

Statistical Commission
Fifty-third session
1–4 March 2022

Item 3(x) of the provisional agenda

Items for discussion and decision: Integration of statistical and geospatial information

Background document
Available in English only

Final results from the Global Survey on Readiness to Implement the Global Statistical Geospatial Framework

Prepared by the Expert Group on the Integration of Statistical and Geospatial Information

Final results from the Global Survey on Readiness to Implement the Global Statistical Geospatial Framework

Introduction

The United Nations Expert Group on the Integration of Statistical and Geospatial Information (EG-ISGI) develops guidance to support the implementation and operationalisation of the Global Statistical Geospatial Framework (GSGF). Through the adoption by the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) and the United Nations Statistical Commission (UNSC), the GSGF has been recognised as a framework for the world that provides an underlying mechanism to integrate statistical and geospatial information.

At the 52nd Statistical Commission, the EG-ISGI, through its Task Team on capacity building, launched "Global Survey on Readiness to Implement the Global Statistical Geospatial Framework" to assess the general awareness of the GSGF, the Integrated Geospatial Information Framework (IGIF), and the general capacity of countries to integrate statistical and geospatial information. This national perspective is essential to enable the EG-ISGI for it to develop relevant guidance for GSGF implementation, reflecting national needs and capability¹. The survey was informally translated into and welcomed responses in the six UN languages (Arabic, Chinese, English, French, Spanish, and Russian) to support its dissemination.

The survey was disseminated in close collaboration with the regional focal points (from each UN Regional Commission: UNECLAC, UNECE, UNESCAP, UNESCWA, UNECA; Regional Committees of UN-GGIM UN-GGIM: Americas, UN-GGIM: Europe, UN-GGIM: Asia and the Pacific, UN-GGIM: Arab States, UN-GGIM: Africa; and other institutions as regional observers within the EG-ISGI including Eurostat/European Commission and GCC-STAT).

A report presenting the preliminary results from the survey was prepared and submitted as a background document to the EG-ISGI's report to UN-GGIM at its eleventh session in August 2021². Noting an unequal distribution in the responses to the survey in some regions, an intensive effort of communication and promotion was undertaken in the past intersessional period. This work by the EG-ISGI has helped ensure the quality and applicability of the survey's results, aiming to bolster the EG-ISGI's future work plan guided the mandates provided to it by UNSC and UN-GGIM; of these mandates, the "implementation and operationalisation of the GSGF" is a key driver for the EG-ISGI. Accordingly, this report notes the survey's outcomes and discusses their implication on the future work of the EG-ISGI, inclusive of its workplan 2022 – 2024.

Survey Structure

In total, the survey comprised 27 questions:

- Section A was for respondent and contact information, and Section F was for open input and additional comments.

¹ The survey builds on previous work to assess the European implementation of the Global Statistical Geospatial Framework within the region, requesting responses from both the statistical and geospatial communities.

² <https://ggim.un.org/meetings/GGIM-committee/11th-Session/documents/Compiled%20National%20Experiences%20of%20the%20GSGF.pdf>



United Nations Expert Group on the Integration of Statistical and Geospatial Information

- Section B aimed to assess the general awareness about the GSGF and the IGIF among NSOs, NGIAs and other public bodies in Member States (MS). Respondents were also asked to rate the usefulness of the frameworks to facilitate statistical-geospatial integration.
- Section C captured information about the current situation and practice in MS. The questions in this section addressed several issues ranging from institutional collaboration, data access and governance to the performance of the overall data integration infrastructure.
- Section D addressed the need for guidance and capacity building. The respondents were asked to rate the need for guidance and express what kind of guidance they consider most useful to support the effective implementation of the GSGF. In addition, the respondents were asked to express the need for development and training to build capacity for statistical-geospatial data integration.
- Section E was a special module that targeted the management of privacy and confidentiality issues when using, sharing or releasing geospatial data. This section was included on behalf of the EG-ISGI Task Team on confidentiality. The results from Section E are presented briefly in this report but will also be processed further by the EG-ISGI Task Team on confidentiality.

Release and dissemination of the survey

The survey was officially launched on the margins of the 52nd session of the UN Statistical Commission on the 1-3 of March 2021 through a side event and in the EG-ISGI's report. The survey was disclosed as a background document under the Agenda item Integration of statistical and geospatial information.³ The background document was unofficially translated into the six UN languages to facilitate dissemination and uptake in all regions. The survey was disseminated to NSOs and NGIAs through the regional UN focal points starting on 13 April 2021. The message contained an information note and a link to the online form to collect submissions. The regional focal points acted as contact points and facilitators to promote the contribution to the survey in their region.

The EG-ISGI originally planned to close the survey on 31 May 2021, but on observing a low number of responses, this deadline was extended to 7 June 2021. To meet additional requests for further extension of the deadline, the EG-ISGI decided to keep the survey open for an extended period. Following discussion with regional focal points on the response rate to the survey, the EG-ISGI decided to provide MS with a further extended deadline and report its findings to the 53rd Statistical Commission. Following kinetic engagement by the EG-ISGI, with the kind support of regional focal points from UN Regional Commission, the Regional Committees of UN-GGIM and other additional responses were received, substantially improving the response rate from regions previously underrepresented by the survey; Importantly, these include more equitable responses from low- and middle-income MS.

The results in this report are based on a data extract from the survey as of 24 December 2021. The survey will remain open for additional contributions for probably another year; this will assist the EG-ISGI in identifying and reporting significant changes to the prevailing trends identified in this report.

³ <https://unstats.un.org/unsd/statcom/52nd-session/documents/>



Response

In total, 111 complete replies were submitted from 95 MS. Roughly half of the MS submitted one coordinated reply from NSOs, NGIAs and/or other organisations, whereas the other half of the MS submitted singular replies representing only one organisation. From 20 MS, more than one reply was submitted, and from 48 MS, only one reply representing one of the organisations were submitted. There was a slight overrepresentation of responses from NSOs. Coordinated responses from NSOs and NGIAs, together with single NSOs, amounted to 77 MS. The total figure for NGIAs (including combined answers) was 64 MS. "Other organisations" were involved in replies from only 9 MS.

In total, 47 % of the UN MS produced a response to the survey. There were significant regional differences in the response rate. The highest response rate was obtained for UN-GGIM: Americas, where 66 % of the MS responded. UN-GGIM: Africa had the lowest response rate, where only 22 percent of the MS responded. However, it should be noted that the response rate has improved significantly since the compilation of the preliminary report. Globally, the response rate rose from 38 to 47 %. For UN-GGIM: Africa and UN-GGIM: Arab States, the share of responding MS has doubled.

Number of responding Member States and response rate by UN-GGIM region*

UN-GGIM regions	Member States	Responding Member States	Response rate (%)
UN-GGIM: Asia and the Pacific	62, [15]	23	37
UN-GGIM: Americas	38, [2], (9)	25	66
UN-GGIM: Arab States	22, [8], (1)	14	64
UN-GGIM: Europe	56, [15]	35	63
UN-GGIM: Africa	51, [8]	11	22
Total	203	95	47

**Please note that some MS are mirrored in more than one UN-GGIM region. Accordingly, their responses have been counted in more than one region. The number of MS mirrored with other UN-GGIM regions are indicated in []. The global total is calculated without overlap. The number of MS per UN-GGIM region, on which the response rate has been calculated, includes associated members and non-member state observers. The number of associate members and non-member state observers is indicated in ().*

The previous low response rates somewhat limited the EG-ISGI in drawing unbiased conclusions from the survey. In the initial analysis, the EG-ISGI is concerned that a weaker number of replies further exacerbated this problem from low- and middle-income countries, primarily within Africa, Asia and the Pacific, and Arab States' regions, which added further bias and skewed responses to represent high-income countries.

However, following kinetic engagement with regional focal points, the challenge of represented regions was somewhat lessened, with an equal representation from MS in terms of their economic status. As such, the EG-ISGI has greater confidence in the survey analysis and its conclusions. Importantly, it is this analysis and conclusions that will inform the EG-ISGI's future work, underscoring that even if countries have not yet submitted, responses to the survey will be useful to help identify the global implementation and operationalisation of the GSGF while also offering MS a tool with which to assess their national capacity to integrate statistical and geospatial information.

Results

Awareness about the GSGF and the IGIF

To measure the awareness of the Global Statistical Geospatial Framework (GSGF) and the Integrated Geospatial Information Framework (IGIF) at the country level, survey respondents were asked to self-assess the awareness of both these frameworks along a scale ranging from 0-5, where 0 represents no awareness at all and 5 represents a high degree of awareness. In addition, respondents were asked to rate the awareness by the following categories of organisations:

- NSOs
- NGIAs
- Combined NSOs/NGIAs
- Rest of government/other public bodies

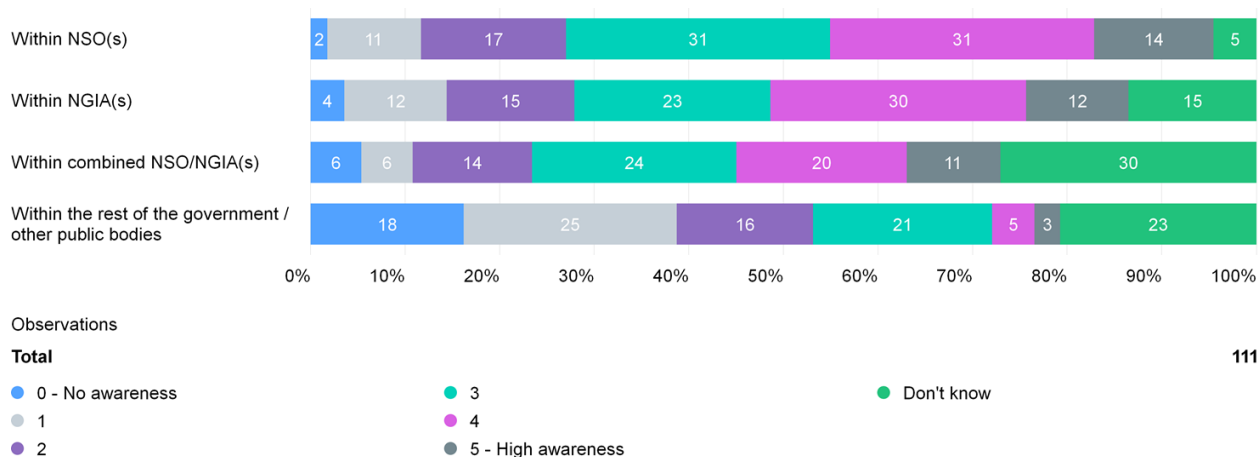
When interpreting the level of awareness by type organisation, it is important to keep in mind that the respondents were asked to rate the awareness within *all* organisations listed in the question, not just their organisation. For coordinated responses (representing the coordinated opinion of more than one organisation), we assume that the level of awareness has been discussed between organisations. In single responses (representing only one organisation), a relatively high degree of respondents chose to use the option "Don't know" for statements regarding other organisations than their own.

Based on all replies, an average value gives an overall awareness rating of 2.75 for the GSGF and 2.63 for the IGIF. The average figure is useful as an indicator to periodically review; however, this does not fully articulate the richness of insights to enable an understanding of how well settled these frameworks are at the national level. In contrast, the rating and breakdown by organisation give more informative data.

The replies indicate that the highest level of awareness about the GSGF (rating 4 or 5) is found within NSOs. In contrast, the lowest awareness is found within the rest of government/other public bodies. Further, responses pertaining to the IGIF indicate that the highest awareness about the IGIF (rating 4 or 5) is found within NGIAs. Again, the lowest awareness is found within the "rest of government/other public bodies".

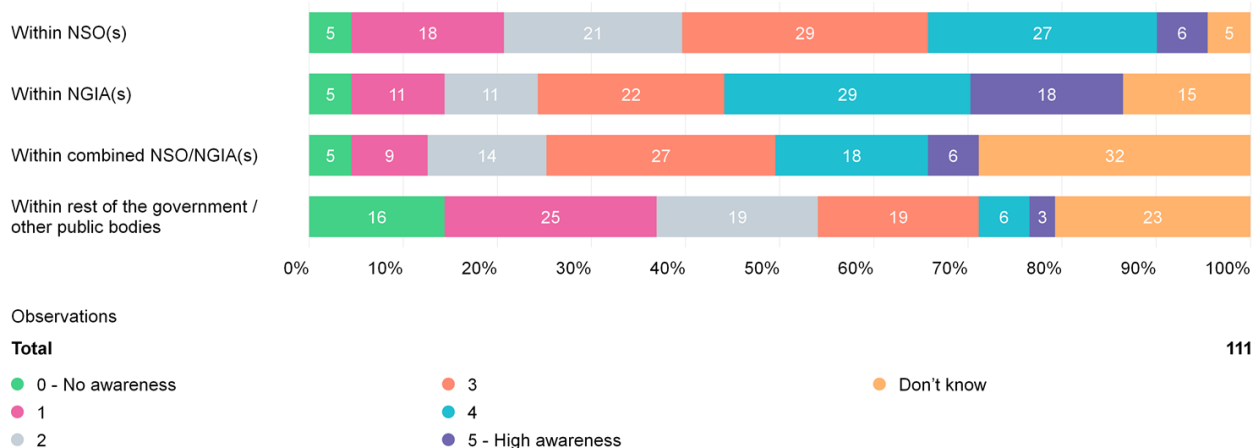
B.1 Awareness of the Global Statistical Geospatial Framework

"How would you describe the level of awareness about the GSGF among institutions in your country?"



B.3 Awareness about the Integrated Geospatial Information Framework

"How would you describe the level of awareness about the IGIF among institutions in your country?"

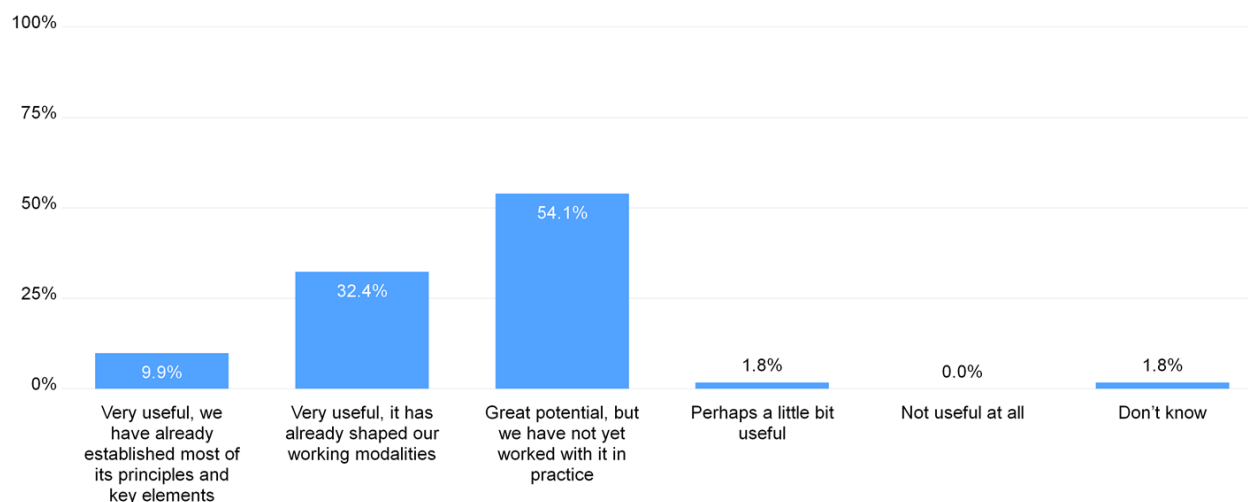


As expected, there is a quite broad group of respondents for both frameworks indicating that the awareness is neither low nor high (a neutral rating of 3). Interestingly, rather few respondents indicate "no" or "very low awareness", with the exception of the category "The rest of government/other public bodies", for which the awareness of both frameworks is rated as "non" or in the lower range of the scale.

As a follow-up question on the awareness, respondents were also asked to rate the usefulness of the GSGF for facilitating statistical-geospatial integration in their country. The respondents were given a fixed set of options to choose from. The options were designed to reflect a combination of perceived usefulness and maturity in implementation and operationalisation.

B.2 Usefulness of the Global Statistical Geospatial Framework

"How useful do you consider the GSGF to be for facilitating statistical-geospatial integration in your country?"



Observations

Total

111

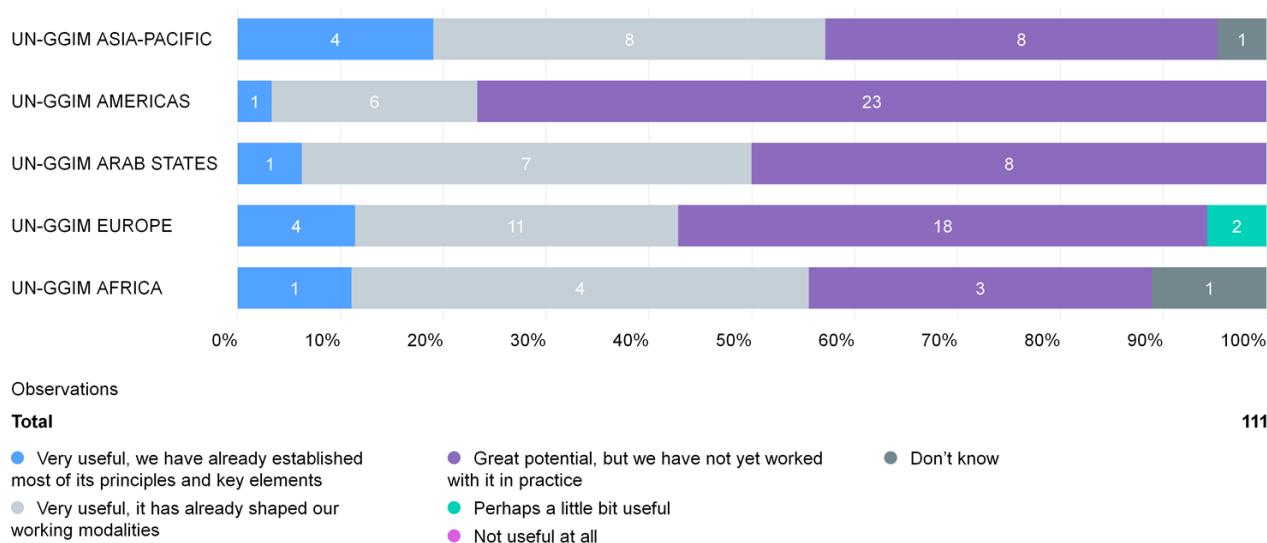
The responses suggest strong confidence in the GSGF by MS. Almost 55 % of the respondents indicated that they see great potential in the GSGF, though they have not yet started to work with it in practice. Roughly one-third of the respondents considered the GSGF useful and reported that it has already shaped their working modalities. Finally, 10 % of the respondents acknowledged the usefulness of the GSGF and reported that they have already established most of its principles and key elements. Zero (0) % of the respondents considered the framework "not useful at all", and only a few %ages expressed concerns by using the option "perhaps a little bit useful".

In four out of five UN-GGIM regions, the most frequent reply was option three ("Great potential, but we have not yet worked with it in practice"). In all five UN-GGIM regions, at least one respondent selected option 1 ("Very useful, we have already established most of its principles and key elements").



B.2 Usefulness of the Global Statistical Geospatial Framework - by UN-GGIM Region:

"How useful do you consider the GSGF to be for facilitating statistical-geospatial integration in your country?"



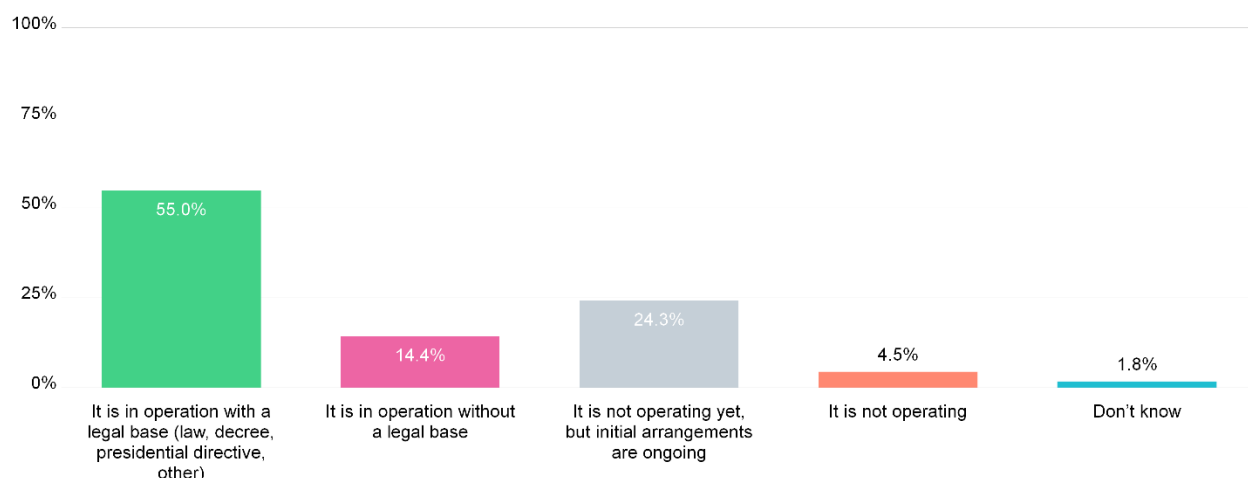
Organisational aspects of geospatial data management

Section C aimed to capture information about the current situation and practice in MS. The result from section C is divided into three thematic blocks in this report. The first block reports on organisational aspects of geospatial data management.

In question, C.1 respondents were asked to describe the mode of operation of their national spatial data infrastructure/national initiative for geospatial information management (hereafter referred to as NSDI). The overwhelming majority of respondents, 55 %, replied that their NSDI is in operation supported by a legal framework, which means it is operating under a law, decree or directive. Some 15 % considered their NSDI operational but without the conduct of a legal framework. Altogether almost one-third of the respondents reported that they do not have an operating NSDI; however, the majority of these respondents replied that there are arrangements ongoing to set up an operational NSDI.

C.1 National spatial data infrastructure/national initiative for geospatial information management

"How would you describe the national spatial data infrastructure/national initiative for geospatial information management in your country?"



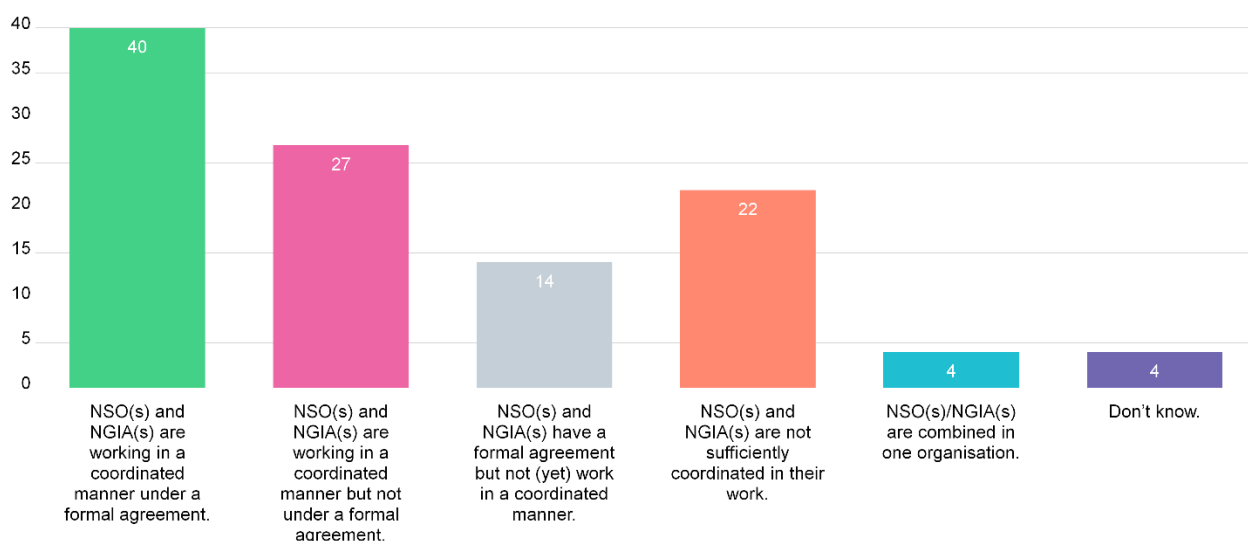
Observations

Total

111

C.2 Working relations between NSO(s) and NGIA(s)

"How would you describe the working relationship between NSO(s) and NGIA(s) in your country?"



Observations

Total

111

In question C.2, respondents were asked to describe the working relations between National Statistical Offices (NSOs) and National Geospatial Agencies (NGIAs). Some 40 % of the responses indicated that NSOs and NGIAs are working together in a coordinated manner under a formal agreement. An additional 27 % of the respondents replied that they do work in a coordinated manner, but a formal agreement does not

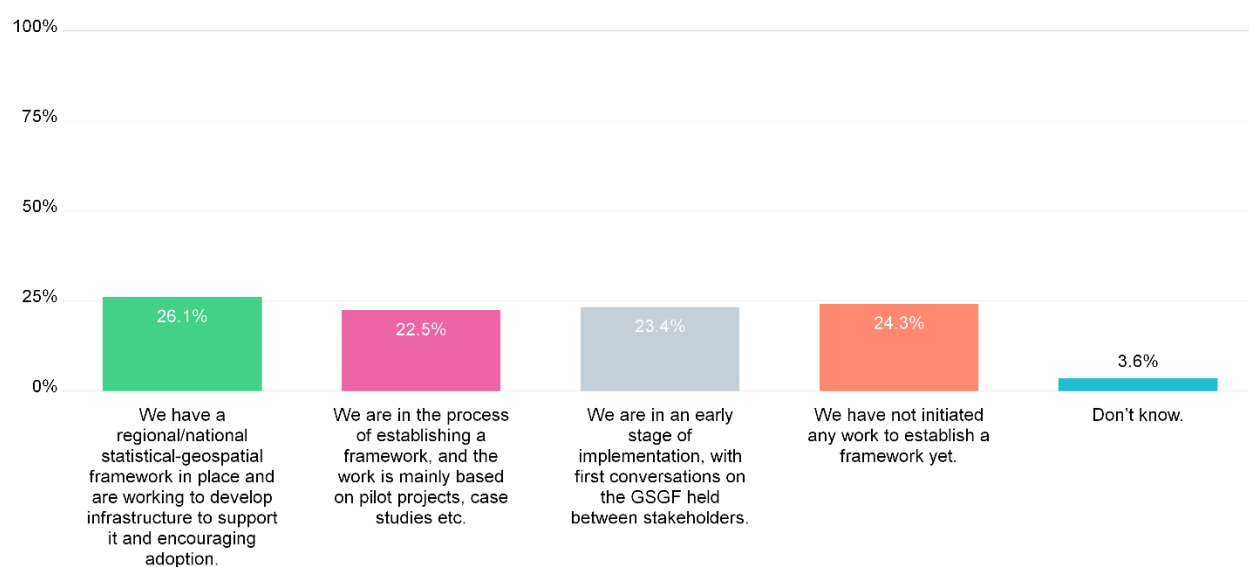


support the collaboration. Altogether, one third reported that NSOs and NGIAs are not sufficiently coordinated in their work. Less than half of these respondents report that lack of coordination occurs despite formal agreements signed between organisations.

The aim of question C.3 was to research if and to what extent national statistical-geospatial frameworks have been implemented in MS. Some 26 % of the respondents replied that they have regional/national statistical-geospatial frameworks already in place, and another 23 % reported that they are in the process of establishing such frameworks. Slightly less than 50 % of the respondents indicated that there is no statistical-geospatial framework in place and that they are either in a very early stage of implementation or that there is currently no work initiated in the direction towards implementation.

C.3 Implementation of national statistical geospatial frameworks

"How would you describe the implementation of a national statistical-geospatial framework in your country?"



Observations

Total

111

Data sources and governance

Questions C.4-C.7 + question C.12 (about use of administrative data) were designed to research the state-of-play concerning data sources and governance of data.

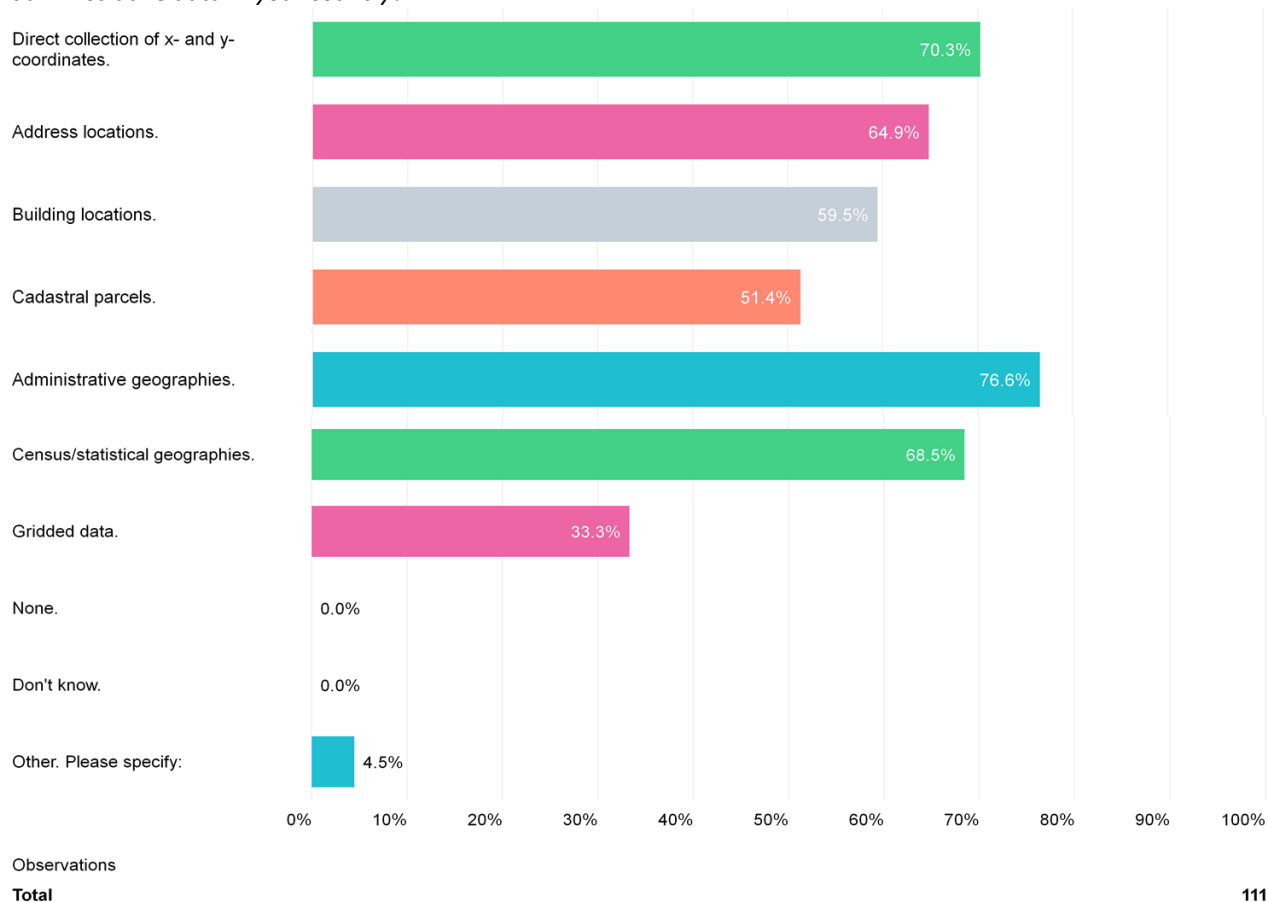
Question C.4 concerns fundamental geospatial information for geocoding statistical and/or administrative data. Multiple options were available for this question as one organisation typically use a range of different data sources.

The most common categories of data used for geocoding seem to be administrative geographies, which 76% of the respondents mentioned. The second most frequently mentioned category was a direct collection of x- and y-coordinates, followed by Census/statistical geographies. However, when broken down regionally, the picture is quite diverse. In the regions of UN-GGIM Asia-Pacific and UN-GGIM Arab States, the most common data source used for geocoding is administrative geographies. In UN-GGIM

Americas, the most common data source is Census/statistical geographies, whereas in UN-GGIM: Europe, address location data is most common. In the UN-GGIM Africa region, it is observed that the direct collection of x-and y-coordinates is the most frequent method/data source.

C.4 Fundamental geospatial data for geocoding

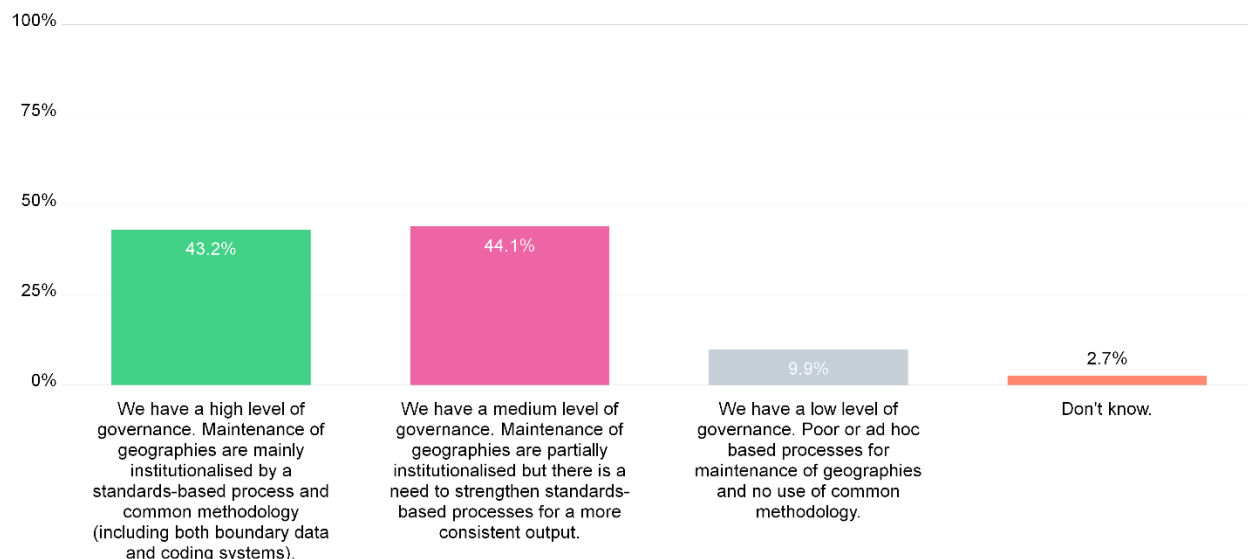
"What fundamental geospatial data are being used to geocode (sometimes called georeference) statistical and/or administrative data in your country?"



Question C.5 aimed to describe the maturity of administrative and statistical geographies governance. Respondents were asked to rate the governance level according to one of the three categories "high", "medium", and "low". A high level of governance assumes institutionalised and standards-based maintenance of geographies, whereas low means poor and *ad hoc* based maintenance processes. Slightly less than half of the respondents indicated a high level of governance. Only 10 % indicated a low level of governance.

C.5 Governance of administrative and statistical geographies

"How would you describe the governance of administrative and statistical geographies in your country?"



Observations

Total

111

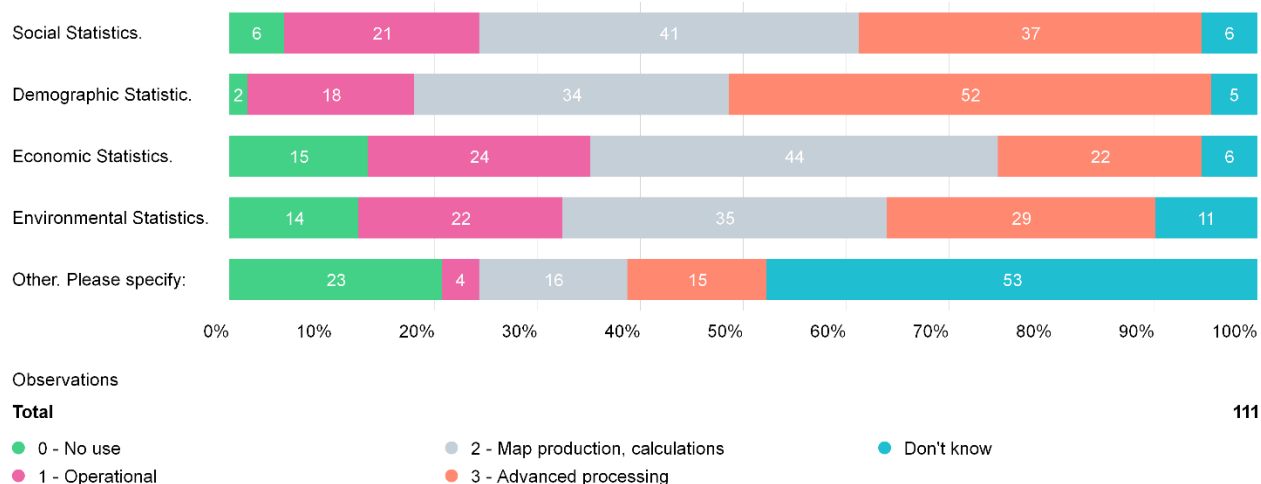
Question C.6 was designed to assess the maturity of the use of geospatial information in the production of statistics within different statistical domains. The respondents were asked to rate the use along a four-grade scale where 0 means no use at all, 1 means operational (but basic) use, 2 means somewhat more sophisticated use including map production and processing and 3 means advanced data processing. The question listed four main domains, but respondents could also list other domains.

As expected, there are quite substantial differences between statistical domains in terms of maturity to harness geospatial information. The domain that gained the most advanced scores was "demographic statistics", whereas "economic statistics" got the lowest number of advanced scores among the four fixed domains. "Economic statistics" and "environmental statistics" also got the highest number of zeros, indicating that geospatial information is not used at all. However, it should be noted that a broad group of respondents indicated that geospatial information is true as part of the statistical production on a fairly sophisticated level in all of the four domains listed.



C.6 Use of geospatial information in the production of statistics

"To what extent and level is geospatial information used in the production of statistics in different statistics domains?"



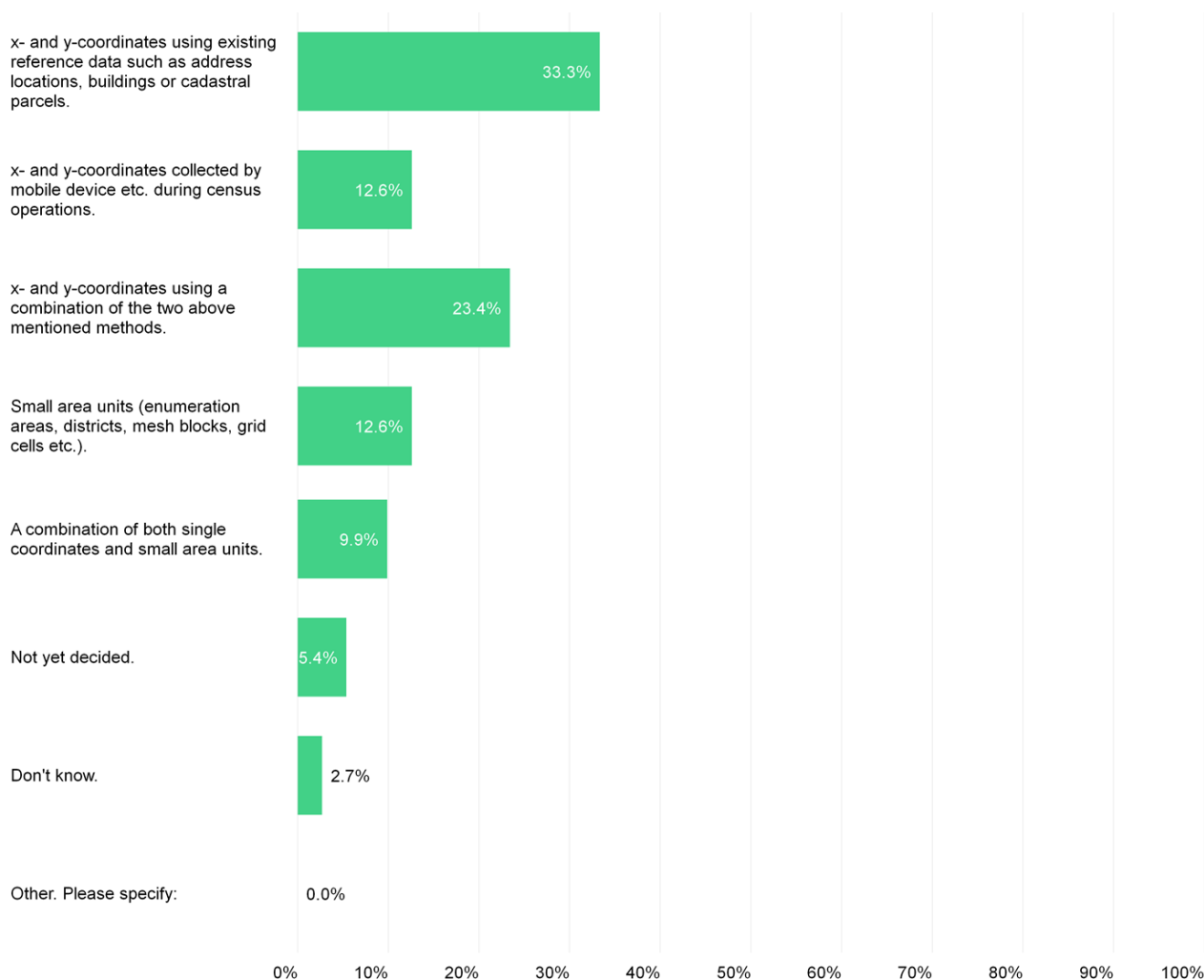
In question, C.7 respondents were asked to indicate the lowest possible geographical level at which their country will capture and geocode unit record data in the next Population and Housing Census. Several fixed options were presented, and the respondents were only allowed to choose one option. Please note that the question refers to the lowest level for *capturing* and *geocoding* Census microdata, not the lowest level for permanent data storage or dissemination of data.

The rationale behind the question is two-folded; firstly, to find out if there is an existing infrastructure of geospatial reference data that will be utilised in Census operations and secondly, to find out if this infrastructure of geospatial reference data enables georeferencing of Census data to an exact x and y location (point-based georeferencing).

A quite significant share of the respondents, one third, indicated that they would use existing geospatial reference data (such as addresses and buildings) to obtain an exact location for statistical units in Census operations. A smaller share, 13 %, reported that they would directly collect geographic location from utilising mobile devices (typically recording of GPS coordinates). An additional 24 % reported that they would use a combination of the two methods mentioned above. Altogether, this shows a high share of MS with capability for a point-based georeferencing of Census data. Only 13 % of the respondents report that enumeration areas, mesh blocks, and other similar types of small areas geography are the lowest possible geographical level at which they will be able to capture and geocode unit record data in their next Population and Housing Census.

C.7 Lowest geographical level to capture and geocode unit record data in the next Census

"What is the lowest possible geographical level at which your country will be able to capture and geocode unit record data in the next Population and Housing Census?"



Observations

Total

111

The final question related to data sources and governance was C.12, which is related to using administrative data sources to produce spatially enabled data or for geostatistical purposes within the production of official statistics.

Respondents were asked to rate their current uptake on administrative data sources according to three distinctive options: Administrative data sources are already implemented; not yet implemented but a prospect for implementation in the near future; or, not implemented with no prospects for this to happen anytime soon.

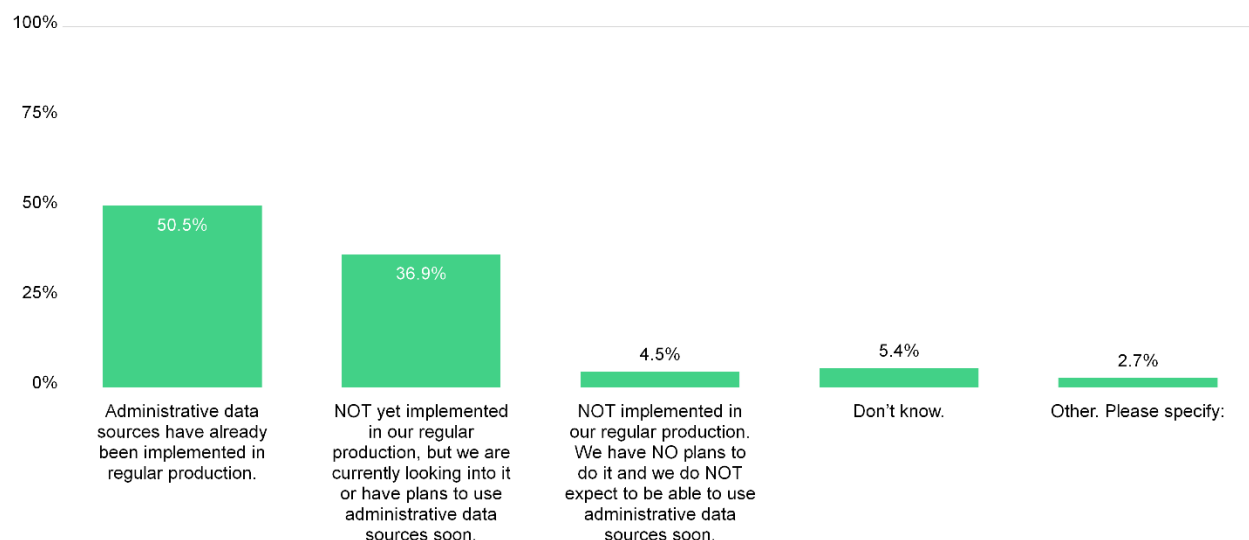
Respondents were asked to clarify the type of administrative data sources used. Though not knowing the source of data could potentially limit the usefulness of the replies, it is interesting to consider that 50 %



of the respondents report that administrative data sources have already been implemented in regular production. Less than 5 % of the respondents indicate that administrative data sources are not used and that there are no current plans to start using them in regular production.

C.12 Use of administrative data sources

"How would you describe the use of administrative data sources to produce spatially enabled data or for geostatistical purposes within the production of official statistics?"



Observations

Total

111

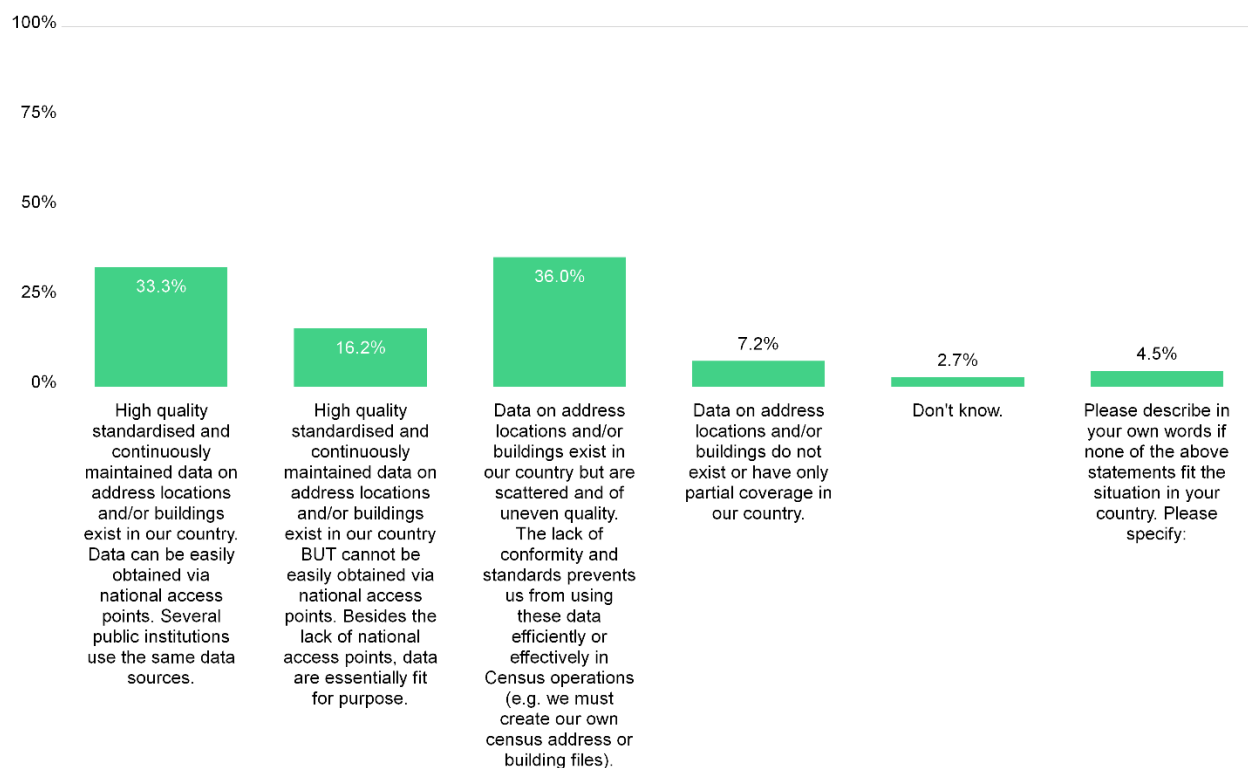
Performance and sustainability of infrastructures and data management environments

Questions C.8-C.11 were created to follow up on the questions presented in the previous section (*Data sources and governance*), targeting the geospatial information infrastructure's performance and the sustainability of the data management environment for geocoding.

In question C.8, respondents were asked to select one statement that best described the data infrastructure used for geocoding and integrating statistical and geospatial data in their country. The response options were fixed and ranged from a high-performance option, more or less ideal in maintenance and data harmonisation, to low-performance options indicating a lack of conformity and effectivity. Some 33% of the respondents indicated that they have a well-functioning data infrastructure for geocoding and integration of statistical and geospatial data, including features like access to harmonised referenced data via national access points. The most common response, 36%, indicated that they do have an operational data infrastructure, but it suffers from a lack of conformity and uneven quality across datasets.

C.8 Sustainability of the data infrastructure for geocoding and integration of statistical and geospatial data

"How would you describe the sustainability of the data infrastructure used for geocoding and integration of statistical and geospatial data in your country?"



Observations

Total

111

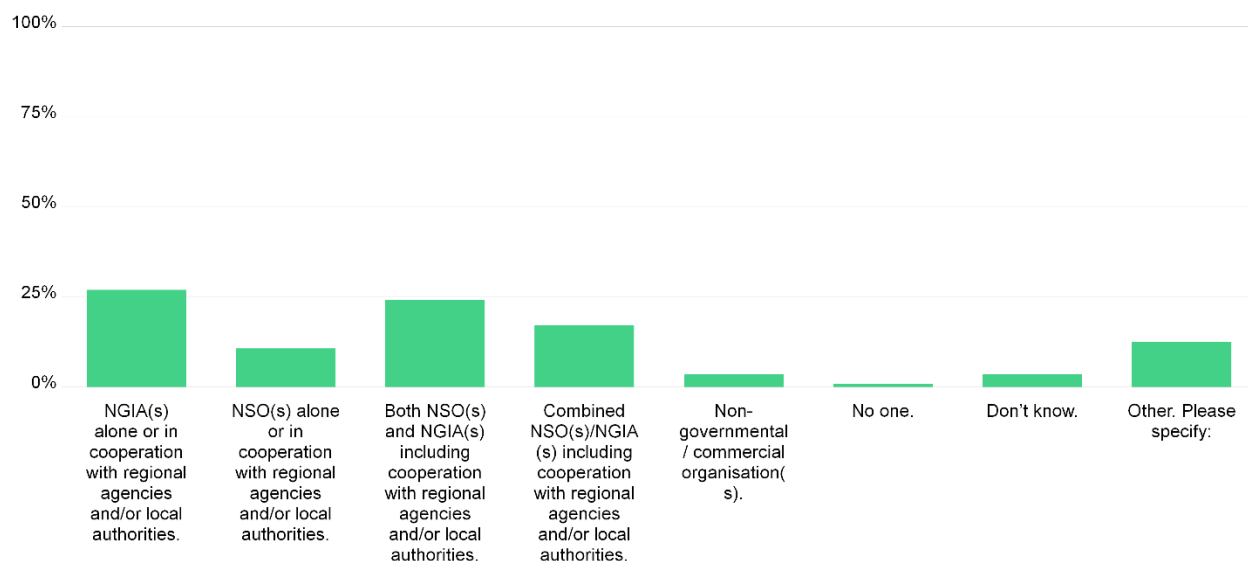
To understand the conditions for creating and maintaining geospatial reference data, in question C.9, respondents were asked to describe how the production of geospatial reference data is organised. Several fixed response options were given on which organisation(s) are responsible for creating and maintaining point-based reference data (e.g. location-enabled address, building or property registers).

The most common arrangement seems to be that the NGIAs (alone or in cooperation with regional/local agencies) are responsible (27%). The second most common arrangement seems to be a shared responsibility between NGIAs and NSOs (alone or in cooperation with regional/local agencies). However, as reflected in the open response option, several country-specific arrangements include ministries and agencies (other than NSOs and NGIAs) with special tasks to maintain registers and data repositories.



C.9 Responsibility for creating and maintaining point-based reference data

"Which organisations are responsible for creating and maintaining the point-based reference data (e.g. location-enabled address, building or property registers) that are used in your country to geocode statistical unit record data?"



Observations

Total

111

Question C.10 aimed to research the performance of the data management environment for geocoding unit record data. Please note that this question was intended only for NSOs or any other organisation responsible for undertaking significant geocoding tasks.

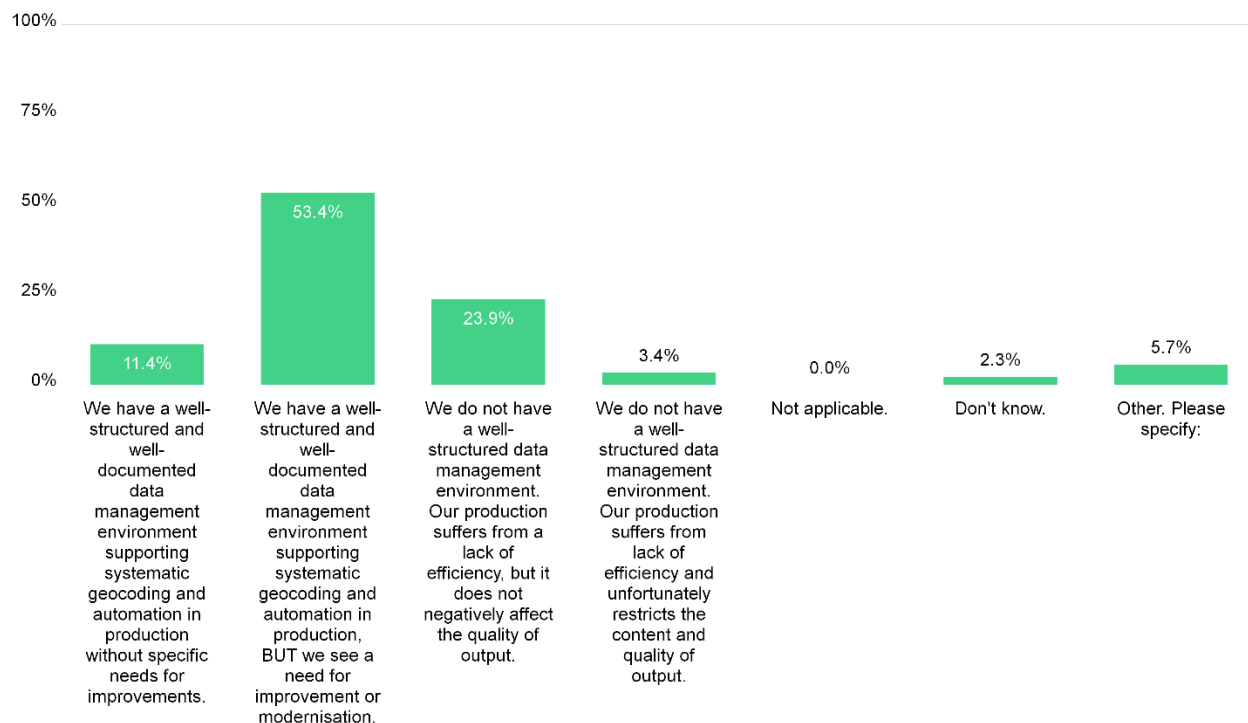
Respondents were asked to select one statement that best described the sustainability of the data management environment deployed for geocoding. Similar to question C.8, the response options were fixed and ranged from a high-performance option, more or less ideal, to low-performance options indicating a lack of structure and documentation.

Relatively few respondents, 11%, choose the ideal, high-performance option. The vast majority of respondents, 53%, indicated a rather well-functioning and well-documented environment but with a certain need for improvement and automation. Altogether 27% of the respondents considered their data environments as not well-functioning, of which 3% also claimed that the lack of sustainability has a negative impact on content and quality of the output.



C.10 Sustainability of the data management environment for geocoding unit record data

"How would you describe the sustainability of the data management environment for geocoding of unit record data?"



Observations

Total

88

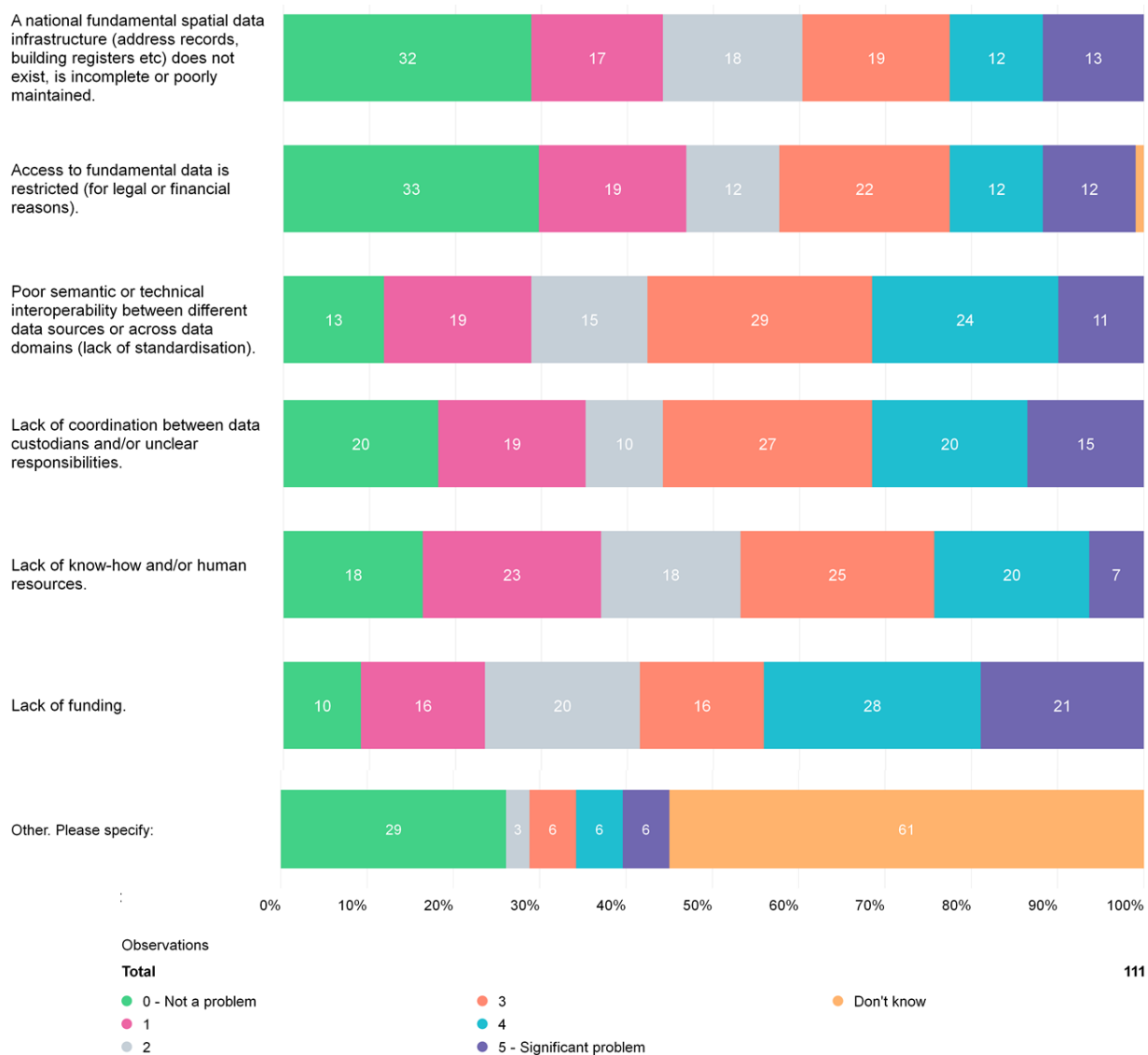
Question C.11 aimed to investigate obstacles that may prevent an effective and systematic integration of statistical, administrative and geospatial data. A fixed list of six "obstacles" was presented, and the respondents were asked to rate all the obstacles from 0 (not a problem at all) to 5 (a significant problem).

The obstacle that was rated as most significant and second most significant was lack of funding. Almost 50% of the respondents assigned this obstacle a 4 or a 5. On the positive account is that 32 % of the respondents also rated "lack of a national fundamental geospatial data infrastructure and restricted access to fundamental geospatial data" as a non-significant obstacle.



C.11 Obstacles to statistical-geospatial data integration

"What are the obstacles in your country that prevent an effective and systematic integration of statistical, administrative and geospatial data?"



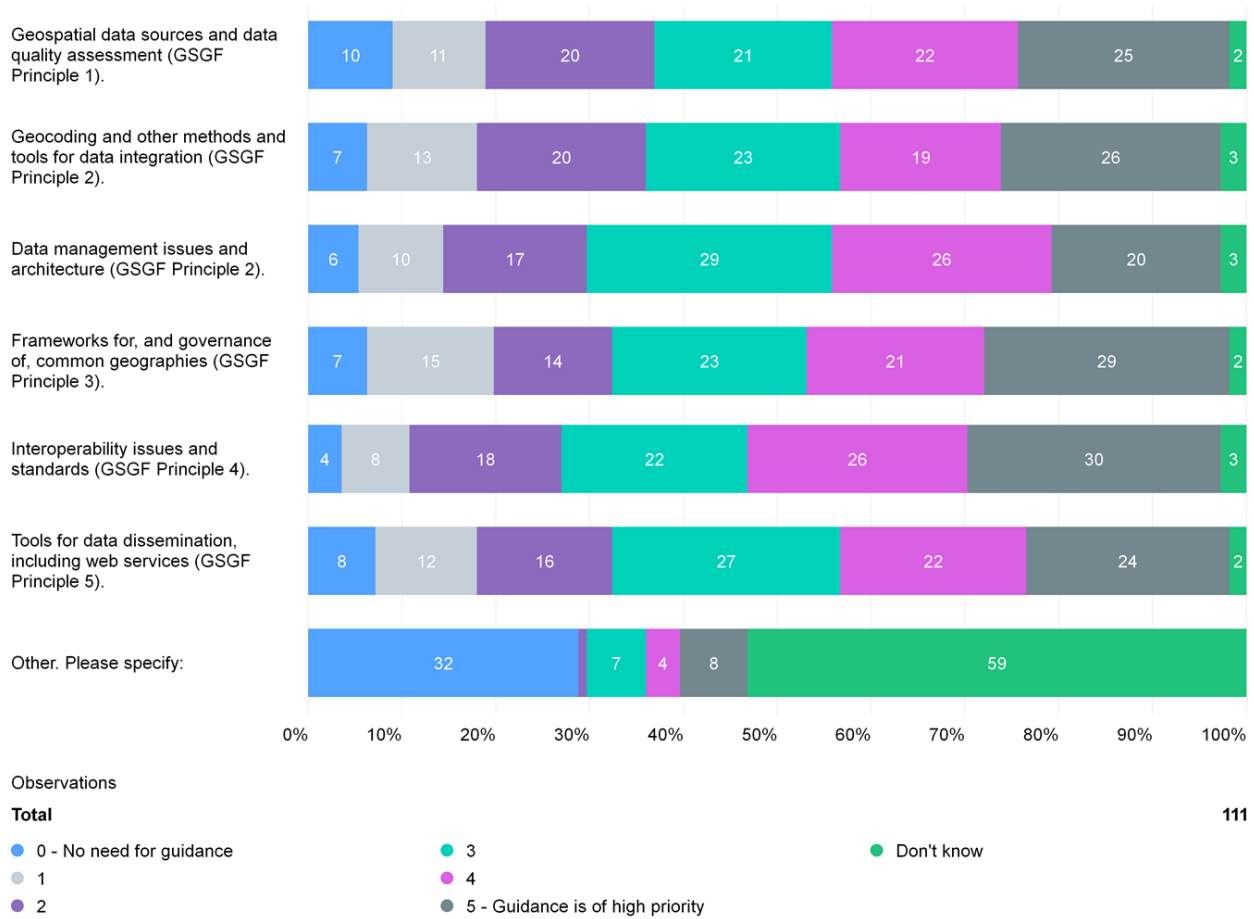
Need for guidance

Question D.1 addressed the need for guidance loosely following the GSGF's five principles. Respondents were presented to six fixed options which they were asked to rate from 0 (no need for guidance) to 5 (guidance is of high priority). The outcome of this question is a general request for guidance without a clear orientation towards any particular principle of the GSGF. Considering the two highest rankings (4 and 5), there is a slight emphasis on the need for guidance on interoperability issues (Principle 4). For the rest of the principles, the variations are insignificant. A fair interpretation of this response is that the requested guidance need to address the full body of statistical-geospatial data integration.



D.1 Need for guidance

"Please rate the following themes to help the EG-ISGI prioritise its work so the most relevant guidance can be developed and provided to countries to support the implementation of the GSGF."



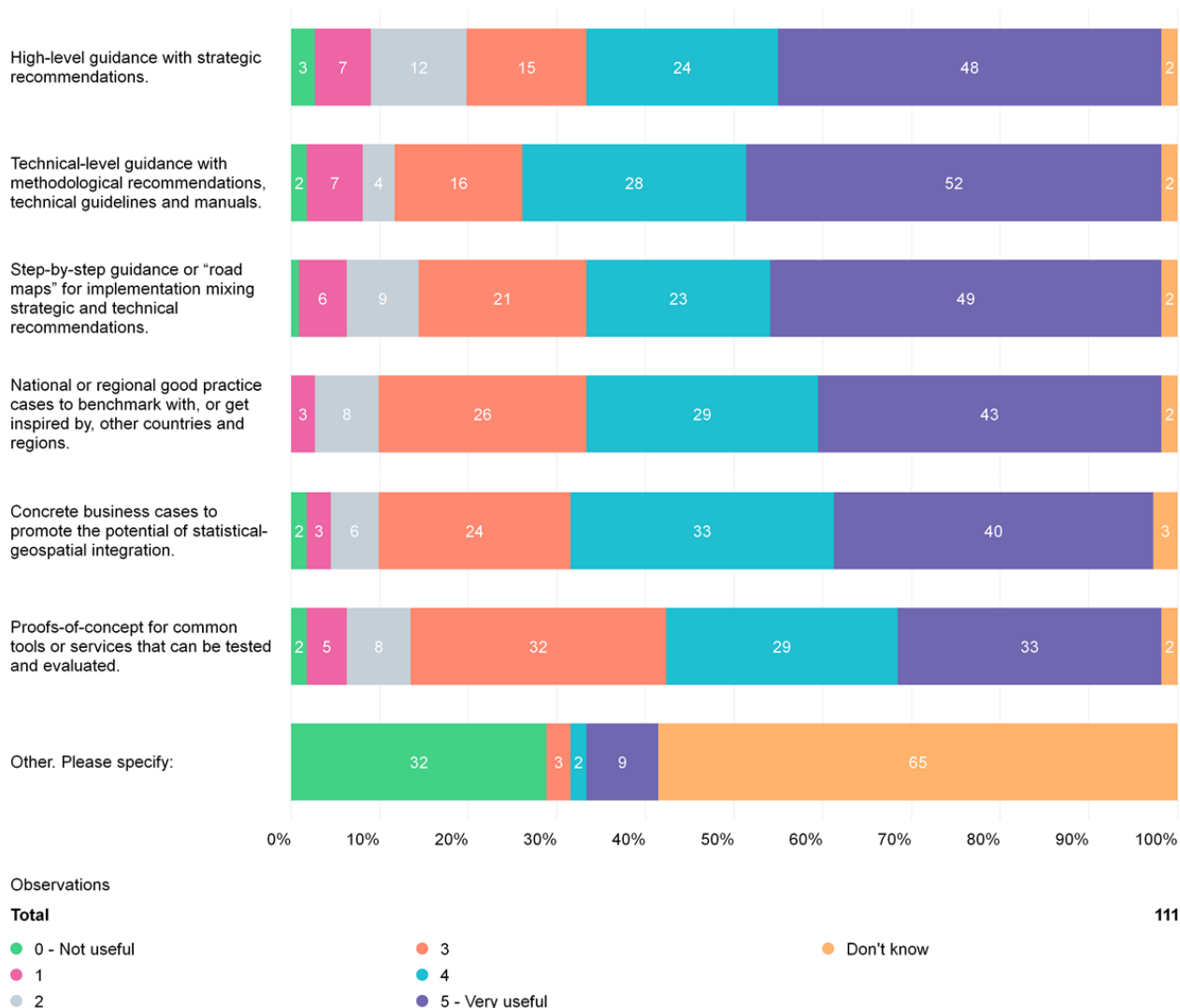
In question, D.2 respondents were asked to indicate what type of guidance they consider most useful to implement the GSGF. Respondents were presented with six fixed options which they were asked to rate from 0 (not useful) to 5 (very useful).

Similar to question D.1, the responses do not give a clear path but rather a general message that guidance is critical. However, the request for technical-level guidance, guidelines and manuals stands out as more prominent than the other categories.



D.2 Type of guidance

"What type of guidance would you consider most useful to implement the GSGF on a national level effectively?"



Need for capacity building and training

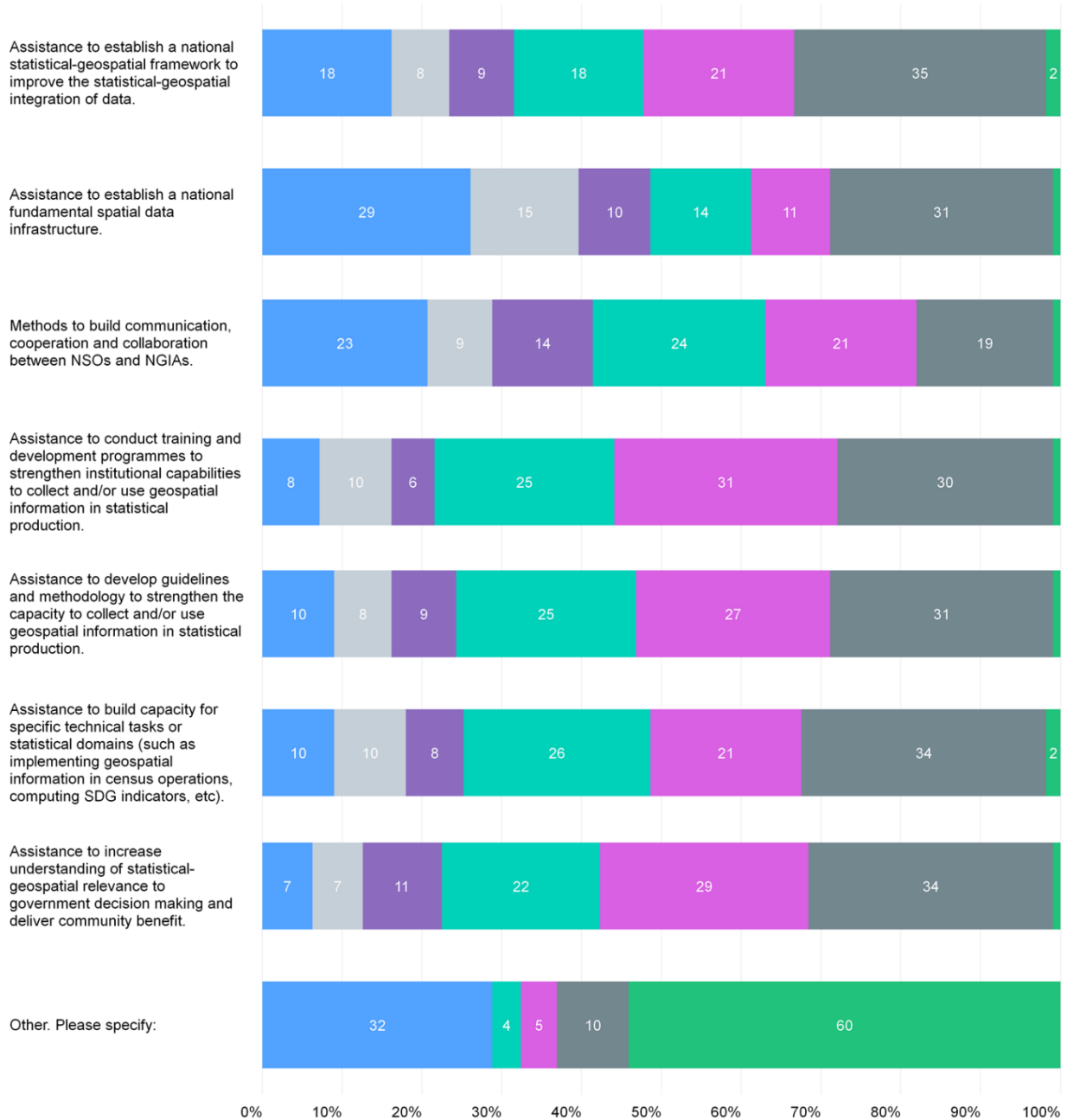
Question D.3 addressed the need for capacity building. Respondents were presented with seven fixed thematic options, which they were asked to rate from 0 (no need) to 5 (urgent need).

Five of the seven thematic categories were rated as urgent (5) or close to urgent (4) by at least 40 % of the respondents. Interesting to note is that the most urgent option, rated as urgent or close to urgent by more than 55 % of the respondents, was the non-technical option "Assistance to increase understanding of statistical-geospatial relevance to government decision making and deliver community benefit".



D.3 Need for capacity building

"Do you see a need for capacity building in your country, and if yes, which themes are most crucial to cover?"



Observations

Total

111

- 0 - No need
- 1
- 2

- 3
- 4
- 5 - Urgent need

● Don't know

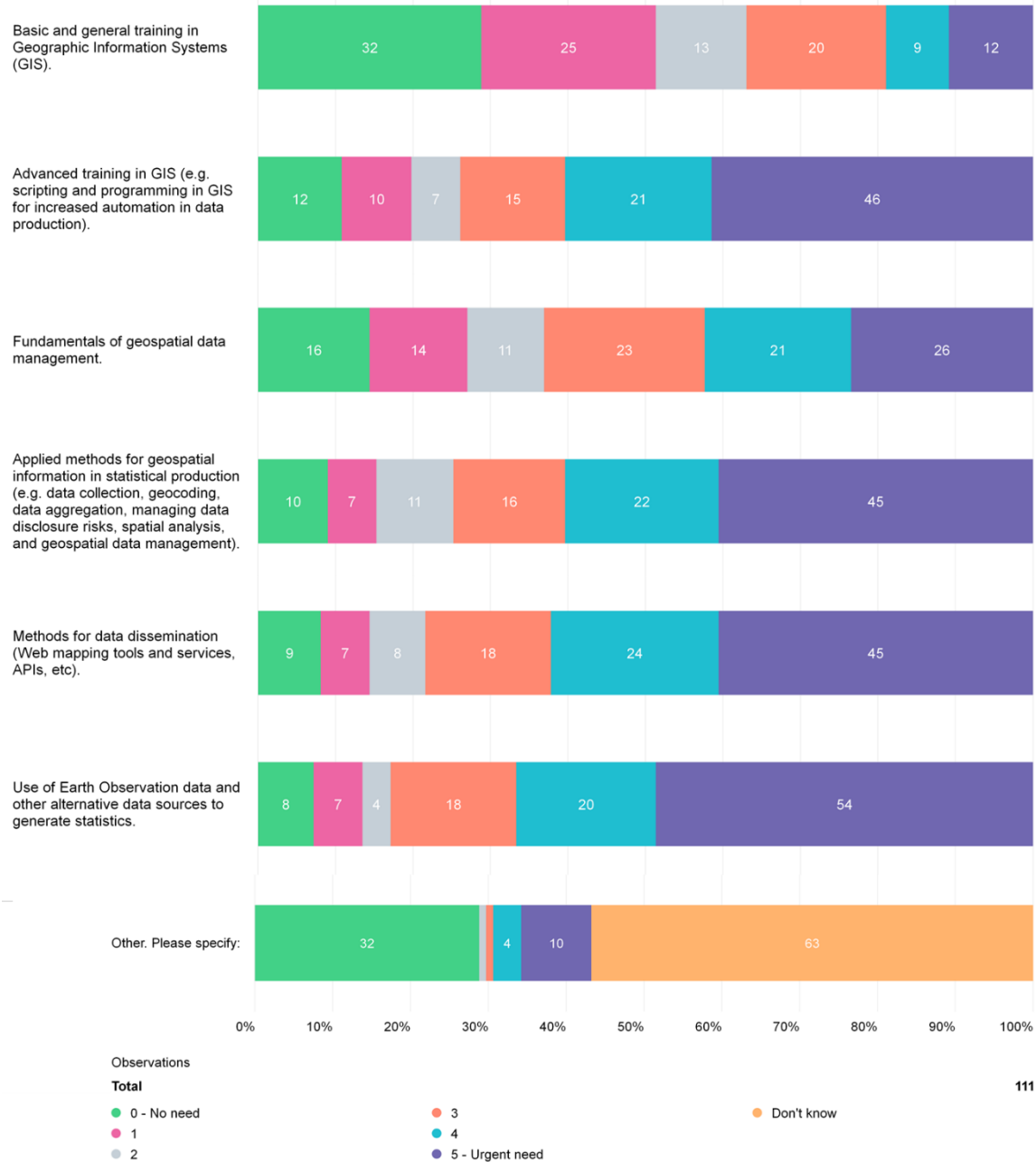


The options "Assistance to establish a national fundamental spatial data infrastructure" and "Methods to build communication, cooperation and collaboration between NSO and NGIAs" had the highest share of 0-rankings (no need).

In question D.4, the need for training was explored. Respondents were presented with six fixed thematic options, which they were asked to rate from 0 (no need) to 5 (urgent need).

D.4 Need for training

"Do you see a need for training in your country, and if yes, which themes are most crucial to cover?"



In analogy to question D.3, most of the options presented were considered urgent (5) or close to urgent (4) by a significant share (more than 50 %) of respondents. "Only basic and general training in GIS" and "Fundamentals of geospatial data management" were considered less urgent or not urgent at all by a significant share of respondents.

The top category was "Earth Observation data and other alternative data sources to generate statistics", which was rated urgent (5) or close to urgent (4) by over 65 % of the respondents.

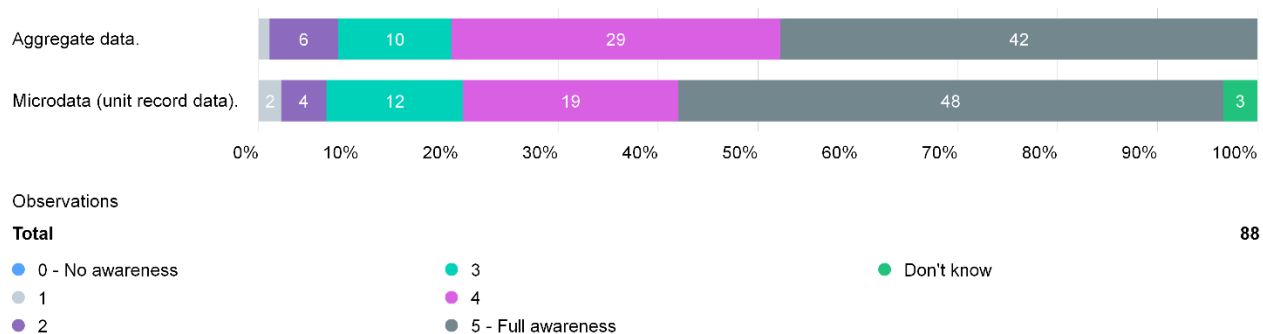
Management of privacy and confidentiality

Section E was a special module aimed to understand the prevailing management practices privacy and confidentiality issues when using, sharing or releasing geospatial data. This section was included on behalf of the EG-ISGI Task Team on confidentiality. The results from Section E are presented briefly in this report but will also be processed further by the EG-ISGI Task Team on confidentiality.

Question E.1 addressed the level of awareness within the NSOs of specific disclosure issues when using, sharing or releasing geospatially enabled data. Respondents were presented with two options (Aggregate data and microdata) which they were asked to rate the level of awareness for from 0 (no awareness) to 5 (full awareness).

E.1 Level of awareness of specific disclosure issues with geospatial data

"How would you describe the level of awareness, within your NSO, of specific disclosure issues when using, sharing or releasing geospatially enabled data?"

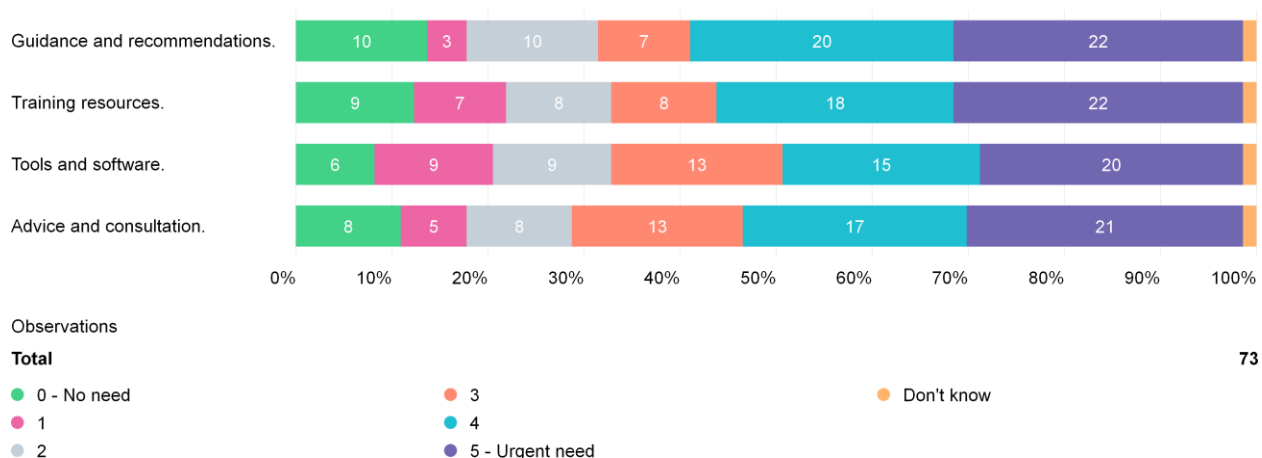


It was not surprising that the answers for aggregate data and microdata were only slightly different. Of the 88 respondents that completely filled Section E, only 17 rated the level of awareness with a 3 or lower for aggregated data and 18 for microdata. The vast majority rated for full awareness for both aggregate and microdata. In summary, these results suggest a very strong awareness of specific disclosure issues when dealing with geospatially enabled data.

Question E.7 addressed the current needs in capacity building for the management of confidentiality. Respondents were presented with four fixed thematic options, which they were asked to rate from 0 (no need) to 5 (urgent need).

E.7 Current needs in capacity building for the management of confidentiality

What are your current needs in capacity building for the management of confidentiality?



Guidance and recommendations: Only 11 out of 88 respondents stated no need for guidance and recommendations, whereas more than half (51 out of 88) reported an urgent need (meaning a 4 or 5 on the scale).

Training resources: Only 10 out of 88 respondents noted that they have no need for training resources, whereas more than half (48 out of 88) report an urgent need (meaning a 4 or 5 on the scale).

Tools and software: Only 7 out of 88 respondents observed satisfaction with their level of tooling and software, whereas more than half (46 out of 88) reported an urgent need (meaning a 4 or 5 on the scale).

Advice and consultation: Only 9 out of 88 respondents observed that they do not require advice and consultation, whereas more than half (49 out of 88) reported an urgent need (meaning a 4 or 5 on the scale).

In summary, on the one hand, a high level of awareness for the specific disclosure issues when using, sharing or releasing geospatially enabled data. On the other hand, there is a very strong need for all areas queried, i.e. guidance and recommendations, training resources, tools and software, and advice and consultation.

Comments and input from respondents

The EG-ISGI appreciates the open comments provided by respondents at the final stage of the survey. Many respondents took the opportunity to express general concerns about the lack of training and funding to adopt and implement frameworks for statistical-geospatial integration successfully. Some respondents also provided additional explanations and in-depth information supporting their considerations. Finally, there were also comments suggesting improvement in the design of questions to capture the broad variety of institutional arrangements in countries across the globe. These insights have provided the EG-ISGI with valuable, complementary information, especially regarding the non-quantifiable aspects of statistical-geospatial data integration.

Conclusions

As discussed in the background section, the previous low response rate experienced by the survey could have induced problematic bias when interpreting the data. While a lack of coverage in some regions does not necessarily have a significant impact on the answers to all questions in the survey, some responses are crucial and will undoubtedly inform the workplan of the EG-ISGI (particularly questions concerning the level of awareness as well as the need for guidance, training and capacity building), and are more likely prone to change the views with a broader base of respondents.

After compiling the preliminary results for the eleventh session of UN-GGIM in August 2021, additional responses have been received, balancing some of the regional response bias reported in the preliminary results. For UN-GGIM: Africa and UN-GGIM: Arab States, the share of responding Member States has doubled. As expected, a broader representation of low- and middle-income countries slightly changes the response patterns. For example, the total average describing the level of awareness of the GSGF has dropped from 2.80 to 2.75 since the preliminary compilation. The EG-ISGI considers that the downward trend of responding MS is indicative that further work must be undertaken to promote and raise awareness of the GSGF through its efforts to strengthen interlinkages with relevant groups in both the statistical and geospatial communities – a key objective of its workplan 2022 – 2024.

Alongside the challenge of regional bias is that, in sum, there is a good overall balance between responding organisations. While there is a slight skew towards NSOs having a greater awareness of the GSGF when compared to NGIAs alone. Notably, there is also a high degree of coordinated responses where two or more organisations have provided one consolidated reply. The recognition of the importance and mutual benefits of both the GSGF and the IGIF is solidly noted within the survey, yet the EG-ISGI believes that the awareness of both should and could be higher. As expected, the awareness of the GSGF is considered higher among NSOs, whereas awareness of the IGIF seems more settled within NGIAs. The EG-ISGI underscored this point within its report to UNSC⁴ in that "the EG-ISGI has further identified the interlinked and interconnected nature [of the GSGF and IGIF], noting that the one fosters an enabling environment for the other". Overall, the responses reflect strong confidence in the GSGF and the IGIF. The usefulness of the GSGF is ranked high across all regions. The area of coordination between NSOs and NGIA's is an area which the EG-ISGI urges all Member States to strengthen to improve their ability to integrate statistical and geospatial information; the GSGF is the framework that offers Member States a practical mechanism by which to achieve this goal.

⁴ <https://unstats.un.org/unsd/statcom/53rd-session/documents/2022-28-GeoInfo-E.pdf>

United Nations Expert Group on the Integration of Statistical and Geospatial Information

In examining national arrangements and prevailing practices, a high degree of Member States report operational NSDIs, and good working relationships between NSOs and NGIAs. Lack of access to fundamental geospatial information is not reflected as a significant problem. Yet, documentary evidence from the compilation of national and regional implementation of the GSGF within the GSGF Implementation Guide denotes that there are still significant areas where Member States can strengthen their access and use of data. There are also positive reports on the maturity of data infrastructures and data management environments and indications of significant momentum towards fully georeferenced Censuses around the globe.

In conclusion, the preliminary results from the survey reflect a strong request for implementation guidance, training initiatives and capacity building. This sentiment was expressed by respondents from all regions, from more experienced Member to those with lesser mature arrangements for statistical-geospatial integration.

Further, in reflecting clear, intrinsic trends concerning global progress towards implementing and operationalising the GSGF, the survey underscored the importance of strengthening the integration of statistical-geospatial integration as a means of supporting national development priorities and the implementation of global development agendas, including the 2020 Round of Population and Housing Censuses and the 2030 Agenda for Sustainable Development. In considering the survey's outcomes, the EG-ISGI will aim to continue to further its analytical work and consider gaps in responses as a rough measure of the overall level of capacity of a region, with the results being a beacon that guides the implementation of its workplan 2022 – 2024.

As the hosts of the survey platform, Norway has agreed to maintain access to the survey for Member States until the forthcoming intersessional period. Accordingly, the EG-ISGI urges regional stakeholders to liaise directly with the Member States in their regions to encourage them to complete the survey and use the survey results to inform decision-making in their regions. As the EG-ISGI develops further guidance on implementing and operationalising the Framework, it reiterates its offer to support regional stakeholders in that regard.



Annex 1: Countries Responding to the Global Survey

1. Algeria
2. Antigua and Barbuda
3. Argentina
4. Armenia
5. Australia
6. Austria
7. Bahrain
8. Barbados
9. Belarus
10. Belgium
11. Bhutan
12. Bolivia (Plurinational State of)
13. Brazil
14. Burundi
15. Canada
16. Chile
17. China
18. Colombia
19. Costa Rica
20. Côte d'Ivoire
21. Croatia
22. Cuba
23. Cyprus
24. Denmark
25. Dominican Republic
26. Ecuador
27. Egypt
28. El Salvador
29. Estonia
30. Finland
31. France
32. Germany
33. Greece
34. Guatemala
35. Honduras
36. Hungary
37. India
38. Indonesia
39. Iran (Islamic Republic of)
40. Iraq
41. Ireland
42. Israel
43. Italy
44. Jamaica
45. Japan
46. Jordan
47. Kazakhstan
48. Republic of Korea
49. Kuwait
50. Kyrgyzstan
51. Latvia
52. Lebanon
53. Lithuania
54. Malaysia
55. Mali
56. Malta
57. Mauritania
58. Mexico
59. Montserrat
60. Namibia
61. Nepal
62. Netherlands
63. Nigeria
64. North Macedonia
65. Norway
66. Oman
67. Panama
68. Paraguay
69. Peru
70. Philippines
71. Poland
72. Portugal
73. Qatar
74. Republic of Moldova
75. Russian Federation
76. Saint Lucia
77. Saint Vincent and the Grenadines
78. Saudi Arabia
79. Serbia
80. Singapore
81. Slovenia
82. South Africa
83. Sri Lanka
84. State of Palestine
85. Suriname
86. Sweden
87. Switzerland
88. Thailand
89. Tonga
90. Tunisia
91. Turkey
92. Uganda
93. United Arab Emirates
94. United Kingdom of Great Britain and Northern Ireland
95. Uruguay

