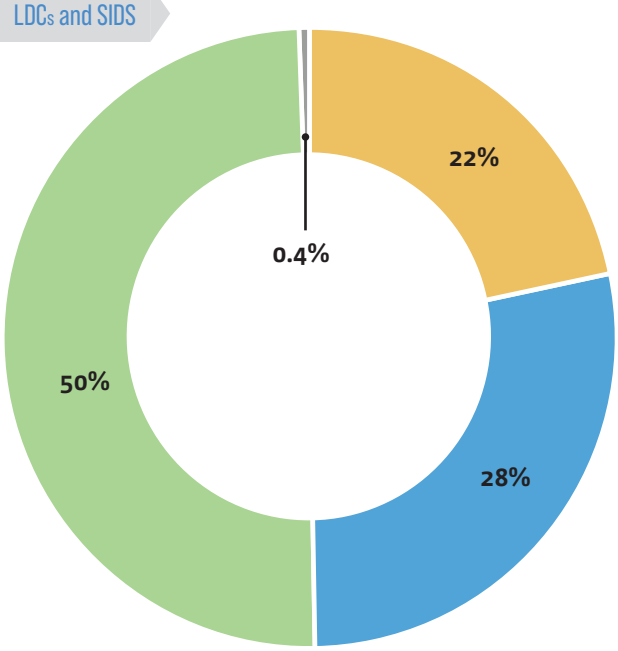
TECHNICAL (KNOWLEDGE) CAPACITY TO APPLY GUIDELINES, GUIDANCE, TOOLS AND METHODS Many developing country Parties reported technical capacity-building and training needs of national and sectoral experts in the use of tools and models for analysing mitigation measures, for example for identifying, assessing and prioritizing (including by conducting cost–benefit analysis) mitigation measures by sector and/or by type of gas; for assessing and quantifying the impacts of mitigation measures, including the establishment of baseline emission levels; for tracking the progress of implementation and assessing (ex post and ex ante) the outcomes of mitigation policies and measures, including those that are NDC targets; and for enhancing capacity to develop long-term mitigation projections and scenarios.

DATA COLLECTION PROCESS Some developing country Parties do not have a centralized system for collecting mitigation-related data and therefore pointed out the need for mitigation databases for collating information on the implementation of mitigation actions by sector and for tracking progress in implementing and achieving NDCs. Some Parties expressed the need to strengthen their existing monitoring systems and information platforms to track progress towards implementing mitigation measures, such as by expanding the domestic MRV system to include all mitigation actions and enhancing national capacity to collect and report related information in accordance with the relevant guidelines. One Party mentioned that data-collection processes should be significantly strengthened to ensure that comprehensive, high-quality data are available for undertaking the detailed technical analysis required to define scenarios for a low-carbon development pathway.

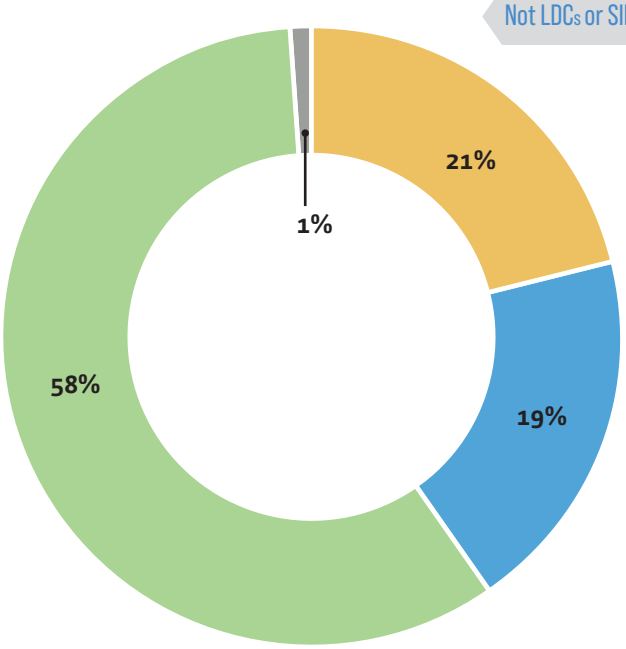
Breakdown of areas in which challenges and needs related to reporting on mitigation actions were identified, by developing country Party group and globally

The percentage breakdown by area of reported challenges and needs related to reporting on mitigation actions differed by developing country Party group, although there were similar patterns in the order by frequency of the reporting of challenges and needs in those areas. The LDCs and SIDS reported a 9 per cent higher share of challenges and needs in the area data and information than other developing country Parties that are not LDCs or SIDS. Diagrams below provide a breakdown of the areas in which challenges and needs relating to reporting on mitigation actions were identified by the different groups of developing country Parties and globally.

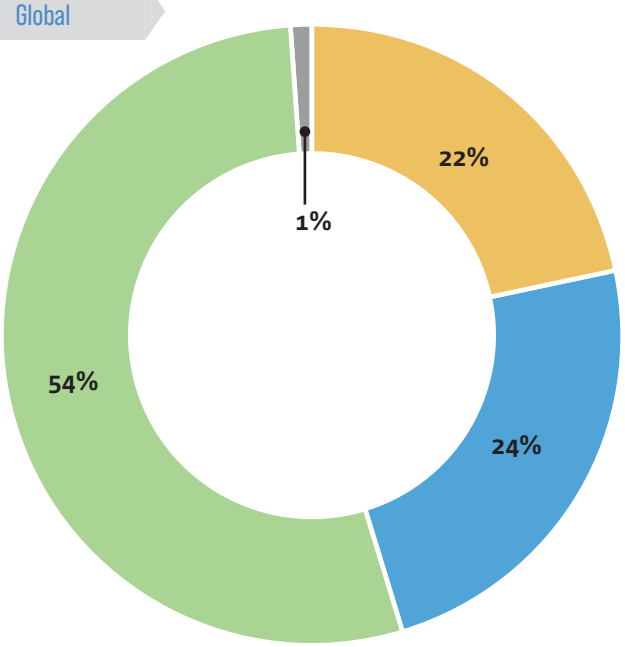
LDCs and SIDS



Not LDCs or SIDS



Global



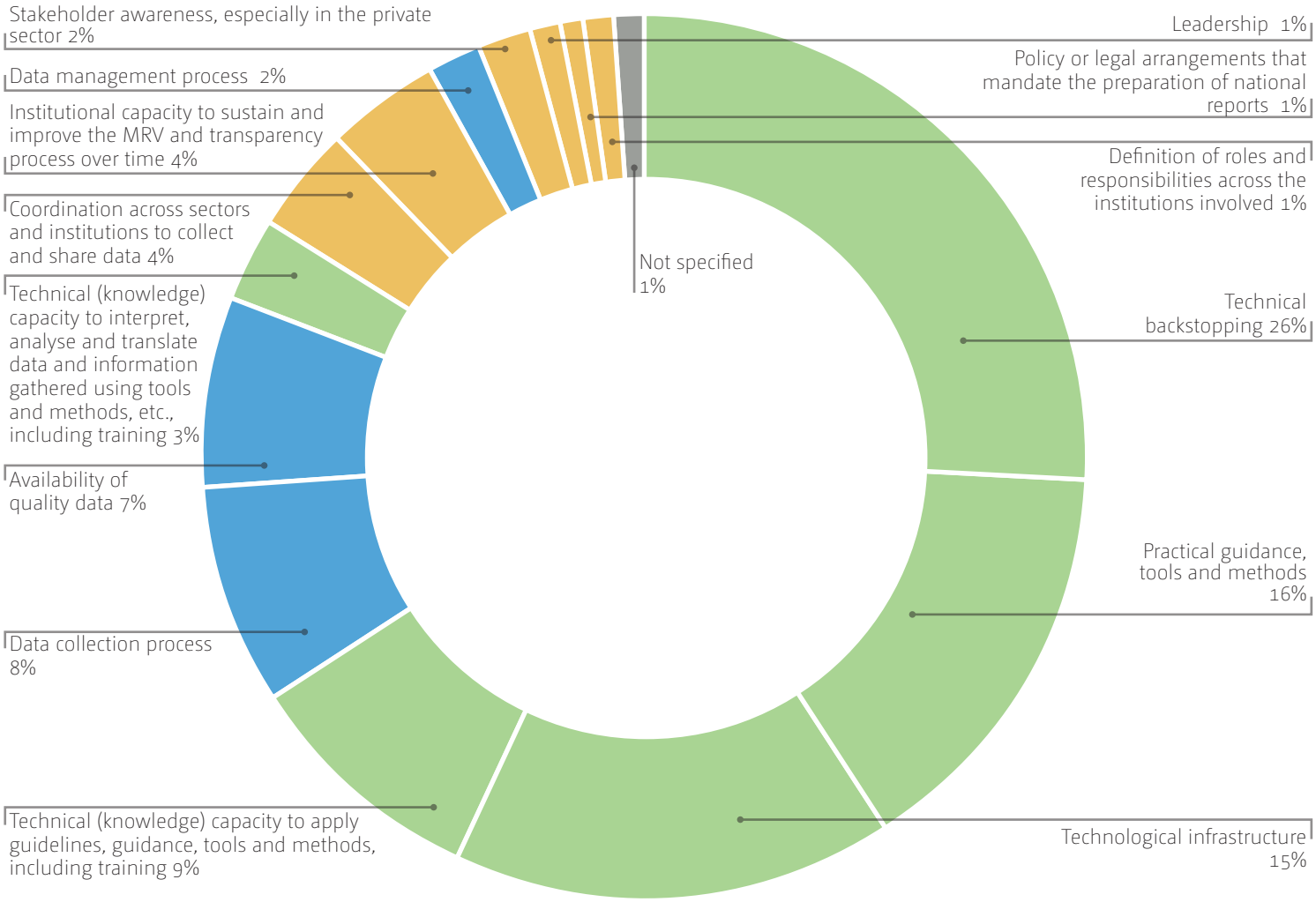
Issues associated with institutional arrangements
Issues associated with data and information
Issues associated with methodology and tools
Area of issues not specified

The number indicates the percentage of total reported issues under the theme.

Reporting on climate change impacts and adaptation

Global picture

With regard to reporting on climate change impacts and adaptation, most challenges and needs reported related to the area methodology and tools (69 per cent), followed by the areas data and information (18 per cent) and institutional arrangements (13 per cent). In particular, the need for technical backstopping, accounted for the largest share (26 per cent) of total reported issues under the theme, followed by the needs for practical guidance, tools and methods (16 per cent) and technological infrastructure (15 per cent). The diagram below summarizes the issues identified in relation to reporting on climate change impacts and adaptation by category. See the boxes for examples from the three categories with the highest share among the issues identified.



TECHNICAL BACKSTOPPING Many developing country Parties emphasized the need to enhance climate research that enables tailored, scaled-down climate modelling specific to the national and local contexts. The need to better understand the multifaceted impacts, including socioeconomic consequences, of climate change across sectors (including but not limited to agriculture, biodiversity, energy, fisheries, infrastructure, public health, human settlements, coastal areas and zones, and water) was identified. Improvement in vulnerability and risk assessment and management was also considered as essential. Some Parties pointed out the inadequacy of national funding and resource allocation dedicated to researching climate change impacts and adaptation strategies. They noted that establishing a sustainable financing strategy for research activities is central to fostering sustainable development and enhancing climate resilience. A few Parties emphasized the need to enhance the research capacity of relevant stakeholders, such as governments, research institutions and local communities, and to foster cooperation among them.

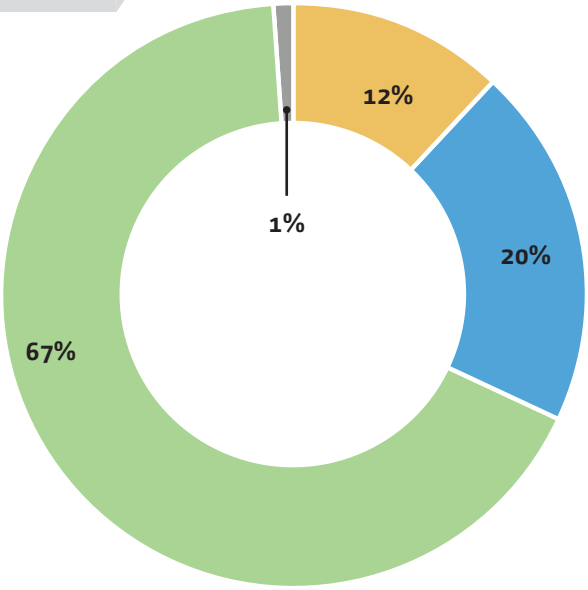
TECHNICAL INFRASTRUCTURE Many developing country Parties reported a lack of methodologies for consistently monitoring climate change impacts and assessing adaptation measures. This lack is particularly noticeable in national and local contexts and specific sectors, including but not limited to agriculture, coastal management, energy, forestry, infrastructure, public health, tourism, urban and rural settlements, and water. The needs include (1) tools for consistently collecting, managing and monitoring data in order to update data sets and databases and (2) modelling techniques, for example models for forecasting and tracking climate change impacts, risks and/or vulnerabilities across various sectors. These tools and models could be used alongside methods to design and prioritize adaptation actions. Some Parties emphasized the need to standardize methods (e.g. for performing vulnerability assessments and for defining tracking indicators) employed by national and/or sectoral institutions in order to enhance their consistency. One Party also underscored the need for quantitative and qualitative metrics that would help prioritize adaptation actions and to integrate them into national planning processes.

PRACTICAL GUIDANCE, TOOLS AND METHODS Many developing country Parties expressed the need to establish, maintain or upgrade technological infrastructure for collecting climate data and monitoring meteorological, atmospheric, oceanographic and terrestrial variables related to climate change. Such infrastructure includes weather forecasting centres, hydrological stations, meteorological stations and climatological observation networks. Parties reported insufficient capacity to adequately represent temporal and spatial variability related to climate change at the national level. Several Parties mentioned a low density of climate observation networks and an uneven spatial distribution of stations at the national level, while others identified outdated meteorological service instruments in need of calibration or renewal. Parties also reported the lack of qualified human resources to operate these networks, as well as of financial and material resources to maintain them. Further, some Parties pointed to the need for automated recording equipment and instruments to generate consistent, reliable and real-time climate data.

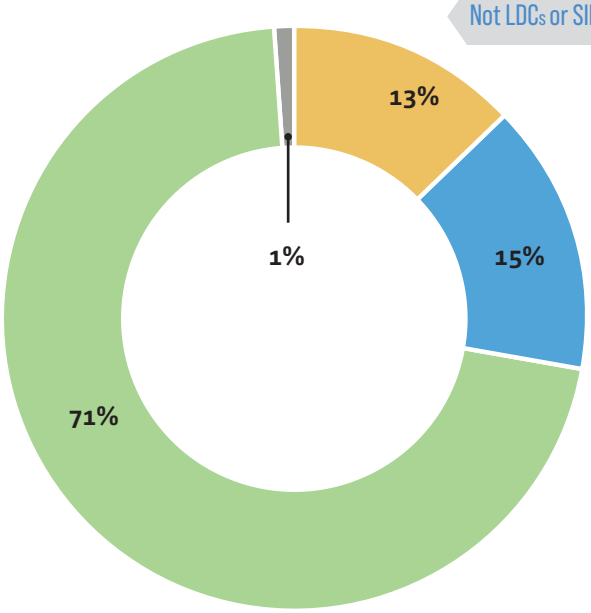
Breakdown of areas in which challenges and needs related to reporting on climate change impacts and adaptation were identified, by developing country Party group and globally

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 reporting of challenges and needs in those areas. Challenges and needs associated with the area methodology and tools constituted the largest share of challenges and needs reported. Diagrams below provide 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.

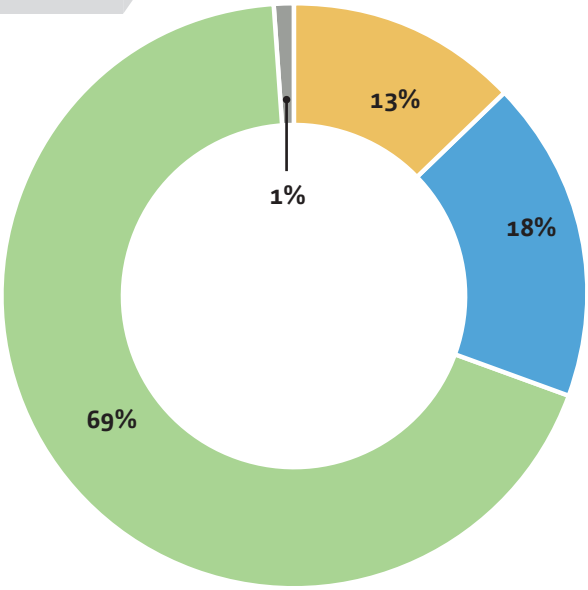
LDCs and SIDS



Not LDCs or SIDS



Global



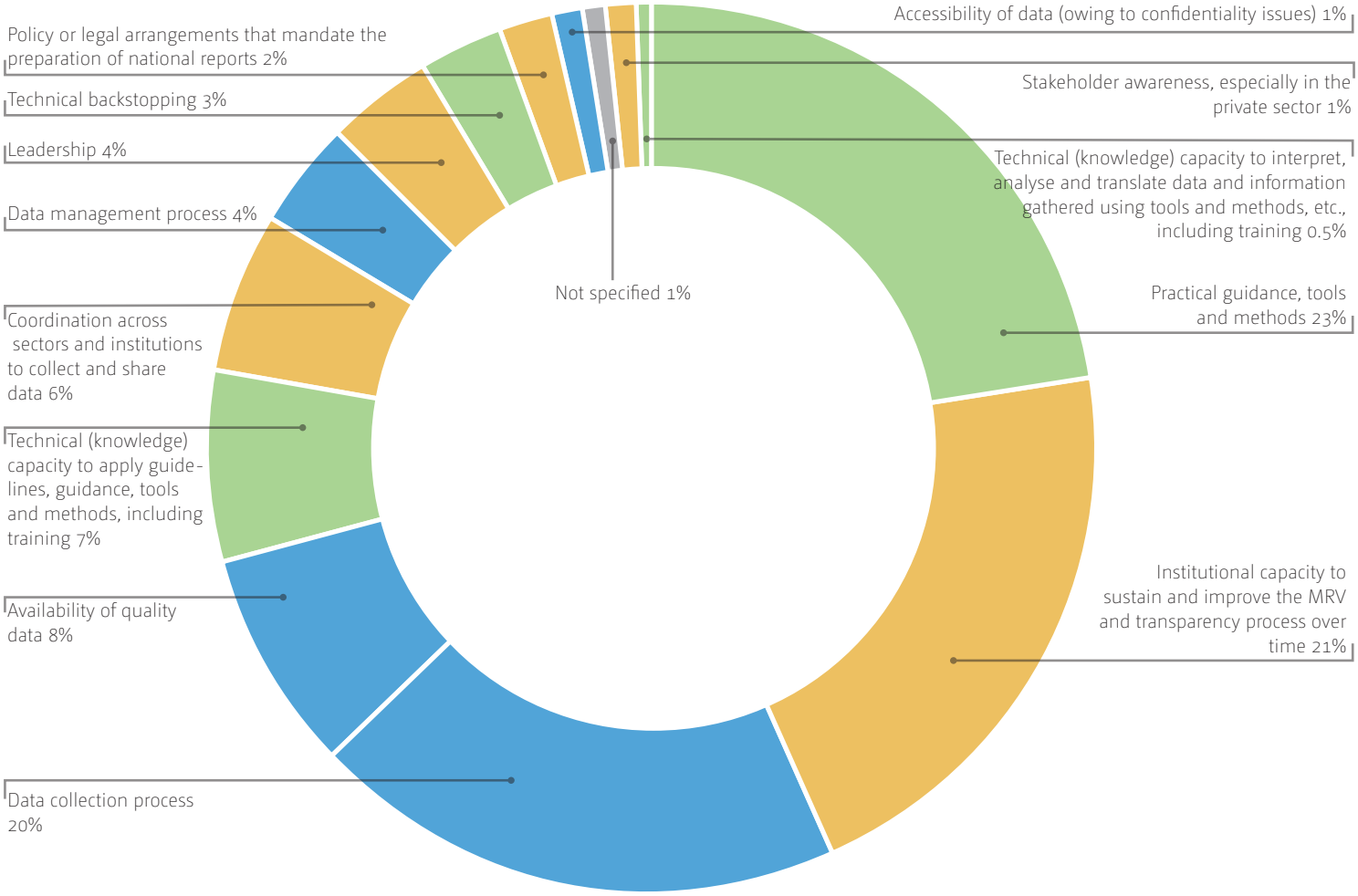
Issues associated with institutional arrangements
Issues associated with data and information
Issues associated with methodology and tools
Area of issues not specified

The number indicates the percentage of total reported issues under the theme.

Reporting on support needed and received

Global picture

With regard to reporting on support needed and received, the challenges and needs reported were evenly spread across the different areas. The distribution was as follows: institutional arrangements (33 per cent), methodology and tools (33 per cent) and data and information (32 per cent). Under these areas, the need for practical guidance, tools and methods accounted for the largest share (23 per cent) of total reported issues under the theme, followed by the necessity to maintain institutional capacity to sustain and improve the MRV and transparency process over time (21 per cent) and challenges with the data-collection process (20 per cent). The diagram below summarizes the issues identified in relation to reporting on support needed and received by category. See the boxes for examples from the three categories with the highest share among the issues identified.



PRACTICAL GUIDANCE, TOOLS AND METHODS Many developing country Parties mentioned the lack of guidelines, tools and efficient processes and systems for defining, identifying, tracking and reporting capacity-building, technical and financial support needed and received. Several developing country Parties noted that there is no coherent or common definition of climate finance or approach to classifying, monitoring and reporting on climate finance. In determining the amounts to be reported as climate finance, reporting entities usually rely on their own operational definitions, and differences can affect estimates of overall finance flows. Parties therefore noted the need to adopt methodologies and tools for defining climate finance in the national and international context and to ensure that stakeholders collect data on support needed and received appropriately.

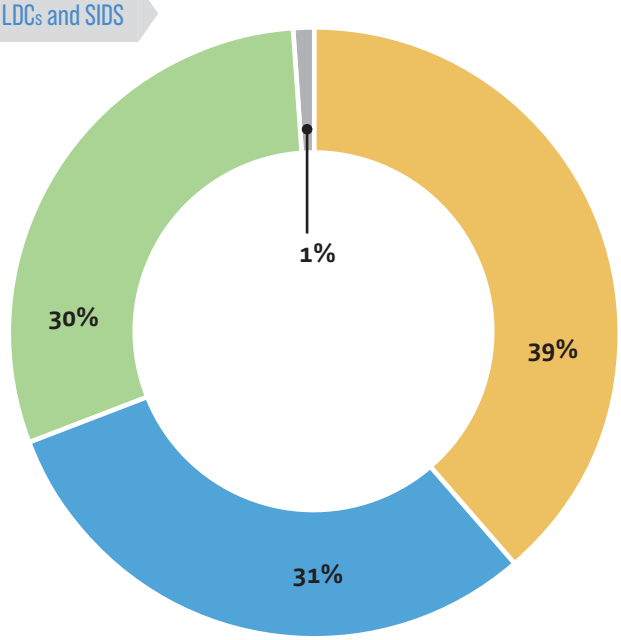
INSTITUTIONAL CAPACITY TO SUSTAIN/IMPROVE THE MRV AND TRANSPARENCY PROCESS OVER TIME Many developing country Parties reported capacity-building needs and challenges related to the application of guidelines and tools and the development and maintenance of systems for defining, identifying, tracking and reporting capacity-building, technical and financial support needed and received on a long-term basis. Some Parties emphasized the need to strengthen capacity-building efforts and secure funding for relevant agencies, as well as to promote collaboration among relevant stakeholders. One Party suggested that access to climate finance could be enhanced through transparent, structured and robust monitoring, reporting and verification of technical and financial support received.

DATA COLLECTION PROCESS Many developing country Parties found it challenging to collect data and information on support needed and received owing to the lack of a standardized data-collection process and to the relevant data being dispersed across entities such as ministries, private sector organizations, research and academic institutions, and civil society organizations. Some Parties mentioned the need to develop a centralized data-collection platform to facilitate data exchange among ministries and other relevant actors, including information on finance flows from domestic and international sources.

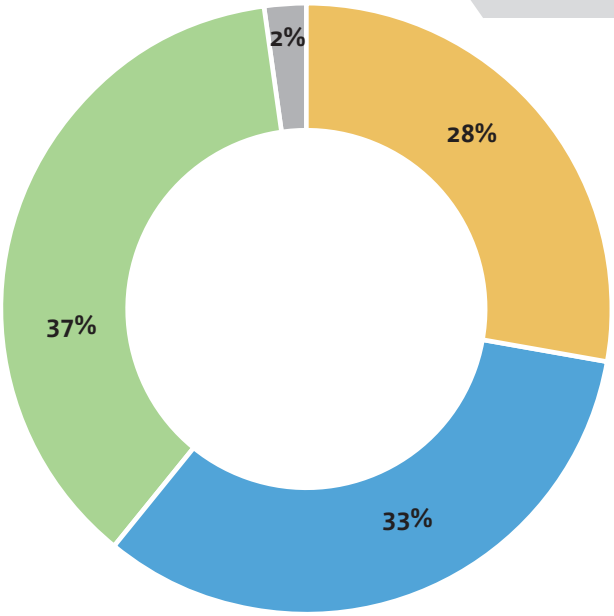
Breakdown of areas in which challenges and needs related to reporting on support needed and received were identified, by developing country Party group and globally

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 reporting of challenges and needs in those areas. The LDCs and SIDS reported an 11 per cent higher share of challenges and needs in the area institutional arrangements than other developing country Parties that are not LDCs or SIDS. Diagrams below provide 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.

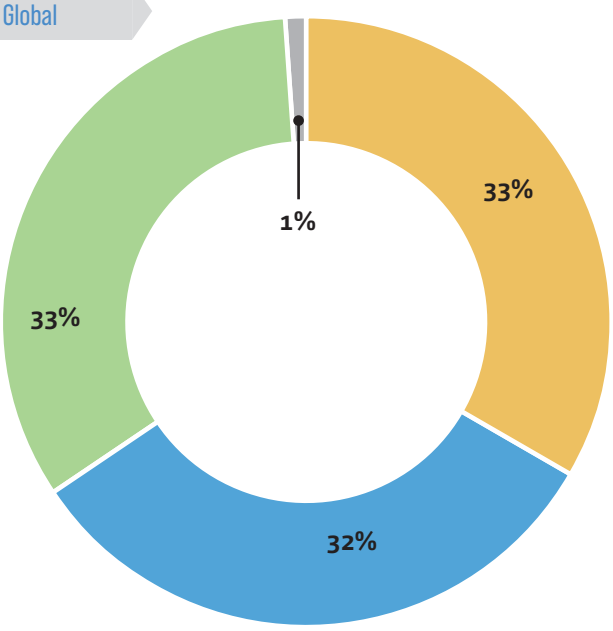
LDCs and SIDS



Not LDCs or SIDS



Global



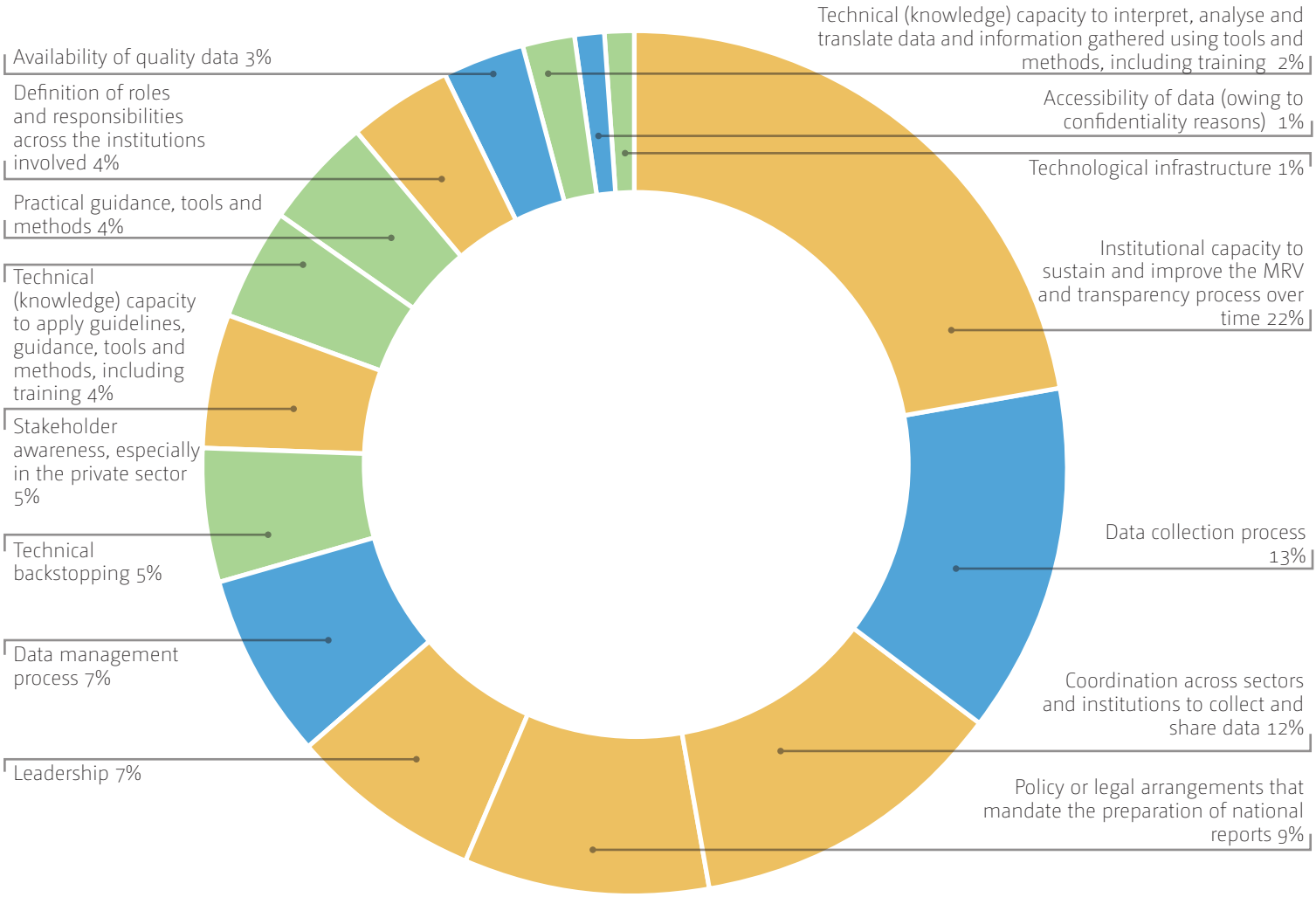
Issues associated with institutional arrangements
Issues associated with data and information
Issues associated with methodology and tools
Area of issues not specified

The number indicates the percentage of total reported issues under the theme.

Cross-cutting issues

Global picture

With respect to cross-cutting issues, most challenges and needs reported related to the area institutional arrangements (59 per cent), followed by the areas data and information (23 per cent) and methodology and tools (17 per cent). In particular, challenges and needs pertaining to enhancing institutional capacity to sustain and improve the MRV and transparency process over time were most frequently reported (22 per cent), followed by those pertaining to enhancing the data-collection process (13 per cent) and enhancing coordination across sectors and institutions to collect and share data (12 per cent). The diagram below summarizes the cross-cutting issues identified by category. See the boxes for examples from the categories of identified cross-cutting issues.



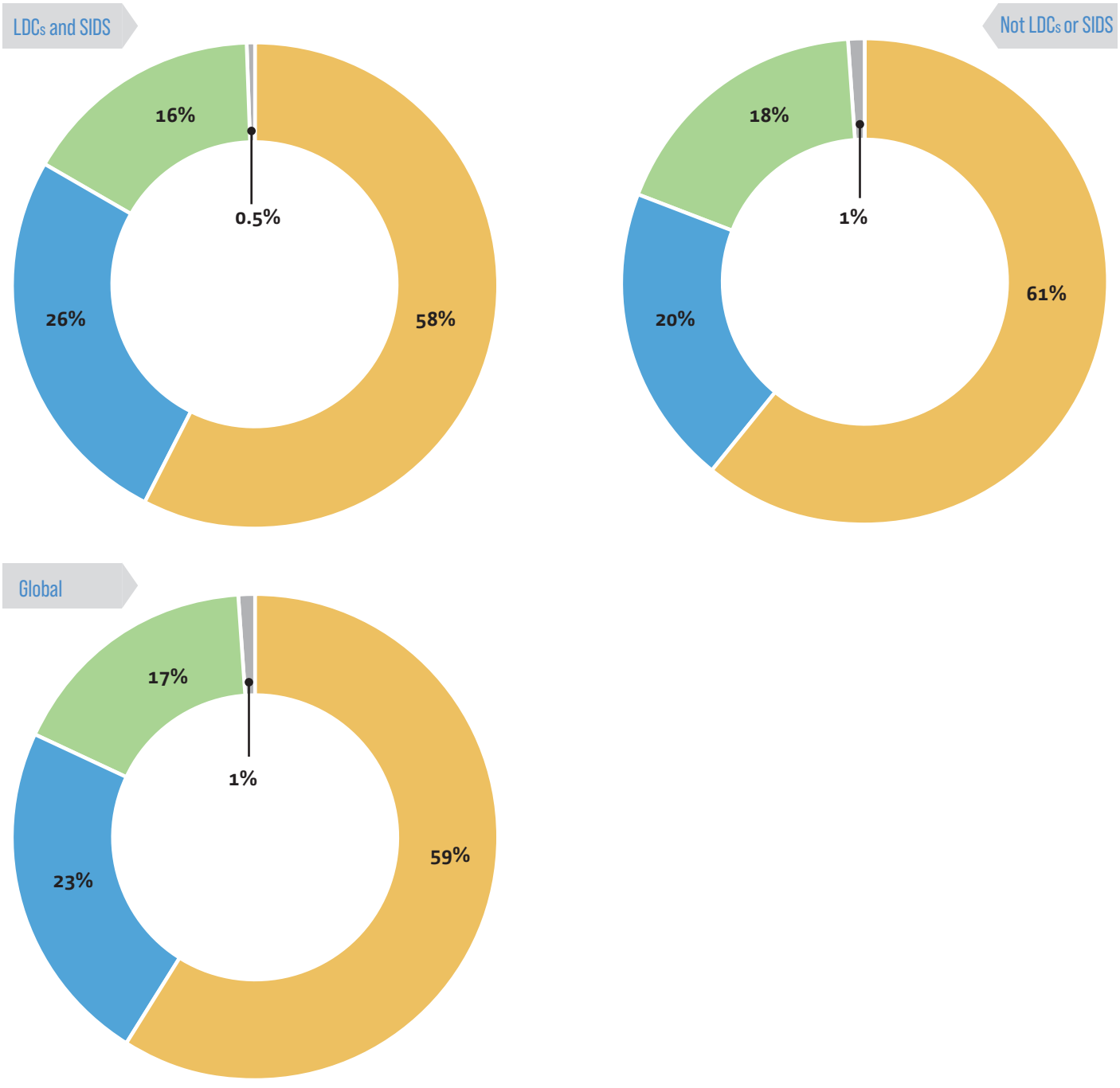
INSTITUTIONAL CAPACITY TO SUSTAIN AND IMPROVE THE MRV AND TRANSPARENCY PROCESS OVER TIME Many developing country Parties reported challenges in meeting reporting commitments due to limited capacity and insufficient technical and financial resources. Some countries indicated that they prepare national reports on an ad hoc basis and have not established a permanent process or team for report preparation. Some Parties emphasized the need for establishing a permanent framework for reporting that would enable them to produce timely reports, improve their reporting over time and comply with the enhanced reporting requirements under the ETF. Related needs include the creation or retention of expert teams, the continued provision of capacity-building and training for teams, and the development of a plan to counter high staff turnover and thus ensure technical capacity is sustained. In addition, addressing deficiencies in the technical capacity of line ministries and relevant stakeholders was considered crucial to enabling their active participation in national report preparation.

DATA-COLLECTION PROCESS Many developing country Parties expressed the need to strengthen national capacity in and enhance the processes for collecting data, encompassing the data necessary for preparing national GHG inventories and for reporting on mitigation actions, climate change impacts and adaptation, and support needed and received. Parties also identified the need to produce templates, standards and rules for data collection; digitize information records; address inadequacies in monitoring systems; and develop mechanisms allowing systematic, regular data collection and sharing by data providers, including government departments and private sector organizations.

COORDINATION ACROSS SECTORS AND INSTITUTIONS TO COLLECT AND SHARE DATACMany developing country Parties identified the need for coordination mechanisms for data-sharing. Stakeholders include government departments, private sector organizations and other data providers, as well as various other actors involved in preparing national GHG inventories and reporting on mitigation, adaptation and support needed and received. Some Parties expressed the view that a lack of coordination impacts the sustainable, timely preparation and submission of NCs and BURs, and that formalizing institutional arrangements for data provision will help enhance data quality and avoid delays in data submission. Some developing country Parties stressed the importance of conveying the benefits of reporting to stakeholders, thereby incentivizing their engagement and strengthening their commitment. Some Parties identified the need to improve institutional coordination structures at the ministerial level (horizontal coordination) and between national and subnational authorities (vertical coordination).

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

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 reporting of challenges and needs in those areas. The LDCs and SIDS reported a 6 per cent higher share of challenges and needs in the area data and information than other developing country Parties that are not LDCs or SIDS. Diagrams below 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.



The number indicates the percentage of total reported issues under the theme.