United Nations

Economic and Social Council

E/ ECA/GGIM-A/0/0

Distr.: General
18 August 2023

Original: English

Economic Commission for Africa
United Nations Global Geospatial Information Management (UN-GGIM: Africa)

Addis Ababa, Ethiopia, 23 to 28 October 2023

Meeting Report

Guidelines for the implementation of the Integrated Geospatial Information Framework

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Report of the Expert consultation and meeting to enhance national geospatial information management arrangements and accelerate the achievement of the SDGs

I.   Introduction and background

1.   The Economic and Social Council (ECOSOC) adopted resolution 2022/24 on July

22, 2022, restated the importance of strengthening and enhancing the effectiveness of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM). This resolution is particularly aimed at achieving the Sustainable Development Goals (SDGs) and the United Nations Integrated Geospatial Information Framework (UN-IGIF) and ensuring continued effectiveness and benefits for all Member States. The resolution also includes updates and modernization of the Committee's Terms of Reference. The Committee of Experts' objectives and functions have a vision to effectively address global challenges, specifically in support of the 2030 Agenda for Sustainable Development. This includes providing a platform for developing effective strategies to strengthen national capacity in geospatial information, especially in developing countries.

2. The Thirteenth Session of UN-GGIM focused on the urgent need to enhance national geospatial information management to support the accelerated achievement of the SDGs, utilizing the UN-IGIF as the overarching paradigm and means to develop, integrate, strengthen, and maximize geospatial information management and related resources in all countries. In decision 13/101(h), the Committee of Experts recognized the efforts of developing countries to improve and support the leadership roles within their national geospatial and mapping agencies. This ensures that effective geospatial information management contributes to increased geospatial capacities and capabilities, as well as shared knowledge for geospatial enablement both across and within Member States.

3. Pursuant to ECOSOC resolution 2016/27, the Committee of Experts presented its final report to ECOSOC in June 2022. The report, titled "Enhancing Global Geospatial Information Management," focused on strengthening institutional arrangements for geospatial information management (E/2022/68). It outlined the progress of the Committee's work, dating back to its establishment in 2012 and detailing its focus on institutionalization from 2017-2021. Moving forward, the report discussed the Committee's plans for the next five-year period, which will focus on implementing its frameworks, anchored by the UN-IGIF. The report emphasized the value that the Committee of Experts offers to Member States, highlighting its ability to strengthen global geospatial information management through multidisciplinary and multisectoral participation. It also reaffirmed the Committee's commitment to achieving an inclusive and integrated approach to this important issue.

4. In adopting resolution 2022/24, the ECOSOC recognized the diligent efforts of the Committee to establish the United Nations Global Geospatial Knowledge and Innovation Centre (UN-GGKIC) in Deqing, China and the United Nations Global Geodetic Centre of Excellence (UN-GGCE) at the United Nations campus in Bonn, Germany. These centers aim to provide opportunities for global capacity building, promote collaboration and transparency, and strengthen geospatial information management in countries, particularly in developing countries. During its thirteenth session, the Committee of Experts (decision 13/101(e)) expressed support and appreciation for the Kingdom of Saudi Arabia's commitment to host and establish a third United Nations Centre of Excellence in Riyadh, Saudi Arabia. The Committee also emphasized the importance of aligning this new Centre with the Committee of Experts' work program and avoiding duplication of efforts with the existing centers in Deqing and Bonn. It was also noted that effective cooperation and coordination among the three Centers of Excellence will be critical to their success.

5. The Committee of Experts has kept a focus on the future and stayed updated on the latest trends and opportunities in the application and use of geospatial technologies. This has allowed them to develop global policies that can benefit countries the most. Their efforts have been aided by three editions of the reports titled Future Trends in Global Geospatial Information Management. However, the full potential of geospatial information has not yet been realized as these technologies are constantly improving, leading to a gap between developed and developing countries - known as the geospatial digital divide. While technological progress enables advancements

in certain areas, it also highlights the disconnect between different regions. For example, farmers can now access market prices and plan their sales and crops accordingly, while decision-makers can make long-term plans for growth by modeling the development of an area over decades. The geospatial community generates vast amounts of location-based data, providing innovators with valuable insights and knowledge. However, we must ensure that these new approaches are accessible to all, as the geospatial digital divide seems to be growing instead of shrinking.

6. The Department of Economic and Social Affairs' Statistics Division's Global Geospatial Information Management Section is beginning a series of expert consultations and meetings with representatives from Member States and relevant stakeholders. The purpose of these meetings is to review and improve the department's approach to strengthening and enhancing national geospatial information management arrangements, resources, and capacities. This will aid in accelerating the implementation of the Committee's norms, frameworks, principles, and guides for achieving the Sustainable Development Goals, taking into account each country's unique circumstances. The Committee of Experts has acknowledged the importance of coordination, coherence, and avoiding duplication in these efforts.

7. This expert consultation and meeting is the first of five proposed consultations and meetings that will contribute to reviewing and refining the United Nations' approach for enhancing national geospatial information management. The goal is to accelerate the achievement of the SDGs by implementing the UN-IGIF and considering the national circumstances of each country. The approach will be inclusive, integrated, self-paced, country-owned, country-led, and fully aware of national circumstances. It will also need to be embraced and implemented by the recently operationalized or soon-to-be-established UN Centers of Excellence in order to ensure coordination, coherence, and avoid duplication, as required by the Committee of Experts.

8. This first expert consultation and meeting, organized with the support of the Geospatial Information Management Section (GiMS) of the Economic Commission for Africa in Addis Ababa, Ethiopia, was aimed at engaging invited geospatial leaders from Member States in Africa. The purpose is to listen, discuss, and understand key elements of their national efforts to enhance their geospatial information management arrangements, resources, and capabilities in order to implement the UN-IGIF. The consultation and meeting will also have a second part where invited experts and resource persons from relevant stakeholders will begin the process of reviewing and refining the approach. The goal is to consolidate, improve, and strengthen national efforts by grounding them in national realities and requirements, as well as enhancing geospatial information management arrangements, resources, and capacities. This will accelerate the implementation of the Committee's norms, frameworks, principles, and guides, and ultimately contribute to the achievement of the SDGs.

II.   Objectives

9. The main objective of this meeting was to engage invited geospatial leaders from Member States, especially from Africa, in discussions to enhance their geospatial information management capacities and implement the United Nations Integrated Geospatial Information Framework (UN-IGIF). This meeting aims to review and refine the current approach to these efforts, focusing on an inclusive, integrated, self-paced, country-owned, and country led approach to enhancing national geospatial information management arrangements in the pursuit of achieving the Sustainable Development Goals (SDGs). Furthermore, the meeting aims to explore the need for a coordinated and coherent approach among the recently established or soon-to-be established United Nations Centers of Excellence to support these national efforts and avoid possible duplications.

III.   Issues addressed in the meeting.

1. The issues to be examined at the meeting will include but are not limited to:

   i. Enhancing national geospatial information management arrangements and accelerating the achievement of the SDGs

   ii. National circumstances and efforts

   iii. Collaboration and partnerships – national, regional and global

   iv. Highlights and national accomplishments

2. Overview of norms, frameworks, principles and guides endorsed or adopted by the Committee of Experts and their implementation at the country-level

3. Inclusive and integrated approach to enhance national geospatial information management

   i. Partnerships and resources for implementation at the country-level

   ii. Key lessons and exemplars arising from national efforts and approaches

   iii. Review recommended approach, guidance and resource materials

4. Consideration of country-level requirements and needs

   i. Preparation for the next expert consultation and meeting

5. Summary and feasible next steps

IV.   Organizers

10. This expert consultation and meeting is organized by the United Nations Global Geospatial Information Management Section, Statistics Division, Department of Economic and Social Affairs.

V.   Language

11. The expert consultation and meeting was conducted in English.

VI.   Participation

12. This expert consultation and meeting was an in-person closed meeting with participation by invitation only. Member states participating in the meeting were from Burkina Faso, Mozambique, Ethiopia, Cameroon, South Africa and Côte d'Ivoire. UN staffs from the Statistics Division, Department of Economic and Social Affairs, UNGGIM Secretariat as well as staffs from the ACS, Geospatial Information Management Section.

VII.   Meeting Venue

13. The meetings will be held in the ECA Main Building, 6th floor, ACS meeting room, Economic Commission for Africa, Addis Ababa, Ethiopia

VIII.   Proceedings of the Meeting

Session 1:   Setting the scene

Opening Session

A.   Adoption of the agenda and organizational matters

14. At the workshop, the agenda was carefully reviewed and approved by all attendees. This ensured that the main topics and priorities of the event could be addressed adequately and that everyone was on the same page. It was encouraging to see that all participants shared the same goal - to gain a better understanding of the workshop's topic and to work together to address the challenges. Everyone was eager to contribute, and their enthusiasm was palpable, setting the stage for a productive, engaging, and successful event.

B.   Presentation and discussion: Setting the scene

15. In today's constantly changing global landscape, Teo, representing UNGGIM/Sustainable Development/DESA, suggested that it is imperative to support and engage with individual countries as they navigate their unique challenges and opportunities in implementing the UN-IGIF. This entails actively participating in open discussions and asking thoughtful questions in order to gain a comprehensive understanding of each country's situation. As the field of information management continues to evolve and adapt on a global scale, it is essential to keep up with these changes and be open to incorporating new business approaches. While embracing modern systems such as the UN-IGIF, it is crucial to also respect traditional methods. Each country must be empowered to design their own plans based on their specific needs, and the transformation and development of leadership roles within National Geospatial Agencies and Mapping agencies must be acknowledged and supported. Collaboration and active listening are key components of this process, as the ultimate goal is not simply to listen, but to truly engage with one another. Furthermore, it is essential to establish and maintain momentum in all countries, with Resolution 2022/24 guiding efforts for the benefit of all Member States. The development of country-level action plans and SDG hubs, as demonstrated by the UN-IGIF and UNGGIM-Africa meetings, is a promising step and deserves appreciation, particularly for countries like Burkina Faso that have contributed to improving this concept. In conclusion, as we move forward, it is crucial to continue promoting sustainable development and fostering a strong sense of collaboration for the betterment of all nations.

16. Greg Scott emphasized the importance of effective communication and strong leadership for the success of any organization, especially one as impactful as UN-IGIF under UNGGIM. As the forum grows and evolves, clear and consistent communication about its purpose and impact is essential for engaging stakeholders. Additionally, it is crucial to nurture and foster strong leadership within the committee of experts to maintain the forum's effectiveness. Recognizing the significance of leadership development, the committee has prioritized and scheduled a meeting specifically to discuss this topic. This commitment is also reflected in the ongoing budget process and efforts to secure additional staff resources for the UNGGIM Secretariat, demonstrating a continuous drive for improvement. The creation of new centers of excellence and additional members further strengthen the internal capabilities of the forum and support its exponential growth. Strategic planning and adaptability, similar to the approach of the Secretariat, are crucial for the continued development of UN-IGIF. This includes taking active steps to address immediate, mid-term, and long-term needs and having early discussions about organizing a leaders' meetup and its location. Reflecting on the forum's history, it is evident that the inclusion of voices from the audience, particularly from developing

countries, has played a vital role in its success. The forum remains committed to engaging and including all stakeholders in discussions and utilizing creative methods, such as videos, to deliver its message. The participation and engagement of the audience continues to be a driving force behind the success of the forum. Its commitment to ensuring continuity in discussions and involving the audience is evident in the current participation of the audience in shaping the agenda.

17. Andre Nonguierma, representing Director Oliver Chinganya of the African Centre for Statistics (ACS), stated that there are exciting developments and important aspects to be discussed at the meeting. Due to reconstruction work at the ECA conference facilities, the meeting's location and setup have been changed to a smaller, more collaborative room. In addition, significant renovations are underway in ECA to create an open workspace environment for greater efficiency. In November, a new executive secretary will take charge of the ECA, bringing fresh ideas and perspectives. It was acknowledged that the outgoing UNGGIM Regional Adviser, Greg Scott, is a highly motivated individual, passionate about global causes and committed to making a difference. His involvement in UN-IGIF and workshops has greatly impacted the UNGGIM setup, compounded by the establishment of centres of excellence. His recent participation in events such as the Congress in Beijing demonstrates his dedication to collaboration and staying ahead of industry innovations. His contributions to the planning and implementation of the DA11 project, as well as his ability to overcome funding challenges, highlight his strategic thinking and problem-solving skills. Additionally, his fluency in multiple languages and willingness to listen to new ideas during meetings showcase his strong communication skills and open-mindedness. It is evident that Greg Scott has made significant contributions to the progress of the UN-IGIF, and his continuous efforts to improve the UN-IGIF demonstrate his dedication to making a meaningful impact. Overall, his career has been characterized by commendable achievements and a strong emphasis on planning and implementation, solidifying his position as a leader in the industry.

18. In his presentation of the scene, Greg Scott indicated that the meeting is centred around the theme of strategic planning and its application in the global landscape. The focus is on cooperation and learning from African countries in fostering UN-IGIF. He emphasized the vital role that continuous and diverse learning plays in creating successful country-level action plans, underscoring the need for coordinated information management at both national and international levels. The inclusion of space science and technology further adds to the complexity of this task, with an existing action plan that requires proper implementation. As countries strive for progress, they must also address the challenges that arise and reassess the strategy to incorporate lessons learned. Drawing from the experiences of several countries in the geospatial industry, he highlighted the importance of resource allocation and collaboration, emphasizing the benefits of established orders and working groups. However, the unpredictable nature of plan execution serves as a reminder of the agility necessary in such working conditions and the significance of effectively implementing devised plans. With various themes explored and a detailed overview of the challenges and opportunities present, providing additional and focused details can assist in obtaining more accurate support.

19. As the group delve into the numerous themes and discussions at the UN-IGIF High Level Meeting, it becomes apparent that comprehensive support and understanding of the needs of developing countries are crucial for progress. Open discussions and a question-based approach provide a platform for designing strategies tailored to each country's unique circumstances. Additionally, transitioning from traditional methods to innovative, targeted strategies is a necessary step towards progress in this rapidly evolving industry. The meeting also placed emphasis on the importance of increasing capacities and capabilities in geospatial information management and highlighted the collaborative efforts among member states towards implementing Resolution 2022/24. It was also emphasized that developing country-specific plans and establishing geospatial hubs are necessary for the progress of member states. Moving on to the UN-IGIF Communication and Leadership Themes, effective communication to decision-makers and reflection on leadership in Mexico's meeting

were prominent topics. Strategic development and capacity building were highlighted as crucial investments, along with careful consideration of strategic decision making, including immediate, mid-term, and long-term planning. It was also deemed essential to engage developing countries and gather inputs through videos, similar to the United Nations summit approach. As we shift our focus to the SDG Data Alliance Meeting, themes such as project evolution and future plans, overcoming funding challenges, entering the implementation phase, and collaborative efforts were discussed to push the project forward. The geospatial industry also focused on themes such as sharing knowledge and open dialogue to facilitate national progress. It emphasized the necessity of coordination centres for effective execution, the establishment of specialized working groups, and individual experiences within the industry. The theme of Geographic Information Systems Progress touched on personal journeys, collaboration with government agencies, acknowledgment of progress and obstacles, and the value of exchanging knowledge during meetings. This fragmented narrative presented a challenging grouping process, but it offered a comprehensive overview of many important topics.

C. Enhancing national geospatial information management arrangements and accelerating the achievement of the SDGs

20. From participants insightful discussion on Sustainable Development Goals, it's clear that they had a strong understanding of the complexities and challenges associated with measuring and tracking progress across the 17 SDGs. Participants expressed concerns about the broad scope of SDG indicator measurements and need for prioritization, as well as the nuances between global and local levels measurements, highlights the intricacies of this global initiative. The emphasis on the role of geospatial data and expertise in forming goal measuring frameworks further reinforces the criticality of this specialized knowledge in achieving the SDGs. The interconnection and trade-offs between the goals, as well as the ever-present data shortfall, are valid concerns that require continuous attention and effort. Integration of socio-economic dynamics at a national level, as evidenced by voluntary national reviews from countries like Rwanda and Burkina Faso, serves as a reminder of the real-world implications and the importance of national reporting in capturing progress towards the SDGs. Additionally, the mention of external entities like the Sustainable Development Solutions Network highlights the value of data-rich, insightful metrics for tracking progress and promoting cross-country comparisons. The reference to the complexities surrounding global sourcing, manufacturing, and purchasing, further underscores the multi-dimensional layers involved in administering and monitoring progress towards the SDGs. Overall, the comprehensive analysis covers local and global perspectives, highlighting the complexities of this global initiative and the need for continuous work towards achieving these integral goals.

21. As we continue to gather and generate data, it is essential that we not only focus on its collection, but also on its dissemination and utilization. With advancements in AI tools and technologies, we now can collect more precise and granular data. By effectively utilizing these tools, we can not only fill data gaps, but also make our analyses more robust and comprehensive at both the local and global levels. This is especially important with the increasing emphasis on "localization" in the SDG agenda. By adopting a localized approach, we can create tailored solutions to address local challenges while also adhering to globally agreed upon standards. This approach acknowledges the importance of considering varying participants and resources and highlights the involvement of local communities in defining development for themselves. To effectively achieve our common goals, we must prioritize negotiation and dialogue among all parties involved. Through a collective, inclusive, and data-driven approach where everyone's contribution is valued and considered, we can pave a new path towards sustainable development. This will require a renewed focus on collaboration, disaggregation, and localization. While there may be challenges in securing agreement and adoption, this productive friction can ultimately lead us towards a more holistic, encompassing, and representative

model of data governance and utilization. Therefore, it is a path worth pursuing with all of our concerted efforts. Is there anything else you would like to discuss? There are numerous topics related to the role of geospatial information and its impact on sustainable decision-making and development goals. One of the key aspects mentioned is the establishment of a High-Level Committee, led by the Prime Minister, to address strategic national matters and ensure effective decision-making. The importance of collaboration and engagement between various organizations and governments in order to successfully complete projects is also emphasized. Furthermore, the growing significance of geospatial data in achieving Sustainable Development Goals (SDGs) is addressed. As the importance of geospatial information continues to grow, concerns about reduced budgets are voiced and a funding model is proposed to maintain infrastructure. Additionally, the need to constantly learn and adapt successful practices from other countries, such as Kenya and South Africa, is emphasized. The participants discuss the challenges posed by outdated laws and the importance of modernizing national mapping institutes. It emphasizes the need for strategic planning and involvement from relevant ministries, such as the Ministry of Finance, in order to achieve this. The author suggests that a agile and stepped approach should be taken rather than viewing it as a revolution, with constant evaluation and adaptation to ensure practicality and impact. Overall, the author offers insightful suggestions and recommendations for the effective use and integration of geospatial information in decision-making, highlighting the importance of cooperation and collaboration between various stakeholders and the need for a well-strategized approach.

22. The discussion highlights the crucial role of data in achieving sustainable development goals (SDGs). The concept of Data for Development (D4D) is emphasized, stressing the need for data-driven decision making in country operations, particularly in developing nations. Additionally, the UN-IGIF and Data Alliance are recognized as key bodies working on policy and implementation frameworks, aimed at promoting the transfer of geospatial technologies, enhancing training efforts, and providing support and expertise to developing nations. The important role of local leadership is demonstrated through implementation and action plans in specific examples, such as Burkina Faso and Tonga. These plans include developing geospatial guidelines, data standards, and skills advancement, with a focus on inclusivity and collaboration. The Chinese-based and its international advisory committee are also highlighted as key players in promoting data and human interoperability. Overall, the themes discussed in the participants convey the crucial role of leadership in driving these efforts forward, while considering the purpose, relevance, and impact on the global geospatial community. As we work towards achieving the SDGs, it is clear that employing a data-driven and inclusive approach, led by strong leadership, is crucial for success. Several important themes deserve further discussion and attention, such as the significance and usefulness of disaggregating and aggregating geographic data. The implementation of a top-down approach by certain countries, as opposed to a bottom-up method of collecting data locally, highlights the need for a comprehensive system that can facilitate the collection, assimilation, and analysis of geographic data. Furthermore, the discourse has also shed light on the challenges associated with data collection at both the local and national levels, emphasizing the importance of a balanced approach that factors in both geographic and demographic conditions. Additionally, there have been discussions about integrating statistics and geography, with suggestions for countries to establish their own geographic programs. Key elements include digitizing maps and incorporating census data into national geospatial frameworks, which can benefit the economy and create job opportunities. The discourse has also emphasized the need for small area geographies when collecting data, with a call for maintaining enumeration districts for future censuses. However, the balance between data usefulness and protection remains an important issue, as challenges persist in releasing enumerative district level data due to potential risks. Despite these challenges, the discourse has emphasized the importance of prioritizing effective data collection and digitization for long-term benefits in areas such as development, safety, and the achievement of Sustainable Development Goals. Therefore, it is crucial to strike a balance between addressing

immediate needs and planning for the future by giving proper attention to the aforementioned aspects.

23. During the discourse on the implementation of UN-IGIF at the local level, several key themes emerged. The first theme focuses on institutionalizing UN-IGIF at the local level and the challenges that accompany it. This includes the need for proper institutional structures, coordination, and cooperation among stakeholders, as well as the implementation of policies and standards. The second theme highlights the significance of local and national-level service coordination to provide effective public services. The discussions within this theme emphasize the need for various services to work together towards a common goal. The third theme revolves around data collection and governance, emphasizing the importance of standards and compliance in this process. The fourth theme discusses the crucial role of local funding in promoting economic growth and development, acknowledging barriers such as lack of resources and prioritization. The fifth theme draws attention to the effects of cultural disasters and climate change on agriculture. It emphasizes the need for effective legislation and data systems to compensate individuals affected by these issues. The following theme focuses on data analysis and accessibility at a local level, with a particular emphasis on the concept of "seamless disaggregation of data" to examine sustainable development indicators. This is followed by another theme that highlights the importance of surveys specific to individual communities and the representation of data to understand and address concerns at the local level. The seventh theme discusses the role of technology in resolving local issues, with a case study on Nigeria's space development agency using satellite imagery to provide government services. Overall, these themes provide a comprehensive understanding of the challenges and approaches to implementing IGF at the local level, highlighting the importance of coordination, data, funding, and technology in promoting development and addressing local concerns.

24. The participants also identified several important themes related to national mapping and data collection. These include the crucial role of national mapping organizations in data processing for National Banks, the use of national mapping to cover a significant area, and the importance of a user-oriented approach for efficient data collection at the local, national, and international levels. Additionally, the participants emphasize the significance of collaboration among different organizations for better outcomes and standardization. It also advocates for structured and clearly defined procedures, guidelines, and specifications to ensure smooth functioning. The participants also discuss the need for pilot projects and testing in navigating the complexities of geospatial systems. Furthermore, it emphasizes the importance of regularly maintaining and updating statistical data to prevent it from becoming obsolete. Lastly, the participants highlight the need to protect privacy when collecting household data. "Disaggregation is also mentioned as a key method for analysing data at a granular level and understanding its concepts. Additionally, creating geographic hierarchies and detailed mapping of populated places and economic activities is recommended for efficient data coding. Furthermore, the participants highlight the importance of statistical organizations continuously improving their processes to acquire valuable data, with a particular focus on jobs and economic development as key areas of interest. Overall, these themes emphasize the significance of collaboration, standardization, and ongoing improvement in the field of national mapping and data collection.

25. The discussion revolved around various key themes, starting with the suggestion to incorporate OpenStreetMap into a national geo-data collection initiative. Questions regarding reliability, trustworthiness, and certification were raised, sparking a dialogue on what constitutes authoritative and reliable data. The participants reached a consensus on prioritizing imperfect data that is regarded as the most reliable and trustworthy at the time. The conversation also explored the concept of smart cities, specifically utilizing geospatial data to enhance urban areas through Smart Mobility and Infrastructure. One pilot project was highlighted, focusing on the development of digital addressing systems. Data collection and utilization were heavily emphasized with a focus on adhering to national standards and procedures, as well as showcasing real-world examples to demonstrate effectiveness. The discussion

also touched upon the importance of collaboration and adequate funding, aligning national and organizational intentions to facilitate the collection and usage of geospatial data. Additionally, the consideration of national strategic priorities was proposed as a means of developing action plans and securing necessary funding for data collection. The relevance and benefits of geospatial data were also thoroughly explored, with numerous examples demonstrating its potential to create tangible improvements in everyday life, such as smarter cities and efficient addressing systems. Overall, the discussion provided valuable insights into the potential of geospatial data and its various contributions to society.

26. The participants highlighted a variety of challenges and potential strategies for improving the utilization of geospatial data. The first category of challenges includes limited understanding of geospatial data among statisticians and economists, resulting in unfruitful discussions and limited use of geospatial capabilities. Furthermore, communication barriers and a lack of recognition for the potential of geospatial data hinder its utilization and impact in decision-making processes. Additionally, the incomplete implementation of Sustainable Development Goals (SDGs) and differences in national considerations contribute to the challenges in utilizing geospatial data.

27. To tackle these challenges, promoting proactivity and fostering open lines of communication at high-level forums can aid in raising awareness and bringing about change. Capacity building through training and knowledge sharing, as well as addressing national priorities in the global indicator framework, can also contribute to improving the utilization of geospatial data. Lastly, efforts should be made to engage geospatial data teams on their own terms, rather than solely on the terms of economists and statisticians, in order to better address area-specific issues and make more informed decisions. In conclusion, properly implementing these strategies can lead to more effective utilization of geospatial data in decision-making processes.

28. In the discussion, several key themes emerged that highlighted the challenges and complexities of measuring progress towards the Sustainable Development Goals (SDGs). One of the primary concerns expressed by speakers was the chronic lack of available and appropriate data for many SDG indicators. The tier categorization system, which classifies indicators as Tier 1, 2, or 3 based on the availability and quality of data, was considered insufficient to address this issue. To tackle the problem of data availability, the use of proxies and alternative forms of data was suggested. However, it was emphasized that transparency and justification of proxy data are crucial. The discussion also brought attention to the issue of comparing data across different regions, as localizing data posed significant challenges. The lack of a global consensus on how to interpret data only worsens the problem. Furthermore, the discussion emphasized the need for transformative changes, particularly in outdated systems and laws that do not reflect current realities. It was stressed that providing detailed explanations on how data points are collected is crucial in ensuring transparency and integrity. In addition, the role of various national statistical agencies, each following specific laws and regulations, was seen as a potential obstacle in achieving consistency and accuracy in data collection and interpretation. These themes highlight the significant challenges faced by countries and international organizations in obtaining consistent, accurate, and meaningful data for tracking progress towards the SDGs. It is necessary to prioritize transparency, thoroughness, and adaptability in data collection and analysis methodologies. Geospatial technology and statistics are vital components in addressing the most pressing global issues of today. The practical applications of geospatial technology are diverse and extensive, ranging from mapping and monitoring natural resources to urban planning and disaster management. However, the success of these applications heavily relies on the availability of comprehensive and reliable data. Geospatial technology is crucial in generating indicators to measure the effects of various interventions and policies. Climate change poses a significant challenge to global resilience and sustainability, and geospatial technology has played a key role in creating resiliency tools and informing infrastructural adaptations to mitigate its threats. Detailed geospatial information is also used by insurance companies to assess risks associated with climate change,

highlighting the importance of geospatial technology in managing financial portfolios. In line with global efforts towards sustainable development, geospatial technology is essential in measuring and tracking the achievement of the United Nations' Sustainable Development Goals. The use of geospatial technology in the marine environment is equally critical, including protecting and utilizing marine resources. However, this requires special consideration due to the unique challenges of maritime environments and their interaction with international regulations and treaties. To effectively address these complex issues, cross-agency coordination and cooperation are crucial. Policies defining agency responsibilities are also necessary to facilitate the effective use of geospatial technology in tackling global challenges.

29. As the world becomes increasingly interconnected, international forums and discussions have become essential in shaping global strategies for development. Events like the UN-IGIF and UNGGIM consultative meetings play a significant role in facilitating communication and cooperation between nations and international organizations, such as the World Bank. To effectively pave the way for sustainable development, it is crucial to consider both local and global perspectives. This involves aligning the National Action Plan with the National Development Plan and learning from past successful experiences, such as Rwanda's national development. It is also essential to recognize the nuances of development at different levels - national, continental, and global. Utilizing resources from international financial organizations, like the World Bank and UNDP, as well as harnessing national funds for ICT development, can greatly aid in propelling progress. Collaboration and international aid are also critical in achieving growth, as seen in China's assistance in developing satellite receiving stations in Africa. To sustain this progress, it is necessary to train and empower leaders with new tools and technologies for analysis, ultimately boosting their economies. Poverty reduction efforts, such as China's successful strategy, and achieving SDGs (Sustainable Development Goals) through concentrated efforts, are crucial steps towards a better future. The UN Environment has a role to play in assisting developing countries in their development goals.

30. As we envision the future, it will be essential to explore both multilateral and bilateral methods of obtaining international resources, while also anticipating future developments. Developing ICT capabilities will greatly contribute to these efforts. Through collaboration, innovation, and a comprehensive understanding of global perspectives, we can pave the way for a brighter and more prosperous future for all nations. As we continue our discussion on the 2063 Africa Agenda, it is clear that in order to achieve real change, our focus must first be on implementing changes at the national level. As the saying goes, "charity begins at home." This sentiment was echoed during the discussion of the agenda's key elements, with a strong emphasis on addressing environmental sustainability and the urgent issue of climate change. It was emphasized that these concerns must be brought to the attention of the African Union (AU) with real cases and examples, and that this agenda will have a lasting impact beyond the two projected global development agendas of 2045 and 2060. Effective communication and engagement are also crucial to the success of this agenda, as highlighted in Pathway 9: Communication Awareness. It was stressed that awareness-raising initiatives should not be limited to the Prime Minister but should also reach a larger continental or sub-regional audience. Considering the global scale of this agenda, we must also acknowledge the challenges that arise in communicating and collaborating with different regions, such as those in Southern Africa and North America. One proposed solution for improving communication and collaboration is by upgrading the National Mapping Agency in Kina Faso and utilizing it as an institutional reference centre. However, as seen in the challenges faced in Cape Town due to a lack of support for statisticians, there is a need for repositioning and reassessing in order to successfully implement new ideas and initiatives. With these considerations in mind, we can move forward in fulfilling the vision outlined in the 2063 Africa Agenda.

31. Over the years, the role of national mapping agencies has evolved significantly, making modernization a vital aspect of their operations. Upgrading to a centre of excellence and establishing an enduring capability has become paramount in maintaining relevance in various sectors, such as infrastructure, statistics, and the

environment. However, with changing political landscapes, government trends have also impacted operational stability and direction of these agencies, as they are often subject to the transient nature of government departments. Additionally, different countries have adopted diverse organizational structures for their mapping agencies, resulting in variations in roles and responsibilities, size and footprint, and relationships with cadastral organizations. Economic considerations have also come into play, with the potential savings from modernization and the balance between costs and efficiency being key factors. As the adoption of geospatial technology increases and its economic value becomes more apparent, it is imperative for mapping agencies to anticipate future transformations and potential risks of anchoring functions in specific structures. Case studies, like those from the UK and France, offer valuable insights into how nations have managed their mapping agencies in light of changing considerations. Ultimately, the desire to identify better arrangements and continuously adapt to the ever-changing landscape remains crucial for national mapping agencies to stay relevant and fulfil their essential role in modern society.

32. Over the past few decades, there has been an increasing recognition of the importance of geospatial data in various industries and sectors. However, the challenge has always been to unite stakeholders for the effective use of Spatial Data Infrastructures (SDI). Discussions on this topic have been ongoing for over two decades, but there are still hurdles to overcome. One major obstacle is the presence of power dynamics and competition, which hinder collaborative efforts. For instance, competition for resources between the National Statistical Office has hindered collaborative efforts in the past. It is clear that the real problem is not technology, data, or capacity, but rather people coming together and working together. Despite these challenges, there has been gradual progress in geospatial data innovation since the 1980s.Through learning from various experiences and examples, a concept of strategic pathways for effectively implementing and utilizing geospatial data has emerged. However, there are still obstacles to overcome, such as difficulties in collaboration among individuals. Despite these challenges, progress has been made in certain nations, notably Ethiopia, which highlights the value of studying the histories and advancements of others. It is also important to acknowledge the role of technology and internet companies, such as Google, in the geospatial data industry. Thanks to data contributions from smart cars, these companies hold significant influence in the industry. Additionally, the introduction of China's National Administration of Data, and its implications on data exchange, rights registration, and trading, pose future challenges on a global scale. Nevertheless, it is undeniable that data collected and distributed by satellites plays a crucial role in the development of our geographical knowledge base, aiding in planning, services, and disaster risk reduction efforts. As we continue to progress, the future of geospatial data holds great promise for improving our understanding of the world and making more informed decisions. The conversation at the conference was filled with a variety of themes and discussions, all centred around the main goal of integration at different levels. The dialogue covered topics such as information sharing and management, legal considerations, disaster and risk management, use of advanced technology, and the importance of dialogue and feedback. There was a strong focus on the role of integration in society, specifically how IGIF and SDI can aid in this process. The need for external pressure to drive integration was also recognized. The discussions also touched on the availability and sharing of key data, as well as the need to protect data and user privacy while still ensuring accessibility. The territorial issues related to data usage and licensing were also brought up, along with the significance of GDPR in Europe. Another highlight was the sub regional approach to disaster and risk management, exploring the impact of phenomena like hurricanes and the need for collaboration and cooperation across national borders. The successful implementation of advanced technology for development in China was also discussed, with observations on community planning, policy implementation, and technological involvement. The speaker offered insights into the use of service mapping and geospatial information in China, along with emphasizing how this technology is adapted and customized for different regions based on their needs and capabilities. Overall, the discussions were engaging,

informative, and emphasized the importance of collaboration and integration in achieving progress and development.

D. National Presentations (Burkina Faso, Cameroon and Ethiopia)

33. In Ethiopia, the National Strategy for Agricultural Development, developed by the government in collaboration with women, is a crucial step towards addressing the challenges faced in the agricultural sector. This strategy focuses on national priorities and aims to improve visibility. It also takes into consideration the individual ambitions of the Prime Minister. Additionally, efforts are being made to secure necessary resources and funding allocations through the implementation of projects and initiatives, such as the ESS Ethiopian static services platform and the data hub. Collaboration with stakeholders and data providers is also key in driving this strategy forward. However, the progress of this plan has been hindered by challenges such as organizational changes, merging with the space agency, and constant leadership changes. The technical capability challenge and high demand during the re-arrangement processes only add to the difficulties faced. Furthermore, the collaborative culture in Ethiopian society emphasizes interdependence and working together towards a common goal. Externally, ongoing conflicts and lack of sufficient funding in some regions make it crucial to engage with other organizations and stakeholders in order to secure the necessary resources. With a clear plan in place, including the establishment of 22 working groups next month, the team is determined to push forward and overcome any obstacles that may arise, with the ultimate goal of driving agricultural development in Ethiopia and securing a better future for all.

34. Geo-spatial data and technology, stakeholder engagement, data analysis and management, and economic contribution and development are key themes that encompass the strategy and implementation planning for national development. The focus is on action and implementation, change management, and feedback and amendment strategies, which set new plans in motion. In addition, internal and external communication strategies are put in place to ensure visibility and engagement, with constant monitoring of metrics to gauge effectiveness. The adoption of the Esri platform solution and its benefits is recognized in understanding the value of geospatial data, which is then utilized in the implementation of geo-spatial technologies for national development. Stakeholder engagement and resource allocation are crucial factors in this process, involving various parties such as donors and institute leaders. Strategies are carefully crafted to secure financial support and involve relevant stakeholders throughout different stages of the project. Data analysis and management play a significant role as goals are fed into decision-making processes and gaps in data sets are identified and addressed through methods and strategies for geolocation and linking data. Additionally, institutional development and stakeholder relations are prioritized, with coordination and relationship-building efforts with key individuals and institutions involved in the development process. The economic contribution of the geo-spatial sector to the national economy is also recognized, with allocated resources being utilized through the creation and implementation of economic growth strategies.

35. Overall, these themes work together to provide a comprehensive and coherent understanding of the strategy and implementation plan for national development. This involves various aspects such as planning and implementation, stakeholder engagement, data management, and economic growth. As we explore the world of project management and the crucial incorporation of data from the Sustainable Development Goals (SDGs), I am learning valuable lessons on how to create an effective action plan and establish clear project goals. One of the most important steps in this process is understanding the priorities of the project manager and connecting them with relevant SDG data. It is not solely relying on data, as factors such as demographics and health information play a crucial role in decision-making for projects like establishing a healthcare centre. The project must carefully consider

factors like location, demographics, and health data to make the most beneficial choices. However, even with the best data and decisions, potential changes in government or leadership can greatly impact the success of a project.

36. Therefore, it is essential to have a strong and well-structured government in place, with decision-makers who understand and support the project, to ensure resilience and successful change management. This also emphasizes the need for strategic plans and priorities to protect the project's interests in the face of potential changes. Moreover, effective communication is vital in successfully carrying out a project that aligns with the Suggested task of convincing stakeholders and decision makers through data can be challenging, but professional communicators play a crucial role in managing messages and adapting to changes in government. It is also important to address any regional challenges and ask necessary questions to ensure that all aspects are thoroughly considered, even in relation to specific areas of interest such as Apple. Incorporating all of these elements and understanding their significance are essential in achieving project goals and contributing to the overall advancement of the Sustainable Development Goals (SDGs).

37. In Cameroon, the stakeholders discussed themes such as digital infrastructure and connectivity, data utilization and security, communication and feedback, technology requirements and analysis, and miscellaneous topics during their meeting. The discussion began with the topic of digital advancement in the country and the crucial role of infrastructure in its progress. It was emphasized that a national approach is necessary to document this process to ensure better coordination and synchronization of efforts. The conversation then moved on to the various uses and significance of individual data, including the handling practices for different types of data. The potential issues with data, such as deformation and topology, were also raised. The limitations of data access and the repeated use of base maps were also discussed. In terms of communication and feedback, the group highlighted the importance of creating and completing questionnaires, encouraging participation, and effectively communicating in partnerships and decision-making. The theme of technology requirements and analysis was then discussed, focusing on utilizing technological features to document processes and the potential to capture and analyse all information later on. However, the group also acknowledged the challenges in accessing certain data, such as satellite images. Lastly, the conversation covered various factors such as personal interjections, casual conversations, and potential misinterpretations, that may occur during group discussions. With all of these complex and overlapping themes, it is clear that group discussions can touch upon a wide range of topics within one conversation.

38. As we delve on the emerging themes, it is impossible to ignore the essential role that data analysis and collaboration play in achieving success. A solid understanding of available data, along with clear communication, is crucial. Cameron's example showcases the importance of engaging stakeholders and bridging communication gaps, which can often be a challenging task. It is worth mentioning that although some impressive milestones have been reached, there have also been significant challenges. It is important to be prepared for these challenges and continually strive for improvement. When it comes to communication strategies, the focus is on tailoring the message for politicians and being equipped to handle any potential issues that may arise during the process. Additionally, there is a strong emphasis on involving more stakeholders in the decision-making process, with the goal of creating a more inclusive and efficient approach. This also ties in with the implementation of the SDI process and the importance of understanding and involving government structures at all levels. However, it is essential to acknowledge that despite all efforts, there may be discrepancies between expected and actual results. This highlights the need for government involvement and legislation to ensure the successful completion of projects. As we conclude, it is worth mentioning the use of classic phrases and proverbs to articulate ideas, which serves as a testament to the speaker's eloquence and ability to convey complex concepts in a concise yet impactful manner. Institutional challenges in Africa have plagued the development of certain issues for years, hindering progress and impacting the lives of many. One example has remained unresolved for a significant

amount of time. One major reason for this stagnant progress can be attributed to the lack of commitment from important entities like the National Mapping Agency. However, amidst these challenges lies an opportunity for change and improvement. This is where the development and ownership of an action plan comes into play.

39. Mobilizing multiple entities and ensuring that each one takes ownership of the process and resulting plan is crucial for its success. This may also mean navigating potential conflicting mandates due to restructuring processes. Transitioning and implementing the action plan requires careful attention, with necessary updates and involvement from all stakeholders to ensure a smooth transition. External factors, such as budget constraints and unpredictable events, must also be taken into consideration and responded to accordingly. Another significant challenge is securing adequate funds to support the implementation of the action plan. Proper assessment and sound judgments after executing actions are essential to ensure that correct decisions are made despite any operational difficulties. To further enhance the effectiveness of the action plan, it is important to consult the targeted audience and anticipate potential difficulties and needs. With strong commitment and effective strategies in place, the action plan can lead to transformative outcomes, overcoming institutional challenges that have long been a hindrance to Africa's development. Through a thorough consultation and meticulous measurement approach, the initiative has developed a comprehensive procedure using table 60 as a guide.

40. Some employees have expressed reluctance to share certain information, which has led to the implementation of a method of secret-keeping. Moving forward, the team aims to improve communication and establish a more transparent process. With a focus on creating valuable and effective meetings and events, there is already a detailed schedule and outline in place. Additionally, the office prioritizes networking with stakeholders and organizing events to foster collaboration and generate new ideas. To continue improving, the team has implemented a method of processing event feedback through gap analysis. With a strong emphasis on planning and strategy development, the team incorporates French logic, persistence in actions, and links them to clear objectives. They have already prepared a draft action plan and are continuously working towards future strategic developments. Through collaborations with the Initiative for Finance and the Ministry for the process, as well as technical support from the EC, the team has seen successful project outcomes. To further enhance collaboration and knowledge sharing, the team has plans for more thematic discussions. Financial planning has been conducted across 14 sectors under the jurisdiction of the ministry, along with a review of relevant existing legislation in the strategic domain.

41. Burkina Faso, as the world becomes increasingly data-driven, the importance of effective data management and statistics cannot be overstated. In order to make informed decisions and develop effective strategies, it is crucial to collect and analyse accurate statistics. This entails not only standardizing data and metadata management, but also continuously monitoring and addressing the needs of stakeholders. To facilitate this process, it is imperative to have a strong data management system in place that can provide timely and reliable data for primary use. Alongside this, hosting projects and workshops is essential in order to stay up-to-date on the latest advancements in data management and statistics. In addition to this, fostering partnerships and collaborations is vital in creating a cohesive framework for strategic management. This involves open communication, commitment, and working closely with technical experts. Furthermore, the importance of strategic planning and decision-making cannot be overlooked. Actively participating in commissions and incorporating a vision and innovative approach are key components of this process. It is also essential to consider multiple administrative levels and ensure that language barriers do not hinder effective decision-making. This may require the implementation of language support, particularly in English. Lastly, facing challenges and finding solutions is an integral part of any strategic plan. This includes taking into consideration the political, legal, and financial framework in order to develop effective policies that can be successfully executed. Overall, a comprehensive and holistic approach is needed for

successful data management and strategic planning in our ever-evolving world.

42. When examining the themes present throughout the participants, we can group them into distinct categories that shed light on the challenges and considerations involved in the progression of an organization. One of these themes is the importance of stakeholder communication, which is highlighted in discussions about the difficulty of translating between different parties and the need for sustained commitment from all stakeholders. Another important theme is operational challenges, which includes recognizing the impact of formal conventions within the organization and overcoming language barriers in meetings. Additionally, the ongoing issue of data validation is also addressed. The participants also delve into strategy and validation, emphasizing the need for support from a national committee and the crucial role of strategy in the growth of an organization. Financial considerations also make an appearance, with a mention of the challenges of securing initial funding and the potential pitfalls of relying on single-issue financing. Project execution is another key theme, exploring the process of implementing accepted and validated projects and their importance in advancing the overall strategy of the organization. Stakeholder engagement is also emphasized, particularly the involvement of the private sector and academia in shaping the future of the organization. And lastly, the participants include expressions of appreciation for individuals or groups who have played a significant role in the progress of the organization. Overall, these themes provide a comprehensive framework for understanding the complexities of organizational development and the many factors that must be considered for success.

43. In 2018, the state embarked on an ambitious initiative to combat new threats such as terrorism. However, this effort was met with various socio-political changes, including the switch through three forms of government and four services of a Minister in charge of a special information domain. These changes presented numerous challenges and unsuccessful endeavours for the initiative, including trouble preparing funds and difficulty implementing the agile process. Continual policy changes also presented roadblocks to success and attempts to gain buy-in through a high-level forum were unsuccessful due to external pressures such as nationwide insecurity. Furthermore, the inability to run the High Level 4 due to unspecified reasons added to the struggle. Despite these setbacks, there was partial success in securing funding for workshops and the initiative has received support from entities such as the China Facebook team, DA11 projects, Data Alliance, CA, and EC. The effort to highlight targeted people has been ongoing, despite struggles. However, with the current state of insecurity, it is necessary to refocus on other agendas. The strategy followed during the workshops will continue to be implemented in the future, with the goal of achieving success in combating new threats and making the country a safer place.

44. In South Africa, as the conversation touched on a variety of topics, several key themes emerged. One prominent theme revolved around funding and financial management, with a focus on successfully hosting events with limited resources and dealing with the challenges of the end of the financial year. Another important topic was project implementation and data management, highlighting the complexity of coordinating various ongoing projects and the establishment of a special data management strategy. Governance and legislation were also key themes, with discussions around the roles of different departments and the legal obligations related to land use management. The importance of strategic partnerships and planning was also emphasized, particularly in measuring the impact of data on national GDP and creating business cases. Technological innovation and standards were also discussed, showcasing efforts to stay ahead of the curve in terms of data and technology. Collaboration was highlighted as a crucial element in special projects, including efforts to integrate marine data and work with different stakeholders at the provincial and national level. Additionally, protecting environmental data and ensuring compliance with relevant laws and acts was noted. Finally, the importance of high-level executive forums and the role of engagement with stakeholders through various means such as technology and community involvement were highlighted as a critical aspect of the work being done. Overall,

the conversation showcased the complexities and challenges of managing and implementing a special data management strategy, while also emphasizing the crucial role it plays in various aspects of government and society.

45. As we delve into the details of the Committee for Spatial Information's (CSI) development and updates, it becomes clear that its evolution is necessary to cater to the ever-changing landscape of geospatial technology and its users. In this regard, key changes such as the formation of a new subcommittee and the inclusion of marine and coastal stakeholders in the advisory board highlight the CSI's commitment to staying relevant and inclusive. As the governing body, the CSI recognizes the importance of interconnectivity among different legislation, be it for sustainable development, coastal management, or land use planning. This convergence serves as the backbone for the CSI's partnership progress, which has grown to include not just government entities but also the International Cartographic Conference and various private sector organizations. But the strategy for private sector involvement does not stop there. The CSI also emphasizes the need for partner organizations to have a strong structural foundation to enable efficient engagement. In this regard, the inclusion of sector-based associations like the Hydrographic Society of South Africa plays a crucial role in promoting the importance of geographic information and survey-related services. Moreover, the CSI recognizes the potential of academic institutions as partners and plans to establish a network among all participating universities. With the formation of a committee that represents various sectors, the CSI is taking a proactive approach to elevate the South African distribution industry. In this process, the CSI ensures that all sectors are represented and that any complaints are not only heard but also addressed with the utmost seriousness. Ultimately, the various themes within the CSI's development and updates showcase the committee's commitment to excellence and collaboration for the benefit of the entire spatial information community.

46. As the world continues to undergo rapid changes, the process timeline for our team's breakthroughs must also adapt. In fact, it's almost as if we are constantly chasing and changing the location of the elusive "good loss". This necessitates swift and efficient responses from our team, and it is crucial for us to align ourselves with strong leadership and champion support. By identifying and utilizing our champions, we are able to form a powerful alliance and create a "perfect storm for the good". We have also invested in the development of resources, such as metadata compliance assessments and data quality standards, as well as partnering with international organizations to distribute these resources, particularly in Africa. Technology, specifically the use of drones, has been a game changer and a building block for our current advancements. However, it is important to acknowledge the strong foundations that have been laid through previous efforts, especially in terms of fundamental datasets and standards. Organizations such as the National Mapping Agency have had a significant impact on our current state, and we must continue to learn from them. As always, there are obstacles and challenges that we face, such as clear communication and spreading awareness of new directives, and the loss of institutions like the National Geospatial Information of South Africa. However, we are committed to constantly evaluating our organizational position and mandating, and always striving for growth and improvement. Power dynamics and the competitive factor of money also play a role, and we must reflect on past experiences and learn from them in order to move forward. With a clear vision and plans for the future, we are poised to make even greater strides in our field.

47. Through a thorough discussion, it becomes evident that there are crucial elements to consider when beginning projects. Perhaps the most crucial aspect is the initial funding, specifically seed capital, which is essential for any venture to take off. Additionally, leveraging geospatial data is repeatedly emphasized as a crucial tool for businesses to gain insight and monitor land use, ultimately leading to potential tax revenues. It is also noted that the National Treasury plays a vital role in this process, not only as a consumer of information, but also as a potential provider of vital data. Getting the National Treasury involved early on in a project can greatly improve its outcomes. Furthermore, it is essential to engage with key figures in the public sector, such as politicians and other personnel, in a strategic and tactful

manner to ensure successful project execution. This discussion also sheds light on potential challenges, such as uncooperative personnel and technological obstacles, that may arise and the need for skilled individuals to effectively manage such issues. Moving forward, the importance of future planning, adaptability, and learning from past successes and failures are all highlighted as crucial elements for project success. Effective leadership is also key in opening doors for collaborations with essential entities like the National Treasury and the Office of Presidency. Finally, there is a strong emphasis on the need for better monitoring and accountability through implementing tools like dashboards to gain a better perspective on the effectiveness of various bodies involved in the project. In conclusion, the discussion above delves into important themes that should be considered when embarking on any project.

48. It seems that a successful outcome will require a delicate balance of government partnership and leadership, project financing and planning, information acquisition and usage, capacity development, stakeholder involvement, and fostering innovation and progress. Each of these themes plays a critical role in the project, and it will take thoughtful planning and effective implementation to achieve sustainable results. From engaging political decision-makers and seeking allies across governments and stakeholders to prioritizing projects that generate tangible results and creating a digital twin for the City of Johannesburg, there is a clear need for a strong partnership between the government and its various partners. Acquiring necessary permissions, utilizing information in all sectors, and convincing less informed stakeholders are also crucial aspects that must be carefully navigated. Additionally, capacity development is key to ensuring internal support for the project and identifying potential risks and opportunities. Including all desired stakeholders, garnering support and buy-in from key decision-makers, and involving the private sector are vital for successful implementation. Finally, fostering innovation through the use of technology like drones, continuous evolution, and showcasing capabilities will be essential for achieving quick wins and making progress towards the project's ultimate goals. With all of these themes at play, it is clear that this project will require thorough planning, strategic partnerships, and a forward-thinking approach to deliver long-lasting results for the City of Johannesburg.

49. The use of spatial information for national development is a multifaceted topic, with various underlying themes that highlight the crucial role this type of data plays in promoting stability, managing threats, addressing inequality, and improving implementation and communication. One of the main benefits of utilizing spatial information is its ability to promote both personal and political stability, as seen through its military applications for training and support on battlefields, the use of high-resolution satellite imagery for precise decision-making, and the utilization of equipment like drones and weapon tracking to locate and neutralize potential threats. Additionally, spatial planning is essential in managing terrorism and other hazards, as evidenced by the need for special envoys in hotspots to guide government interventions. Moreover, in dealing with displacement, identifying and addressing hotspots for focused attention and providing family security and stability through proficient use of resources are critical applications of spatial information. Another pressing concern that spatial planning can help address is inequality, as it can identify disparities and inform remedial strategies. To achieve optimal results, it is crucial to have improved implementation and communication through the strategic transformation of the national landscape and effective internal communication. At the same time, it is essential to address the "Wishlist items" for a world without terrorism and political stability in the country and ensure more adequate funding to support spatial planning initiatives and advanced communication techniques to articulate these interventions effectively. Finally, as we continue to learn and grow, continuous education in efficient spatial planning techniques is vital, while balancing economic growth alongside these initiatives to achieve national development. Overall, each of these themes sheds light on the diverse aspects of spatial information and its role in advancing national goals.

50. As the interest in global communication grows, translation efforts have become increasingly important in bridging the gap between people of different languages

and cultures. However, these efforts are not without challenges. Across various languages such as French, Spanish, and Arabic, difficulties arise in finding accurate and culturally sensitive translations. Adding to this complexity are resource constraints that many organizations are facing, including the IGF. In an effort to overcome these challenges, the IGF is seeking new resources and utilizing proven tools and strategies, such as the overarching strategy of the IGF and its latest version from February that lays a stronger focus on climate. One area that the IGF has been exploring is the economic impact of information communication technologies (ICTs). In particular, there has been a push for measuring the contribution of information to a country's GDP and conducting economic studies to determine the benefits. The IGF is also working on developing a methodology to accurately calculate the socioeconomic impact of ICTs. As discussions on various economists' approaches continue, an international seminar presented exciting outcomes that further highlight the need for understanding and communicating measurable economic impacts. In light of this, the IGF encourages countries to conduct similar economic research in their own participants and invites economies to help advance the field. With these efforts, the IGF hopes to shed light on the potential and importance of ICTs in driving socioeconomic development.

51. The world of geospatial technology and analysis is rapidly expanding, with various domains and industries utilizing its capabilities for growth and development. China is at the forefront of this industry, with their annual report showcasing the country's advancements and innovations. From the creation of 3-dimensional digital channels to the establishment of National Geospatial Councils, China is making great strides in the geospatial field. Their involvement in international peacekeeping efforts and efforts to grow leadership within the (IGIF) only solidifies their commitment to this industry. Speaking of the (IGIF), it is evident that this organization plays a crucial role in the global geospatial industry. By evaluating sustainable governance structures and emphasizing the importance of better communication and collaboration, the (IGIF) has made a significant impact. Yet, there is still potential for further development and improvement in the industry. The implementation of geospatial technology and tools in real-life actions, the growth of various industry aspects, and continuous improvement and innovation are some of the key lessons we can learn from the (IGIF) journey. As we look to the future, it is essential to recognize the importance of initiatives like (IGIF) Day and the potential for governments to work together through organizations like the National Geospatial Foundation. With continued effort and collaboration, the geospatial industry has a promising future ahead.

52. In Mozambique, with the assistance of funding from the World Bank, the ambitious project of creating a National Network is well underway. As the project progresses, updates are continuously shared with stakeholders on the status of the initiative and the continuation of financial support. The intricate implementation process involves tackling almost 910 steps outlined in the project guideline, including information integration, assessment, validation, action planning, and stakeholder engagement. Furthermore, the partnership between organizations plays a crucial role in the success of the project. The composition of the National Council and Technical Committee are carefully considered to ensure efficiency and effective decision-making. As data is at the core of the project, a comprehensive strategy for data management, quality standards, and planning for data use have been established. The project also prioritizes innovation and standardization, with initiatives in place to promote efficiency and consistency. Exciting plans for future developments, such as the release of a new solution and efforts for GIS Day, are already in the works. Additionally, the project recognizes the importance of building and maintaining partnerships and collaborations. Through capacity-building measures and effective communication, the project aims to foster productive relationships with partner institutions, including those in neighbouring areas. With a focus on efficiency, innovation, and collaboration, this project is set to make a significant impact on the nation and its development.

53. Globally, it is imperative for organizations and communities to stay up-to-date and embrace new technologies and innovations in order to thrive. This stands true for

military and forest management applications, where the use of GIS technology has proven to be advantageous. In order to adapt to these advancements, effective communication is key. As seen with the success of planning hackathons and events like the annual GSD celebration, strategic planning and decision making, stakeholder engagement, and integration are vital for progress. Global collaboration and participation also play significant roles, as seen with the involvement of countries like Burkina in military applications development and Cameroon in forest management. Moreover, efforts must be made to raise awareness and educate individuals about these new technologies, with initiatives such as "Mapping at School" and addressing institutional challenges like governance in Egypt. By engaging high-level policymakers and showcasing products, stakeholder engagement and policy making can be effectively managed. It is also important to acknowledge and appreciate cultural nuances, such as hosting jazz day and providing good food at events, to foster a sense of community and bring people together. To ensure the success of these efforts, it is crucial to constantly discuss plans at higher management levels and strategize ways to garner support and adaptation. Each of these themes carries notable implications for the project's progress and must be managed with attention to detail, information sharing, organizational strength, and collective decision making. With a thoughtful and thorough approach, the project's potential for growth and success is boundless.

54. In the Republic of Côte d'Ivoire, a variety of themes and topics, providing a holistic view of the ongoing efforts and accomplishments of the organization. One of the prominent themes is collaboration and partnerships, highlighting the importance of working together with various organizations. The ongoing collaborations as well as past partnerships that were funded by the government, donors, or other partners. It also mentions exciting future partnerships, such as the one with MU, waiting to be finalized. Another notable theme is data collection and analysis, showcasing the organization's expertise in collecting and generating data for different organizations. This includes the creation of weather maps and their significance. Projects and development are also a significant aspect of the organization's work, as seen through events like the dinner with focus groups from the Ministry of Transportation and specific projects like the restoration and development of rural land and modernizing duty to work. The participants also touches upon budgets and funding, stating that the operations can be funded by any available budgets, with specific funding from Ward Bulk for the final reports. Land administration is also mentioned, specifically the task of entitling land under the river landing code and collaboration with the Ministry of Agriculture for rural land administration. The organization's global reach is evident through its international cooperation, including involvements with AU's GMs program in Africa and the Rustic project, as well as a new agreement with Lasak from the Ministry of National Resources in China. It also collaborates with social society organizations like Sylvan Society. Adding a personal touch, the participants mentions a 15-year work relationship with an unnamed person, showcasing the dedication and longevity of the organization's team. Overall, the participants presents a well-rounded and engaging outlook on the organization's work and partnerships.

55. The importance of learning from the past and building upon previous work. Rather than starting from scratch, it advocates for utilizing past experiences and plans, such as the "National Geometric Plan," as a strong foundation for future developments. Furthermore, the concept of meaningful partnership is emphasized, emphasizing the need for cooperative management and engaging various stakeholders in the process. This collaborative approach is deemed essential for successful implementation and long-term sustainability. In addition, the participants stresses the significance of thorough assessment and evaluation, through the use of a 'Special Application Inventory' or 'Special Application Assessment', to identify and address existing data gaps. It recognizes the importance of understanding the current state and future goals of the country before embarking on any major initiatives. The emphasis on past meetings and gatherings, as well as plans for regular engagement, further highlights the collaborative and reflective nature of the process. Lastly, the vague references to a "Lance Journey" add to the intrigue of the participants, subtly hinting at past

experiences or learnings that may have influenced the current approach. Overall, the themes discussed in the participants offer valuable insights into the necessary components of effective and sustainable development, highlighting the importance of learning from the past and working together towards a common goal.

56. Tim presentation highlighted issues related to the strategies for cultivating leadership and the crucial role it plays in policy decision-making. It's not just about making decisions but understanding the impact of those decisions and effectively communicating them. We will explore ways to engage and transmit key messages to those who may be indifferent or unaware. The use of strategic pathways can guide action and allow for meaningful discussions, especially when it comes to the diverse and expansive professions within the geospatial field. One cannot overlook the pervasive nature of spatial considerations and the need for consistency in dealing with the inconsistency of specializations, hence the importance of standards. However, the high cost and inadequate funding for geospatial technology remains a pressing issue. Let's dive deeper into these topics and work towards finding solutions to make the most of our resources and drive the success of our geospatial initiatives.

57. In today's rapidly changing world, having a successful strategy and action plan is crucial. This involves not just setting goals, but also ensuring timely execution and delivery of quick wins. To make these strategies more compelling and relatable, it is important to use resonating examples and compelling cases. An effective way to grab the attention of others is by utilizing geospatial advances, which can help to focus and prioritize efforts. When approaching others, it is essential to emphasize how your strategies will effectively address their needs. Using visual impact and working across governments can also make a significant difference in effectively communicating with others. Preparation and visual engagement are key factors in ensuring successful meetings. Including others in discussions and incorporating maps and visuals can enhance the understanding and engagement of all parties involved. In dealing with challenges, there may be instances where confidentiality laws restrict the use of certain information, such as address lists. In these cases, it is important to adapt and create procedures that can address these constraints. Learning from others is also an important aspect in effective communication. By understanding others' personalities and focus, we can tailor our communication and convince them more effectively. These skills and techniques will not only help in implementing successful strategies but also in fostering better understanding and cooperation among individuals and organizations.

58. As we dive deeper into the themes presented, it becomes clear that guidelines play a crucial role in the geospatial industry. With their universal language and broad applicability, they serve as valuable references, even if they may not precisely match the specificities of each country. What is even more impressive is that these guidelines are continually updated based on inputs from UN working groups, ensuring their relevance in an ever-changing landscape. However, it is not just guidelines that are important; stakeholder engagement also plays a significant role. It is essential to know and understand the needs and preferences of stakeholders, including those outside of the geospatial domain. Additionally, cooperation between different departments and breaking down organizational silos is crucial for successful implementation. Strategic planning is also an integral part of achieving goals, with each country having its own unique set of challenges that require different prioritization and action plans. Technology and resource utilization cannot be ignored, with a focus on skills, technology resources, and collaboration highlighted as key factors. And finally, the importance of historical participants cannot be overlooked. Looking back on past experiences highlights the persistent adaptability within the industry, with technology evolution being a significant driver of change. With all these themes in mind, it is clear that the geospatial industry is a complex, ever-evolving field that requires adaptability, collaboration, and strategic planning to thrive.

59. In today's fast-paced and competitive world, the role of leadership is crucial in seizing opportunities and making critical decisions. However, with leadership comes the dilemma of decision making and its implications for both the organization and

individual leaders. This is where the use of data and effective presentation skills become essential. It is important to not only use data for meaningful purposes, but also to adapt presentation styles to suit the needs of different stakeholders. Complex information can be made digestible and impactful, as seen in the bomb blast video example. Additionally, problem-solving and adaptation based on organizational capabilities are key for success. Adequate funding and infrastructure are vital in the modelling and simulation exercises discussed, highlighting the need for assessment and problem-solving around national infrastructure. Collaboration across different agencies is crucial in bridging knowledge gaps and obtaining information and resources. This emphasizes the importance of having an informed body, similar to the Federal Geographic Data Committee in the United States, to facilitate effective multi-agency collaboration. Lastly, stakeholder engagement and networking play a significant role in an organization's visibility and ability, highlighting the importance of understanding their position with others. These themes offer valuable insights into the multifaceted aspects of leadership, decision making, data usage, problem-solving, and multi-agency collaborations.

60. The excerpt provided covers several important themes. It starts by highlighting the agency's preparedness and willingness to provide solutions, demonstrating their commitment to addressing potential problems. The impact and contribution of the AI assistant's solution is acknowledged, recognizing its positive effect on the country's well-being and safety. The participants also sheds light on the leadership qualities exhibited by the government, exemplified by their approach of seeking answers and verifying capabilities internally before making decisions. This showcases their prudent decision-making skills and sets a valuable example of effective leadership. Additionally, the importance of seizing opportunities while managing risks is emphasized, with a specific focus on addressing social inequalities and distributing resources equitably across all regions. This demonstrates a strategic approach to decision-making that considers the long-term welfare of the country.

61. The development projects and programs undertaken by the government. Efforts are being made to establish a mechanism that visualizes and tracks government investments, ensuring transparent and accountable utilization of resources. The need for visual support and indexes to compare development efforts across different regions is emphasized, indicating a commitment to balanced and inclusive growth. Furthermore, the regret expressed over a missed opportunity to showcase the solution at a specific event highlights the importance of timely and effective implementation. However, the future strategy involves adapting and extending the SD data hub to accommodate these needs, demonstrating a commitment to long-term solutions. Collaboration and communication among departments are recognized as pivotal in achieving desired outcomes, as evidenced by the exchange of documents and revisions to reach an agreement. This highlights the significance of collaborative problem-solving and decision-making in this conparticipants. In summary, the provided participants covers themes such as preparedness, impact, leadership, opportunity, development, missed opportunity, and collaboration. These themes collectively emphasize the importance of strategic decision-making, effective resource allocation, and collaborative efforts in promoting the well-being and safety of the country.

62. The first theme centres around the crucial role of engagement and understanding in supporting government initiatives. It emphasizes the need for active participation and a comprehensive understanding of government affairs through attentive listening and staying informed. This includes building relationships with policymakers and departments to gather relevant information and identify opportunities for collaboration and problem-solving. The second theme focuses on collaboration and support as key components in effective government support. Deploying experts or officers in other agencies, such as placing mapping experts within public works, can facilitate efficient project support and coordinated efforts. Ongoing connectivity and structured mechanisms for feedback and coordination are also crucial in this approach. Another vital aspect is resource optimization, requiring organizations to prioritize agility and adaptability due to limited resources. To achieve this, policies such as rotating personnel and strategic planning can be

implemented. The importance of data-driven decision-making is also emphasized, with the need for evidence and analysis in developing action plans and delivering prompt solutions to government issues. Lastly, continuity and connectivity are highlighted as essential components for long-term success, necessitating the establishment of lasting relationships and structures. In conclusion, these themes underscore the significance of engagement, collaboration, resource optimization, strategic planning, data-driven decision-making, and continuity in effectively supporting government initiatives and addressing challenges. Incorporating these principles can have a positive impact on governmental processes and aid in problem-solving endeavours.

63. From engaging in intergovernmental relations and shaping policies to focusing on revenue generation and investing in the geospatial industry, there seemed to be a common thread of interaction with government entities. But beyond that, the conversations also revolved around data - collecting, integrating, and utilizing it for various purposes, such as topographic mapping and monitoring SDGs. Revenue generation and industry focus were also at the forefront, with talks of B2B meetings, consulting services, and exploring niche markets like real estate. Amidst the challenges faced by the industry, including the need to find a sustainable niche for profits and opposition to surveys, there were also opportunities noted, such as partnerships with international companies and leveraging data for economic benefits. Throughout these discussions, the importance of collaboration and relationship building was emphasized, whether it be with clients, government officials, or key stakeholders. The ever-changing market dynamics and the need for digital transformation were also recurring themes, reminding us to stay agile and consider government strategies and industrial sectors. And finally, the importance of advocacy and effective communication was highlighted, as the industry seeks to advocate for the benefits of geospatial data and build strong relationships with all those involved in the surveying process. Overall, these varied themes painted a dynamic and multifaceted picture of the geospatial industry, with a strong focus on government engagement, data utilization, revenue generation, challenges and opportunities, collaboration and relationship building, digital transformation, and effective communication and advocacy.

64. As we delve into the world of geospatial information management, it becomes clear that effective communication and messaging are essential for its success. This includes advocating for national authority and independence, establishing strong leadership, and fostering collaboration. Within these broad themes, there are several additional key points to consider. For instance, in terms of communication and advocacy, it is crucial to effectively convey the message and address policy and legal aspects to garner government support and investment. In order to establish leadership and authority, it is necessary to empower the IGF as the main institution and develop strong leadership within national action plans. In terms of institutional reforms and collaboration, efforts should be made to modernize the national mapping agency and build a robust geospatial information community. Furthermore, accountability and independence play a vital role in ensuring the success of geospatial processes. This includes addressing the lack of obligation for government response in parliament, establishing legislation and a coordinating body, and maintaining independence and oversight in all geospatial efforts. Finally, time management and decision-making are crucial for effective leadership, with a focus on keeping track of time, taking breaks, and making prompt decisions. By considering these grouped themes and their individual components, we can lay the foundation for strong and successful geospatial information management.

65. As we look towards the future, it becomes more and more evident that effective leadership is crucial to driving action and creating an effective plan. This is especially true in the world of mapping and data generation. With the rapid advancements in technology, it is important for leaders to embrace new tools and methods in order to achieve accurate and efficient mapping processes. This means adopting digital tools and transitioning from passive to active mapping. Governments also play a critical role in supporting and funding mapping projects, as seen with the Chinese government's special allocation for cooperation projects.

Additionally, it is essential for mapping and data to address the unique needs of the government and local communities. By integrating data, people, and resources, we can effectively solve local problems and achieve desired results. Effective communication and advocacy are also key in promoting the importance of mapping and securing support and investment. Furthermore, mapping must consider planning factors and economic, social, and environmental concerns in decision-making processes. This not only prioritizes safety, savings, and justice, but it also utilizes maps as evidence for planning and decision-making purposes. International collaboration is also crucial in knowledge and innovation policies, such as with China, Japan, and Australia, and in serving mapping projects in Africa through partnerships. It is important for leaders to have future-oriented thinking, with a focus on technology, data, and human resources to shape a strong foundation for future growth and development. By keeping these factors in mind, we can effectively utilize mapping and data to drive progress and create a better tomorrow.

66. The themes discussed, are crucial to the advancement of mapping projects in Africa. One recurring topic centre around the idea of sustainable funding and bilateral cooperation. From the importance of securing long-term funding to discussions on leveraging bilateral relationships, it is clear that maximizing opportunities and options through collaboration is a key focus. Another significant theme is the launch of both the China African Satellite Remote Sensing Corporation Centre in Beijing and the African Geological Cooperation Centre in Wuhan. These centres highlight the importance of utilizing satellite data and data processing in addressing regional needs. Additionally, the participants touch on specific collaborations, such as the one with Tanzania, where they are working together on laboratories and mapping servers. The government's involvement and engagement with the Chinese diplomatic mission further emphasize the importance of regional and bilateral cooperation. Other noteworthy topics include the need for advanced technology in schools and hospitals, the value of understanding history in working with other countries, and the organization of questions into categories for efficient discussion. As we can see, this participant covers a wide range of pertinent issues and showcases the efforts being made towards progress and development in the mapping industry in Africa.

67. Governance and institution: The unexpected level of support is seen as crucial for the success of the plans, and the need for strong support is discussed in terms of budget and legislative mandates. However, the speaker also notes that a legislative mandate is not always necessary, and the presence of coordinating entities or bodies is crucial. In the absence of such coordination, change management in special information management can become quite challenging. As the conversation progresses, the speaker reflects on the journey of implementing an action plan and wonders if the level of endorsement needed was known from the start or was learned along the way. It is emphasized that understanding one's game, developing actions, and addressing any gaps are necessary to stay ahead and not fall behind in speed. Furthermore, the speaker holds up the example of Walter from another country whose determination and effort in addressing problems have led to successful solutions. Lastly, the speaker suggests discussing specific interests or inserting new topics to continue the fruitful dialogue. Despite some fragmented and unclear parts in the given participants, these different themes highlight the importance of collaboration, proactivity, and learning from other experiences in successfully implementing plans and achieving desired outcomes.

68. Policy and Legal Issues: As technology continues to advance and become an integral part of our daily lives, the complexity of data resources is becoming more apparent. The conversation above has highlighted the significance of mobile phones and social data, bringing into consideration national safety and security. This has led to the emergence of a new concept of data resources, further emphasizing the need for stability in platforms. Platform purchase and stability, as well as the integration of Geospatial Information Service, have been identified as crucial factors in ensuring the safety and governance of information and community security. With the rise of technology, there is also a growing concern for privacy protection and data registration, especially when it comes to mobile phones and cars. It is now being recognized that data is a form of special property, and thus, requires adequate

protection and registration. The need for speed and standardization in mapping work has also been emphasized, along with compliance with set standards and enforcement measures. In order to have efficient data exchange and utilization, there is a growing need for a UN Convention on Geo Data, taking into account a continental perspective and national implications. This would enable an effective exchange of data across government levels and create an enabling environment for spatial information. The conversation has also touched upon the importance of collaboration between technical and legal expertise, recognizing the involvement of lawyers and legal professionals in developing appropriate legal frameworks and guidelines. It is crucial to consider national and regional needs in this process. Availability and accessibility of data were also discussed, highlighting the need for federated systems and data sharing, as well as the standardization and transformation of national data. However, as we delve deeper into these matters, the legal complexities and considerations cannot be overlooked. It is important to navigate through differing laws at the national and regional levels, while ensuring compliance with directives and standards. This may require the establishment of a centre of excellence and legal collaboration. The evolving landscape of data resources calls for a collaborative effort between technical and legal experts, in order to address the challenges and ensure efficient and responsible utilization for the betterment of society.

69. Financial: The discussion painted a vivid picture of the challenges and strategies involved in partnering with the World Bank for development projects. One overarching theme is the need for a strong partnership with the World Bank in order to gain access to funding and support for initiatives. This includes exploring avenues for financing projects and understanding the different conditions and approaches of various donors, such as the European Union and the World Bank. However, this partnership is not without its challenges and limitations, as highlighted by the difficulty of making progress in Washington, D.C. and the limited support for Least Developed Countries (LDCs). To navigate these obstacles, individuals must build strong networks and relationships with key figures, such as the Minister of Finance, and continuously push forward in pursuit of funding opportunities. Personal experiences and stories add a human element to these discussions, with some recalling successful partnerships while others express frustration with the accusations of not working with the bank. Amidst all of this, the importance of building capacity and understanding the donor system through training is emphasized. Furthermore, the use of visualizations and mechanisms provided by the World Bank are referenced, showcasing the importance of technology in this partnership. These themes, while not capturing every aspect of the discussion, give a comprehensive overview of the intricacies involved in working with the World Bank for development projects.

70. As governments strive to ensure efficient and sustainable operations, financial planning takes centre stage. It is vital to secure a baseline of support for day-to-day operations, budget for new initiatives and infrastructure projects, and effectively communicate funding needs to obtain necessary resources. Furthermore, it is imperative to have robust financial and administrative systems in place to effectively manage payment orders, invoices, receipts, and payments. However, interdepartmental payments can bring about additional challenges and costs, highlighting the importance of proper funding for a program and not relying solely on other departments as paying clients. Competing for funds within the same government pot and seeking payment from other departments can also be met with resistance. As such, effective communication with the treasury is crucial in conveying funding requirements and justifying the need for proper funding. Finally, the discussion shifts towards data-related matters, emphasizing the importance of both financial planning and data in government operations. These themes provide a comprehensive overview of the complex considerations and challenges involved in financial planning within a government setting, highlighting the importance of effective systems and communication for sustainable and efficient operations.

71. Data: In examining the given information, several key themes emerge that highlight the complex and multifaceted nature of data management. Firstly, importance is

placed on the collection and mapping of data, including the annual survey and maintaining accurate boundaries. However, this process is hindered by data shortcomings, such as a lack of common themes and difficulty incorporating socio-economic activities. Developing partnerships and collaborations with other ministries and organizations is also crucial for successful data management, as seen in involving the Minister of Défense for updated topography maps and seeking funding from the World Bank. Furthermore, data validation and management are key considerations, as inconsistencies and specific location determination can affect the accuracy of data. Economic activities and statistics are also crucial, with initiatives such as the Special Economic Activity portal and assessing government spending and functional areas. The use of geospatial data and frameworks in statistical analysis and managing boundaries is also necessary, as well as considering population and demographics in data action plans. With data integration and improvement, incorporating various sources and updating data is a continual process. Careful data planning and strategy are also essential, with the need to define standards and align plans with stakeholder interests. Finally, technical considerations such as utilizing tools for data gathering and research, and using statistical weights for data collection, must also be taken into account. It is evident that all of these themes are tightly interconnected and must be carefully considered and addressed for effective data management in the London Administration.

72. As we delve into the topic of urbanization in Africa from the given participants, we can identify and group various themes that shed light on the crucial role of accurate and detailed data. The need for detailed data to understand the changes brought about by urbanization is highlighted, along with the detrimental effects of using outdated data dating back 15-30 years. It is evident that accurate data is not just imperative but paramount for effective action on the ground, as demonstrated by the examples of high-speed internet access and electrification. The participants also explores the National Mapping Agency's role in data collection and the ongoing debate between traditional data collection methods and citizen-generated data. While reflecting on the possibilities and benefits of utilizing citizen-generated data, the importance of voluntary-based processes and collaboration with other organizations is emphasized. Furthermore, the participants provide concrete examples that further illustrate the significance of accurate data, such as determining high-speed internet access and building-level data for electrification levels. However, challenges related to data collection and maintenance are also acknowledged, including data gaps and the need for annual surveys and daily address collection to keep the data up-to-date. The importance of collaboration and coordination among organizations to address such issues is also highlighted. In conclusion, the participants effectively highlight the critical role of accurate and detailed data, discusses different data collection methods and their pros and cons, and emphasizes the need for collaboration and coordination to ensure accurate and reliable data in addressing important issues.

73. Innovation: In today's rapidly developing world, innovation and development are key themes that are constantly shaping our societies. As highlighted in the participants, these themes are also fundamental to the field of geospatial technology. However, not all countries are at the same stage when it comes to innovation and development. While some may be actively pushing the boundaries and seeking to become innovators, others may still be struggling to catch up and fully utilize geospatial technology. Priorities and experiences play a significant role in determining the pace and effectiveness of innovation in different countries, as seen in the challenges faced with digital literacy and water resource management. To combat this, it is crucial to strengthen partnerships with other organizations and share knowledge and advancements in geospatial technology. In addition to this, the concept of data cubes and the ambition to create action plans for countries highlight the importance of data and mapping in achieving innovation and development. However, there is a need for mechanisms to map demand for these services and make maps more relatable to users, emphasizing the influence of human-centred design. Furthermore, considerations about the process of reaching goals, the user's perspective, and engaging stakeholders and diverse perspectives are key components in the reengineering process. Despite these efforts, limitations and challenges still

exist, such as limited access to technology and resources in some countries, the need to understand local participants, and overcoming misconceptions about innovation. With these themes in mind, we can continue to navigate and advance the field of geospatial technology, striving for greater effectiveness and impact in our societies.

74. Partnerships: The crucial role of partnerships in sustainable development efforts in Burkina Faso. It emphasizes the involvement of local, mandated actors in the production process and the importance of establishing win-win partnerships that benefit both parties economically. These partnerships can be within the same sector or across sectors, leveraging the strengths of diverse stakeholders. However, effective communication and clarity are necessary for successful partnerships. It is essential to clearly define the desired outcomes and understand the different levels of government and sectors involved. Collaboration is also key, as partnerships between external service providers and local actors can drive growth and improve the national market. One key factor in fostering successful partnerships is ensuring that both parties involved gain profits, leading to long-lasting collaborations and sustainable development. By focusing on these themes of building partnerships, communication and clarity, and collaboration and profits, we can further explore and analyse the complexities of sustainable development efforts in Burkina Faso.

75. Capacity building and education: Geospatial intelligence has become an increasingly important tool in today's world, and the need for proper training and education in this field has been recognized by many. This is evident in the proposal to train government officials in geospatial intelligence and the importance placed on university students learning basic geospatial information. Furthermore, the role of location services in various industries such as delivery and transportation has been highlighted, showcasing the wide impact of geospatial intelligence. Education and capacity building have also been given significant attention, with the growth and impact of online education and the consideration of hardware, software, and technology support as crucial elements. The suggestion of outsourcing for efficiency and cost savings in building capacity highlights the need for collaboration and partnerships. This is further emphasized by the idea of aligning curriculum with development needs through collaboration with academic networks and the involvement of professional bodies and industries in shaping education and accreditation. The importance of regional capacities and a sub-regional approach is also advocated, along with involving regional training institutions and engaging with sub-regional intergovernmental needs in implementing global agreements. The recognition of the role of regional committees, advisory committees, and practitioner involvement in decision-making processes highlights the importance of a collaborative and inclusive approach in this field. Finally, the role of information sharing and effective communication through education and capacity building initiatives is acknowledged, showcasing the importance of these themes in the overall discussion. These themes provide a comprehensive understanding of the key concepts and ideas discussed in the participants, highlighting the significance of geospatial intelligence and the need for a collaborative and inclusive approach to education, capacity building, and decision-making processes in this field.

76. Communication and engagement: From start to finish, there was a strong emphasis on expressing thanks and recognizing the support of colleagues, partners, and supporters. It was heart-warming to see how much value was placed on genuine relationships and the willingness to work together. This leads to another important theme - collaboration and partnerships. The passage highlights the importance of not only personal partnerships but also institutional and country partnerships. It reminds us that progress and growth can only be achieved through the support and cooperation of others. Speaking of progress and growth, those were also recurring themes throughout the passage. Whether it was the advancements in technology, the expansion of a program, or the push towards goals, there was an underlying belief in continuous improvement and achievement. This, of course, requires effective communication and engagement. The passage stresses the importance of active listening, engaging in person, and being open to communication in order to address challenges and propel oneself towards greater heights. And in the midst of all these external factors, there was also a hint of the importance of personal reflection and

transformation. Learning from the wisdom of philosophers like Aristotle and continuously striving for growth and self-improvement. As I reflect on these themes, I can't help but group them into three categories - gratitude, appreciation, and collaboration; progress, growth, and communication; and personal reflection and transformation. These are all interconnected and crucial in achieving success, both individually and as a society.

77. It is evident that there are several critical themes that emerge. Firstly, the utmost importance of effective communication, especially in the participants of stakeholder engagement. Participants recognize the need for regular and meaningful communication with stakeholders, but also expressed frustration at the lack of guidance and resources to support this process. This further emphasizes the vital role of leadership in promoting and facilitating communication within and across government institutions. Leaders, particularly the director general, must play a central role in identifying stakeholders, developing communication plans, and leveraging input from stakeholder workshops. Moreover, the conversation brings to light the importance of considering the national coparticipants and prioritizing communication efforts in decision-making. In doing so, leaders can promote inclusivity and collaboration, which are essential in addressing developmental challenges. As such, it is clear that there is a need to improve the approach to communication within these institutions, particularly when it comes to language and messaging. Participants identified the need for training and tools to facilitate effective communication, such as short messages, and expressed the challenges in implementing a robust communication strategy. Lastly, the idea of keeping a register of communication events to monitor progress speaks to the desire for accountability and a more structured approach to communication. Overall, these themes underscore the critical role of communication in addressing development challenges and highlight the need for continued improvement in this area.

78. Effective communication is vital to the success of any project or endeavour, and discussions highlighted the importance in various ways. From the need for a communication strategy and plan, to tailoring one's message to different stakeholders and recognizing when to adjust messaging for different stages of the process, the emphasis is clear on generating action through effective communication. Additionally, the need to constantly review and improve upon the implementation guide, aligning language with implemented actions and considering the overall communication approach. This suggests the importance of continuously striving for improvement and adapting to the unique needs of each situation. It also raises questions about the end goal of the country-level action plan and the significance of endorsement and clarity in regard to this matter. Furthermore, participants touched upon the potential risks of relying solely on documents without proper interpretation, and the need to make tools publicly available while clarifying their intended purpose. This highlights the importance of flexibility and customization in the communication process, as each situation may require a different approach. It also challenges the assumption that the tools are designed as self-study courses, emphasizing the need for guidance and assistance along the way. Finally, the participants stress the importance of continuous feedback and learning from workshops and examples, reminding us that effective communication is an ongoing process of growth and improvement. Clearly, there are various themes that can be identified from the provided participants, all of which highlight the crucial role that communication plays in achieving success.

79. With globalization on the rise, international collaboration and communication have become vital in achieving goals and making progress. To successfully embark on the journey towards a specific goal, it is crucial to reach out to other countries and establish clear communication and understanding of the objectives at hand. Sharing knowledge and experiences among different countries and collaborating in implementing national action plans can result in more effective outcomes. The active participation of experts from different fields and backgrounds can also provide guidance and support in the process. However, challenges and obstacles may arise, such as the lack of progress in certain countries initially approached, language and communication barriers, and misunderstandings and conflicting demands.

Therefore, a country-specific approach and customization are necessary to achieve success. This involves developing tailored action plans and utilizing resources and tools that are specific to the individual national participants. It is also important to recognize and appreciate the progress made by certain countries on track to finish the process. At the same time, caution must be advised for countries attempting the process independently, as flaws and mistakes may arise without proper guidance and support. To ensure success, emphasis should be placed on utilizing available resources, acquiring relevant skills and knowledge, and making use of structured plans and efficient time management techniques. These themes provide a comprehensive overview of the main topics discussed, highlighting the importance of international collaboration, customization, and strategic utilization of resources in achieving goals on a global scale.

80. As we move towards implementing complex programs and plans, challenges and risks of failure are inevitable. With scarce resources and political hurdles often affecting progress, it is crucial to address any concerns about the success and failure of the program. Here, a country-owned and country-led approach can prove to be beneficial. By allowing countries to set their own pace and emphasizing their role in implementing the plan, we can better tailor our actions according to national priorities. Effective communication is also key in this process. Different forms and purposes of communication must be utilized to effectively influence decision-makers and garner support. To further enhance our efforts, it is important to invite stakeholders and experts from various departments for collaboration and learning. However, we must also recognize the challenges in engaging participants, as competing priorities and commitments can make it difficult for them to attend events and fully commit. As we strive to expand the expert community and attract new members, it is essential to continuously seek valuable insights and expertise from a diverse group of individuals to drive successful implementation.

81. There are several recurring themes that highlight the challenges and opportunities faced by the organization. One key theme is the need for effective management of geospatial information and resources, as the lack of boundaries and clear limits on government-owned land poses significant obstacles. This highlights the necessity for a specialized subprogram on Geospatial Information Management to better organize and utilize this crucial data for economic and social development. However, accessing resources and funding for spatial information management proves to be a major hurdle. Additionally, the importance of participating in global conferences and forums is emphasized but is met with security concerns and limited resources and capacity. Another critical theme is the struggles with budgeting and resource allocation, as obtaining funding and justifying the organization's work to political and budgetary committees remains a constant challenge. Visibility and recognition are also highlighted, as certain countries and the UN system may lack visibility and face difficulties in receiving support and permission from member states. Collaboration and leadership are essential in addressing these challenges and creating meaningful change. It is vital to have a coordinated effort in requesting funding, as well as supporting and collaborating with other organizations. Another important aspect is transition and continuity, as the organization must continue its work even with changes in leadership. This calls for providing guidance and support to successors and new committee members, as well as navigating political transitions and understanding the backgrounds of activists. These are just a few of the themes that emerged from our discussion, showcasing the complex world of international organizations and the continual effort required to drive progress and bring about positive change.

82. It is evident from the discussion above that several key themes emerged concerning the challenges faced by the Committee of Experts on Global Geospatial Information Management (UN-GGIM). One recurring issue is the lack of funding and resources, with member states struggling to secure necessary funds for travel expenses and the committee itself operating without sufficient resources for the past 12 years. There is also a clear division of responsibilities and a need for better coordination in geospatial information management, with the absence of a global Department or Ministry of Jurisdiction Information. Decision-making processes also prove to be a

challenge, with decisions often made solely by permanent missions without consulting experts from capital. Leadership is another crucial aspect, with a strong need for competent leaders to push for initiatives and engage with experts at different levels. Diplomatic affairs and protocols also play a significant role, as effective communication and understanding of protocols is vital in establishing connections and advocating for resolutions. Finally, it is apparent that efforts are continuously being made to address these challenges, with discussions between directors and foreign affairs counterparts, persistent advocacy efforts, and the need for a new resolution to allocate funding and overcome obstacles. It is essential to note that these themes may overlap, as the conversation covered a wide range of interconnected topics related to funding, division, decision-making, leadership, and diplomatic affairs. With all these issues and challenges raised, it is crucial for the committee to work together and find ways to address them in order to effectively carry out their important mission of global geospatial information management.

83. Throughout the discussion, the participants emphasized the importance of readily available resources and thorough documentation for effective implementation of action plans. They stressed the need for keeping these resources up to date and cross-referencing them to provide reliable and accessible information. Additionally, the dialogue highlighted the significance of introducing the purpose of UN IGIF early on, as not all participants may have a clear understanding of its role in the international community. The team also recognized the latest resolution as the top priority, focusing on the mandate of the UNGA Committee of Experts and aligning operations with the SDGs and the UN IGIF. Further discussions revolved around the measurement and computation methods for SDG data and indicators, with an emphasis on accuracy and efficiency. The possibility of including this information on the website or keeping it separate was also deliberated upon. The importance of navigation and access to resources on the website of the statistics division, particularly the SDG data and metadata, was also acknowledged. As the discussion came to a close, participants were given the opportunity to reflect on the past few days, indicating potential agreements, improvements, and overall progress made during the dialogue. Overall, the participants displayed a strong focus on effectively meeting the goals and mandates set forth by the UN IGIF, ensuring comprehensive and accurate resources for action plans at the country level, and continually striving towards progress and improvement in their work.

84. As evidenced by the insightful discussion above, several themes emerge when considering the crucial topic of training and development. Firstly, it is clear that training programs are of paramount importance at all levels, not just for lower-level employees. However, frustration can arise when training is not effectively utilized in practical settings. Yet, when training is utilized effectively, it can empower both individuals and organizations alike. Secondly, the case study of a rising star in the private sector highlights the career opportunities that individuals can pursue, while also emphasizing the importance of decision-making and considering both immediate gain and long-term benefits. It is essential for individuals to utilize their full potential and strive for growth within an organization. Thirdly, the impact of leadership behaviour on young employees is a crucial component to consider, as leaders have a significant role to play in fostering growth and contribution. Success stories and individual achievements should be recognized and encouraged. Fourthly, the balancing of technical details and basic concepts in training programs, as well as bridging the gap between training and practical implementation, requires careful consideration. Financial resources must be allocated for training capabilities to be enhanced. Furthermore, at a country-level, it's important for various departments to engage in the preparation of action plans and for national-level initiatives to strive for unity and uniformity. However, challenges may arise in resource allocation and ensuring successful plan implementation. Therefore, community engagement and resource mobilization through strategic measures and key stakeholder involvement are vital for success. Additionally, the mention of a knowledge and innovation centre with a focus on knowledge transfer is a promising approach in supporting implementation plans and capacity-building. These themes and ideas present an exciting and potentially transformative future for training and development.

85. As we delve deeper into the intricacies of the geospatial alliance, it becomes evident that there are several key themes that emerge from the discussion. Firstly, there is a strong focus on membership and expansion, with careful considerations being given to both new potential countries joining the alliance, as well as the assistance and capacity building that will be provided to these new members. Additionally, there are ongoing discussions and proposals for support and engagement, including the development of country-specific action plans and the exploration of alternative options for implementing projects instead of formal agreements. Clear communication and recognition of the alliance's existence and work are also highlighted as critical factors, along with the need for a phased approach in engaging countries and the availability of resources. Another key theme that emerges is the importance of a regional focus and peer-to-peer coaching to cater to the diverse levels of understanding and capacity among different countries. By identifying specific regions and countries for targeted support and guidance, the alliance aims to accelerate progress and promote the sharing of knowledge and expertise. Overall, these themes provide a comprehensive overview of the topics covered in the conversation and highlight the alliance's commitment to promoting collaboration, growth, and development in the geospatial sector.

86. The discussions further covered a range of important and collaborative themes focused on supporting countries in achieving the Sustainable Development Goals (SDGs). It recognizes the need for faster and more efficient methods of providing support, while acknowledging the capacity limitations of countries and the importance of tailoring support to their specific needs. Data disaggregation and reticulation were also highlighted as crucial components for effectively measuring progress on the SDGs. This includes emphasizing the use of disaggregated data and working with statistical agencies to delineate geographic areas for better data integration. The discussion also touched on the value of strengthening the SDG data environment by advocating for more comprehensive and detailed data, promoting alternative data sources and methodologies, and utilizing data science for real-time analysis. The importance of timely and relevant data was stressed, along with the significance of collaboration and partnerships in achieving the SDGs. The event logistics were also addressed, with plans for future in-person events and introducing the new executive secretary and their expertise. Overall, the conversation demonstrated a strong commitment to working together and learning from each other to drive progress towards the SDGs.

87. The discussion highlights the frustrations felt towards the lack of engagement and action from countries on important global issues. There is a sense of dismay that those with the power to make significant decisions often show apathy or lack understanding of the gravity of certain problems. Furthermore, the decision-making process within the United Nations is described as a tiring and challenging task, with negotiations and consensus often influenced by politics and power dynamics. Despite these hurdles, there is a strong push to promote the significance of geospatial information in national development and garner support for its integration into statistical work. A specific concern raised is the vulnerability and specific needs of underdeveloped countries, with a call for increased assistance and resources. Another approach to address this issue is through the Data Alliance, an informal settlement outside the official UN system that operates with its own rules, budget, and accountability. However, struggles with institutionalized bureaucracy within the UN system are also acknowledged, as navigating this highly institutionalized system can be difficult and impede efforts towards meaningful engagement. These themes provide a comprehensive overview of the main points discussed during the conversation, highlighting the challenges and efforts in addressing pressing global issues.

E.   Conclusion

88. The role of geospatial data in decision-making processes cannot be understated. In today's rapidly changing world, it is crucial to integrate this technology into various fields to address global challenges and achieve sustainable development. Geospatial

technology, which includes tools and techniques for collecting, analysing, and visualizing geospatial data, has diverse practical applications in urban planning, disaster management, natural resource management, and climate change resilience. However, in the context of measuring progress towards the Sustainable Development Goals (SDGs), the chronic lack of available data for many indicators is a primary concern. To tackle this issue, the use of proxies and alternative forms of data has been suggested but transparency and justification of proxy data are crucial. The localization of data and lack of a global consensus on data interpretation also pose significant challenges. To overcome these obstacles, transformative changes are needed in outdated systems and laws, while providing detailed explanations on how data points are collected is crucial for transparency and integrity. Geospatial technology plays a vital role in generating indicators to measure the effects of interventions and policies, as well as in assessing risks associated with climate change. It is also essential for tracking and monitoring the achievement of the SDGs. However, special consideration must be given to the marine environment, where cross-agency coordination and cooperation are crucial due to the unique challenges of maritime environments and their interaction with international regulations and treaties. In order to prioritize transparency, thoroughness, and adaptability in data collection and analysis, collaboration between countries and international organizations is essential. International forums and discussions, such as the UN-IGIF and UNGGIM consultative meetings, play a valuable role in facilitating communication and cooperation. As we continue to learn from successful experiences of other countries and utilize resources from international financial organizations, it is crucial to align national action plans with national development plans and train and empower leaders with new tools and technologies. The role of national mapping agencies has evolved significantly over the years, making modernization a vital aspect of their operations. However, anticipating future transformations and potential risks is crucial to stay relevant and fulfill their essential role in modern society. There are still hurdles to overcome in effectively using geospatial data through Spatial Data Infrastructures (SDIs), but progress has been made through learning from diverse experiences. The discussion at the conference highlighted various themes and discussions, emphasizing integration at different levels, including information sharing and management, legal considerations, disaster and risk management, advanced technology, and the importance of dialogue and feedback. Collaboration and cooperation across national borders were also emphasized, particularly in disaster and risk management. Ultimately, the comprehensive and reliable utilization of geospatial data is crucial for informed decision-making, addressing global challenges, and achieving sustainable development goals. As we continue to harness the power of geospatial technology, we can pave the way towards a more sustainable and prosperous world for all.

89. From the enlightening discussion, several key themes have emerged, shedding light on the complex and dynamic landscape of international organizations. One crucial aspect that was repeatedly emphasized was the country-owned and country-led approach, recognizing the pivotal role of nations in setting their own pace and implementing plans according to their specific priorities. Additionally, effective communication was emphasized as a powerful tool in influencing decision-makers and garnering support for initiatives. Collaboration and learning were also identified as essential components, acknowledging the value of involving stakeholders and experts from various departments to share knowledge and drive successful implementation. However, it was also acknowledged that engaging participants can be challenging due to competing priorities and commitments. Another significant topic that was deliberated upon was geospatial information management, highlighting the need for effective management of resources and securing funding. The challenges in obtaining funding and justifying the organization's work to political and budgetary committees were also brought to the forefront. Visibility and recognition were also discussed as key issues faced by countries and the UN system, highlighting the difficulties in receiving support and permission from member states. Moreover, the crucial role of competent leaders, coordination, and leadership behaviour in driving initiatives and fostering growth was also emphasized. Decision-

making processes were identified as a potential hurdle, and the need for better coordination and consultation with experts was stressed upon. The importance of effective training programs, leadership behaviour, bridging the gap between training and implementation, and resource allocation for training capabilities was also highlighted. Additionally, the significance of targeted support and guidance for different regions and countries to promote collaboration and knowledge sharing was recognized. It was also acknowledged that faster and more efficient methods of providing support, data disaggregation, reticulation, and strengthening the SDG data environment were crucial for achieving the Sustainable Development Goals. Unfortunately, the discussion also revealed frustrations regarding the lack of engagement and action from countries on important global issues, navigating institutionalized bureaucracy within the UN system, and promoting the significance of geospatial information. Overall, these themes underscore the complex challenges faced by international organizations, the vital role of collaboration and communication, and the crucial need for effective resource allocation and training to drive successful implementation of initiatives.