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# Status of integration of geospatial and statistical information in Africa

## I. Introduction

Geospatial data, a valuable resource sought after by governments, 1. companies and the general public, have seen a surge in demand and significance. However, managing the vast amount of data requires well-developed infrastructure, which is why African countries are currently implementing national spatial data infrastructure and the Integrated Geospatial Information Framework under the guidance of the United Nations Initiative on Global Geospatial Information Management. Those efforts have been instrumental in enhancing the interoperability of spatial data, which has in turn enabled the seamless merging and exchange of both geographical and statistical data. By bridging that gap, statistical and mapping agencies have unlocked the potential of geospatial data in decision-making and policy development. In addition, with ever-evolving national spatial data infrastructure, the scope for utilizing those data in various industries continues to expand. Clearly, the proper management and utilization of geospatial and statistical data are crucial for driving progress and harnessing their value.

2. The main objective of the present report is to provide a comprehensive overview of the status of the integration of geospatial and statistical information in Africa and in particular:

(a) To highlight the increasing interest in, and capacity to use, geospatial data for practical purposes of governments, companies and the public, in particular in African countries;

(b) To identify the challenges and opportunities in integrating geospatial and statistical information, and the efforts being made to address those challenges;

(c) To discuss the development of national spatial data infrastructure, the United Nations Integrated Geospatial Information Framework and national strategies for the development of statistics in African countries, and to emphasize the need for national statistical geospatial frameworks to achieve effective collaboration among national data-driven organizations;

<sup>\*</sup> E/ECA/STATCOM/9/2024/1/Rev.1.



(d) To provide examples of how geospatial technology has been used in population and housing censuses and surveys in African countries to geocode housing unit locations and create digital enumeration area maps and a geocoding framework for the integration of geography and statistics;

(e) To highlight the critical importance of integrating geospatial and statistical information for sustainable development in Africa.

3. The Economic Commission for Africa (ECA) is dedicated to the integration of geospatial and statistical information. As a leading advocate for sustainable development in Africa, ECA has created a working group dedicated to integrating geography and statistics under the Regional Committee of United Nations Global Geospatial Information Management for Africa. That initiative is aligned with the African Action Plan on Global Geospatial Information Management 2016–2030, which is aimed at strengthening the connection between geography and statistics for sustainable development on the continent, among other things. Acknowledging the significance of geospatial information in guiding policy decisions, ECA strives to improve overall development in Africa and enhance the well-being of its people. Through that collaborative effort, ECA is paving the way for the effective and efficient utilization of geospatial data to drive sustainable development in Africa.

#### II. Rationale for the development of the Global Statistical Geospatial Framework

4. The integration of geospatial data with socioeconomic data has been recognized as a top priority by the Committee of Experts on Global Geospatial Information Management. That matter bears significant weight, as its effects are felt by numerous national geospatial and statistical authorities and international organizations. In response, the Statistical Commission and the Committee of Experts jointly established the Expert Group on the Integration of Statistical and Geospatial Information in 2013. The mandate of the Committee of Experts and the Expert Group was to develop and promote the implementation of the Global Statistical Geospatial Framework. The importance of that integration was further emphasized in 2017 when the Statistical Commission adopted the Cape Town Global Action Plan for Sustainable Development Data. An important objective of the action plan is the integration of geospatial data into statistical production processes. Notably, African countries are leading the way in prioritizing that integration in order to assess policy effectiveness accurately and advance sustainable development. The movement towards incorporating geography into statistics is gaining momentum, and it is evident that integration will play a critical role in shaping and informing future global policies and decisions.

#### III. Developing national statistical geospatial frameworks within the implementation of the United Nations Integrated Geospatial Information Framework

5. ECA and the Statistics Division held, in Addis Ababa from 23 to 28 October 2023, the first expert consultation and meeting to enhance national geospatial information management arrangements, including the integration of geography and statistics, and, thereby, accelerate the achievement of the Sustainable Development Goals. The meeting was attended by participants from Burkina Faso, Cameroon, Côte d'Ivoire, Ethiopia, Mozambique and South Africa. Equally, staff members of the Statistics Division, the Geospatial Information Management Section of the African Centre for Statistics and the secretariat of the United Nations Initiative on Global Geospatial Information Management took part in the meeting. The main objective was to engage invited experts on geospatial information from Africa in discussions to enhance geospatial information management capacities of members and implement the United Nations Integrated Geospatial Information Framework. During the meeting, the approach being used in those efforts was reviewed and refined, with a focus on having an inclusive, integrated, self-paced, country-owned and country-led method for enhancing national geospatial information management arrangements to achieve the Sustainable Development Goals. Furthermore, the meeting was aimed at exploring the need for a coordinated and coherent approach among United Nations centres of excellence that had recently been established or were soon to be established to support those national efforts and avoid possible duplication. Participants looked at developing national statistical geospatial frameworks within the implementation of the United Nations Integrated Geospatial Information Framework. Currently, the following seven African countries are in the process of implementing the Framework: Burkina Faso, Cameroon, Côte d'Ivoire, Ethiopia, Mali, Mozambique and South Africa.

#### IV. Ninth meeting of the Regional Committee of United Nations Global Geospatial Information Management for Africa and the workshop on the integration of geospatial and statistical information

As the secretariat of the Regional Committee of United Nations Global 6 Geospatial Information Management for Africa, ECA held, in Cape Town, South Africa, from 14 to 18 August 2023, the ninth meeting of the Regional Committee and the workshop on the integration of geospatial and statistical information. The meeting was attended by members of the Regional Committee, including members of the Executive Board who are national authorities on mapping, cartography, surveying and statistics. Experts from academia, research institutes, government, civil society and the private sector, and representatives from regional and subregional organizations participated in the meeting. There were over 80 participants, including delegates from 25 African countries and observers from ECA and the secretariat of the United Nations Initiative on Global Geospatial Information Management. Delegates from the following African countries participated in the meeting: Botswana, Burkina Faso, Burundi, Cameroon, Comoros, Congo, Côte d'Ivoire, Djibouti, Eswatini, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mali, Morocco, Mozambique, Namibia, Nigeria, Senegal, South Africa, Togo, Tunisia, Uganda and Zimbabwe. During the meeting, the working group on the integration of geography and statistics presented its annual report to the Regional Committee for appraisal and feedback.

7. The main objective of the workshop on the integration of geospatial and statistical information, which took place on the margins of the ninth meeting of the Regional Committee, was focused on geocoding in the context of enhancing the skills, knowledge and collaboration of participants, with a view to the effective integration of geospatial and statistical data. That goal was centred on the African context, but the new skills learned and the standards and methodologies established could be beneficial on a global scale.

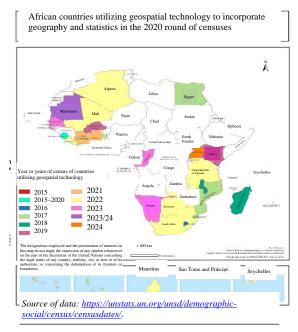
8. The workshop provided a stimulating environment for participants to explore geospatial and statistical data. By sharing success stories and introducing tools and methodologies, attendees gained valuable insight into the potential of those data sources. Discussions about challenges also helped to develop understanding. The workshop was aimed at enabling participants to use data effectively for decision-making and to contribute to data-driven development in Africa and beyond. The workshop was a crucial step towards leveraging data for the improvement of society. Moreover, there will also be

discussions centred around successful case studies, with an emphasis on the 2020 round of censuses carried out in Africa. As the world moves towards a more digitally advanced society, the integration of geospatial and statistical data has become an increasingly important and relevant topic. The insights gained and the discussions carried out during the meeting provided participants with a thorough understanding of the challenges and opportunities in utilizing geospatial and statistical data for informed decision-making across multiple sectors. The continued convening of such meetings is crucial for the exchange of ideas and best practices in order to harness the full potential of those technologies for the development of the continent.

9. The meeting on the integration of geospatial and statistical data in Africa showed that there was great promise for advancing the use of data for informing policies and programmes across the continent. With a multifaceted approach and clear objectives, the event provided participants with a comprehensive understanding of current integration efforts, valuable insights into remaining challenges and potential solutions for continuing to bridge the geospatial and statistical realms. Attendees of the engaging webinars gained critical skills in geospatial technologies that they could apply in their professional roles. Through collaboration with peers, they were able to establish standardized approaches for such essential tasks as geocoding census data, which leads to more consistent and accurate results. In addition, presenters shared best practices for effectively validating and analysing integrated data for planning purposes. However, the most impactful aspect of the meeting was the realworld case studies and success stories, which demonstrated how the integration of geospatial and statistical data had already benefited communities in Africa. Those inspiring examples left a lasting impression on attendees, who may reflect on how they can replicate similar positive results in their own countries and organizations. In summary, the meeting provided a truly remarkable opportunity to learn, network and chart a course for data-driven development in Africa.1

# V. Incorporation of geospatial and statistical data in the 2020 round of African censuses

10. As at 15 July 2024, the following 32 African countries had conducted a population and housing census during 2020 round, using geospatial the technology to integrate geography and statistics: Algeria (25 September 2022); Botswana (18 March 2022); Burkina Faso (6 November–15 December 2019); Cabo Verde (15 June 2021); Comoros (15 December 2017); Congo (25 April-June 2023); Côte d'Ivoire (8 5 November 2021); Egypt (28 March-26 April 2017); Equatorial Guinea (20 June 20-19 July 2015); Eswatini (29 April 2017); Gambia (31 May-14 June 2024); Ghana (27 June 2021); Kenya (24 August 2019); Lesotho (10-24 April 2016); Liberia (10 November 2022); Madagascar (18 May-20 June 2018); Malawi (3-23 September 2018); Mali



<sup>&</sup>lt;sup>1</sup> Reports of the ninth meeting of the Regional Committee are available at <u>www.uneca.org/eca-events/un-ggim-africa-2023/reports</u>.

(15 June 2022); Mauritania (25 December 2023–9 January 2024); Mauritius (4 July 2022); Mozambique (1–15 August 2017); Namibia (18 September 2023); Rwanda (16 August 2022); Senegal (15 May 2023); Seychelles (22 April 2022); Sierra Leone (5 December 2015–4 December 2020); South Africa (2 February 2022); Togo (23 October 2022); Uganda (10 May 2024); United Republic of Tanzania (23 August 2022); Zambia (18 August 2022) and Zimbabwe (20 April 2022).<sup>2</sup>

11. A significant increase in the use of geographical coordinates was observed during the 2020 round of population and housing censuses. That advancement has been attributed to the integration of geography and statistics, as stated in the report of the Statistics Division on the results of its survey on the 2020 round of population and housing censuses.<sup>3</sup> In recent decades, the incorporation of technology in all phases of census operations, from planning and mapping to data collection and dissemination, has significantly intensified. Notably, the integration of geographic information system (GIS) technologies with statistics has been a significant development in the use of technology during census operations. The use of electronic data collection methods, through which Global Positioning System coordinates are captured, has provided the opportunity to link census data with enumeration unit locations, resulting in the generation of georeferenced data. That has facilitated the development of robust georeferenced statistical information infrastructure, which has enabled better interpretation of census data through the aggregation of data to different geographical hierarchies, such as administrative units, regions, functional areas and grids.

12. The survey by the Statistics Division included a section on country practices regarding the collection of Global Positioning System location information, which revealed that a considerable number of countries collected or were planning to collect Global Positioning System coordinates in connection with their 2020 population and housing censuses. Notably, 86 per cent of the responding countries collected Global Positioning System data for enumeration areas, while 70 per cent collected location information for buildings and housing units. Of the 158 countries that participated in the survey by the Statistics Division, a mere 14 per cent indicated that they had no intention to collect such information, potentially owing to their reliance on registers for compiling census statistics. The integration of geographical coordinates in the 2020 census round has been a progressive development, and its widespread adoption has the potential to enhance the accuracy and efficiency of census operations worldwide.

13. Based on the findings of the survey by the Statistics Division, of the 38 African countries that participated, only 3 did not have a plan in place to collect Global Positioning System coordinates. The remaining 35 countries used geospatial information technology for various purposes, such as demarcating enumeration areas (using centroids or boundaries), determining the locations of buildings and housing units, and identifying and mapping roads and other important features like railroads, water bodies, facilities and landmarks. In addition, a small percentage (six countries) used the technology for the spatial analysis of census results. The results of the survey therefore indicate the widespread use and importance of geospatial information technology in Africa for data collection and analysis. They also show the continent's growing appreciation for technology and its role in driving development and progress.

<sup>&</sup>lt;sup>2</sup> Statistics Division, "Demographic and Social Statistics: World Population and Housing Census Programme – census data". Available at <u>https://unstats.un.org/unsd/demographic-social/census/census/ates/</u>.

See Statistics Division, "Report on the results of the UNSD survey on the 2020 round of population and housing censuses". Available at https://unstats.un.org/unsd/statcom/51st-session/documents/BG-Item3j-Survey-E.pdf.

As countries continue to utilize geospatial technology, it is expected that the quality and accuracy of the data collected will greatly improve, ultimately leading to better decision-making and resource allocation. Thus, initiatives that are focused on the continued adoption and advancement of geospatial information technology in Africa should be encouraged and supported.

### VI. Activities of the Economic Commission for Africa relating to geocoding data, spatial analysis and the 2020 census round

14. ECA, the Kenya National Bureau of Statistics, the national statistics office of Togo, the Office for National Statistics of the United Kingdom of Great Britain and Northern Ireland and the United Nations Population Fund held a workshop on the integration of geospatial and statistical information in Nairobi from 26 to 30 June 2023 for English-speaking African countries and in Lomé from 7 to 11 August 2023 for French-speaking African countries. In total, participants from 15 English-speaking African countries and 10 French-speaking African countries were trained in the subject matter.

15. During the workshops, ECA led a capacity-building session to provide participants with the skills and knowledge necessary to develop geocoding schemes for the spatial analysis of census data in Africa. Through hands-on training with such tools as ArcGIS Desktop, participants learned how to analyse and disseminate georeferenced census data to identify spatial variations in indicators for the Sustainable Development Goals and other census thematic areas. The workshop was aimed at enhancing the capacity of participants in mapping, analysing and combining geolocation or geocoded data with other census data to achieve a more detailed analysis. In addition, participants had the opportunity to learn from country-specific data and exchange experiences in geospatial mapping and analysing census data, ultimately improving their understanding of the methods and software involved. As a result of the skills and knowledge gained during the workshop, the participants from Malawi and Zimbabwe have developed coding schemes for their countries regarding the spatial analysis of census data.

16. A scoping mission took place in Burundi from 5 to 10 September 2022 to identify ways to strengthen the efforts of the Institute of Statistics and Economic Studies of Burundi<sup>4</sup> in census cartography and geospatial data management and to develop a geocoding scheme for the geospatial analysis of census data. The mission included a discussion of the cartographic strategy for the census, including the census cartographic strategy document; project management structures and training for the census mapping staff; quality assurance, control, sustainability, risk factors and methodology of the census; communication, publicity and advocacy plans; mapping operations and budgeting for mapping in the field; the update of the locality coding list and geocoding system; the spatial analysis of the census results; and the dissemination of the results. Participants in the mission made recommendations in all those thematic areas and general recommendations on the census organization and process.

17. A second mission was conducted in Burundi from 28 November to 9 December 2022. The objectives of the second mission were derived from the findings from the scoping mission, which were focused on technical and programmatic assistance for census cartography. The work was completed through a workshop sponsored by the United Nations Population Fund, and it resulted in the drafting of important documents, including manuals to guide the

<sup>&</sup>lt;sup>4</sup> On 16 November 2022, the name of the Institute was changed to the National Institute of Statistics of Burundi.

training of census office staff before, during and after the conduct of a census; a census cartographic strategy document; and a manual for cartographic agents.

ECA recognizes the importance of integrating geography and statistics 18. and has taken significant steps in Burundi to support that effort. First, in 2023, ECA led the development of computational functionalities for interactive geoportals, utilizing data from the population and housing census in Burundi. Those geoportals have been tested, adjusted and rolled out to disseminate census cartographic data in the country. In addition, ECA has been involved in developing and updating GIS operational guidelines for geocoding in Burundi and in creating a GIS field guide for interactive web-based applications. Furthermore, ECA played a crucial role in building national census spatial databases in Burundi by integrating geometric data from the cartographic phase of the census into the geospatial analytical phase. That comprehensive approach was further supported through a capacity-building workshop on census cartography, which was organized and led by ECA for the Census Bureau of Burundi. ECA was also responsible for preparing all the necessary workshop documents, including concept notes, the programme of work, the preliminary agenda and meeting reports, to ensure the success of the workshop. Those actions demonstrate the dedication and commitment of ECA to promoting the integration of geography and statistics in Burundi, which ultimately contributes to the country's social and economic development.

19. The outcome of the mission included recommendations to the Census Bureau of Burundi, the United Nations Population Fund and the Environmental Systems Research Institute (a GIS software company) on hardware, software, data and human resource requirements; sustainability; the institutional context; external and financial assistance; training; and technical, maintenance and methodology support. The mission was undertaken by two experts from ECA and their travel was funded by the European Union. A third mission took place in Burundi from 17 to 21 April 2023.

20. During the fifty-fourth meeting of the Governing Council of the African Regional Institute for Geospatial Information Science and Technology, held in Ile-Ife, Nigeria, from 22 to 24 November 2023, ECA shared information on various activities it had implemented on the continent relating to the geocoding of census results, with a particular emphasis on geocoding as the foundation for integrating geography and statistics, to stimulate their replication among the members of the Regional Institute.<sup>5</sup> ECA also aimed to increase awareness of grant funding from the European Union among members and the Governing Council.

21. ECA has developed a compendium of data sources for monitoring the impact of climate change in Africa. The compendium, which is useful for policymakers, researchers and other stakeholders, highlights the need for a comprehensive and accessible set of data sources to monitor and analyse the impact of climate change in Africa. Continuing to develop the compendium involves identifying relevant data sources, harmonizing data, and ensuring data accuracy and accessibility. The objective of the compendium is to offer an evidence-based approach to addressing climate change challenges in Africa and promoting sustainable development initiatives.

22. In addition, ECA finalized a compendium on making urbanization work for Africa. The document is a guide on using geospatial data sources to map and monitor urbanization in Africa. It includes reliable data sources and is aimed at helping urban planners and policymakers to make informed decisions about managing urban growth and development in Africa.

<sup>&</sup>lt;sup>5</sup> The members of the African Regional Institute for Geospatial Information Science and Technology are Benin, Burkina Faso, Cameroon, Côte-d'Ivoire, Ghana, Guinea-Bissau, Liberia, Mali, the Niger, Nigeria and Senegal.

In 2023, ECA embarked on a project focused on the development of 23. urban spatial frameworks in Africa, with a case study of Luanda. With rapid urbanization and its associated challenges, there is a pressing need for sustainable and equitable urban planning in African cities. To that end, ECA utilized geospatial and statistical data and techniques, such as small area estimation and spatial suitability analysis, in undertaking a suitability study for the development of an urban spatial framework. The main objective of the study was to create economically vibrant, resilient, connected and socially equitable cities through the establishment of a compact, polycentric urban model in which the mixed-use of land, affordable housing, social equity, connectivity, mobility, resilience, economic growth and innovation are promoted. By using the power of geospatial intelligence and in-depth spatial analysis, ECA, through its research, aims to provide valuable direction for shaping the future of urban development in Africa, enhancing the well-being of residents, and ultimately creating successful and liveable cities that are aligned with the Sustainable Development Goals. The resulting blueprint for urban spatial frameworks, as exemplified in the case study of Luanda, serves as a model for sustainable and inclusive urban development in African cities, with outputs and recommendations that can be replicated for other cities on the continent.

24 The integration of geospatial data in small area estimation through the empirical Bayesian Kriging regression method in the case study of Luanda has immense potential for revolutionizing health outcomes in African countries. For researchers and policymakers tackling health issues in the 38 African countries that have conducted a demographic and health survey, the use of that methodology offers a game-changing solution. Through the incorporation of geographical coordinates, the empirical Bayesian Kriging regression method effectively accounts for spatial autocorrelation and variations in health outcomes, resulting in more precise predictions. Moreover, the inclusion of spatial covariates in the model allows for a comprehensive spatial analysis, highlighting local trends and patterns that may be missed by traditional regression models without spatial information. The resulting enhanced understanding of the distinct health needs of small areas enables targeted intervention and precision in resource allocation, which maximizes the impact of interventions and improves overall health outcomes. In addition, the visualization of predicted health outcomes at a small-area level allows stakeholders to map and identify areas that require attention, thereby facilitating informed decision-making processes. In conclusion, the integration of geospatial data in Empirical Bayesian Kriging regression provides a multifaceted approach to addressing health challenges in African countries, offering accurate predictions, targeted interventions and informed resource allocation.

25. During the ninth meeting of the Regional Committee, a workshop on geospatial data sets for monitoring the Sustainable Development Goals was held. The participants were representatives from national mapping agencies and statistics offices. The workshop was organized in partnership with the SDG Data Alliance, which strives to ensure the successful implementation of its objectives by actively engaging stakeholders. It does so by, among other things, holding workshops and providing training to share information about the SDG Data Alliance, building a multi-stakeholder partnership to ensure diverse perspectives are included, and encouraging collaboration and dialogue to share knowledge and gain new insights. In addition, the SDG Data Alliance involves ministries, as it is essential to secure government funding and resources. Through the engagement of stakeholders in that inclusive manner, different viewpoints are considered, resources are used efficiently and the objectives of the SDG Data Alliance are fulfilled.

26. The SDG Data Alliance provides an invaluable platform for the identification of common national strategic priorities. Through workshops and

training sessions, stakeholders exchange their experiences and best practices related to the achievement of the Sustainable Development Goals, and through engagement in open dialogue and knowledge-sharing, patterns and commonalities emerge, which provide insights into the areas in which countries share similar challenges. The multi-stakeholder partnership approach allows stakeholders from various sectors to share their perspectives and expertise, revealing the unique circumstances and challenges faced by each country. Collaboration and dialogue within the SDG Data Alliance helps countries to prioritize resources and align efforts towards addressing shared challenges. Furthermore, the involvement of ministries of finance is instrumental in identifying priorities, as they can shed light on the financial and resource constraints faced by countries. Through the leveraging of the above information and the utilization of the engagement mechanisms of the SDG Data Alliance, common national strategic priorities can be identified, thereby ensuring that resources and efforts are targeted towards addressing the most pressing challenges and advancing progress towards the achievement of the Sustainable Development Goals.

27. The SDG Data Alliance was created only two years ago, in 2022, but great strides have already been made in terms of understanding the needs of countries and the provision of resources. While progress has been made through the SDG Data Alliance, there is recognition that there is still much to be done in order for countries to be effectively supported. To build capacities and capabilities, the United Nations centres of excellence will be introducing resources and initiatives in 2025. Those resources will be directed towards building skills and capacity, rather than on funding for institutions. There is recognition in countries that learning and progress are constant and, if the momentum is sustained in the right direction, all persons will be better off in the future.

28. In collaboration with the Geographical Institute of Mali, ECA successfully held, in Bamako from 4 to 8 March 2024, a workshop on the United Nations Integrated Geospatial Information Framework. The primary purpose of the workshop was to engage national stakeholders, including ministries, government agencies, academia, the private sector and civil society, in discussions and activities to review, refine and improve the national geospatial information policy of Mali. Through that platform, participants had the opportunity to develop a comprehensive action plan to advance the country's geospatial information management. Data producers and users and other main players were brought together at the workshop, which was aimed at paving the way for the successful implementation of a national action plan on the United Nations Integrated Geospatial Information Framework.

29. The agenda of the workshop encompassed a wide range of topics, including the current state of geospatial information in Mali, the challenges faced and strategies for moving forward. It was focused on elements crucial to the effective development of the national action plan, including broadening and deepening consultations with the geospatial community, conducting a detailed diagnosis of the needs and priorities of stakeholders, and defining the phases for developing and launching the national action plan. In addition, the workshop was aimed at integrating geospatial information into other national strategies, such as spatial data infrastructure and national statistics, in line with the United Nations Integrated Geospatial Information Framework. The recommendations made during the workshop are expected to guide the country in expediting the revision of the national geospatial information policy, implementing the national action plan on the United Nations Integrated Geospatial Information Framework and actively participating in regional and global efforts towards an integrated geospatial information framework.

30. Furthermore, the entities that participated in the workshop sought to conduct thorough assessments and reviews of the national geospatial

information policy of Mali and to identify areas for improvement and alignment with contemporary geospatial information practices. The workshop was also aimed at identifying and engaging geospatial data depository institutions in the country, analysing fundamental data sets and establishing the mechanisms necessary for the collection and utilization of additional data vital to the successful implementation of the national action plan.

31. In summary, the workshop provided a platform for extensive collaboration, knowledge-sharing and strategic planning among diverse stakeholders in the geospatial community in Mali. It served as a pivotal opportunity to chart a course towards the holistic development and integration of geospatial information, thereby bolstering the technological and development landscape in Mali. The insights gathered and the momentum generated during the workshop are expected to contribute significantly to the evolution of the country's integrated geospatial information framework, positioning Mali to harness the full potential of geospatial data for national development, economic growth and regional cooperation.

32. The recommendations emanating from the workshop should guide the country in speeding up the review of the process of integrating the national spatial data infrastructure, the United Nations Integrated Geospatial Information Framework and the national system for the development of statistics during the implementation of its national action plan, as part of regional and global efforts to implement the United Nations Integrated Geospatial Geospatial Information Framework.

### VII. Recommendations from the ninth meeting of the Regional Committee on United Nations Global Geospatial Information Management for Africa, with a focus on the integration of geospatial and statistical information

33. Regarding the integration of geospatial and statistical information, the Regional Committee should:

(a) Acknowledge the conclusions derived from the workshop on the integration of geospatial and statistical information, which provided an invaluable understanding of the main issues, future directions and potential solutions related to the integration of geography and statistics;

(b) Encourage members of ECA to bridge the gap between the geospatial and statistical communities through routine dialogue and collaboration so that there is a shared understanding and harmonized practices are put in place to optimize the integration of geospatial and statistical information;

(c) Encourage members of ECA to consider the Global Statistical Geospatial Framework as part of the strategy for implementing the United Nations Integrated Geospatial Information Framework;

(d) Request ECA to provide guidance on best practices for effectively combining geospatial and statistical information;

(e) Request ECA to facilitate and organize regional meetings between national mapping agencies and national statistical offices with the aim of fostering cooperation among those institutions for the integration of geography and statistics.