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United Nations Global Geospatial Information Management for Africa
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United Nations Global Geospatial Information Management

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10th Session of the Committee of Experts
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Report on Regional Activities in Africa

1. Introduction

1. Geospatial information products, analysis and applications are essential to African development at all levels and as a contributor to issues from the global perspective. To achieve optimum results from geospatial information requires a coordinated approach adopting common frameworks, standardization and compliance implemented at every tier. Such a task is beyond any single nation or even region, and it is for these reasons that UN-GGIM was established.
2. To date, regional entities contributing geospatial information to the global level have been initiated for all populated areas. The creation of UN-GGIM: Africa was built on the important past efforts of the region (e.g. CODIST-Geo), extended by strategic guidance from the global initiative that is essential in implementing the regional committee activities. By this means, the African caucus is able to mould policy suited to African issues while simultaneously enriching the development and transparency of individual nations and ensuring that national institutions are capable of addressing their unique concerns.
3. The implementation of the UN-GGIM: Africa work programme was to a great extent focused on promoting and facilitating the realization of the major aspects of the issues recommended during the fifth meeting.: (i) Policy issues in advancing policy, institutional arrangements and legal frameworks, (ii) Technical issues in developing information and knowledge resources, applications and services that improve availability and use of spatially-enabled information for development at the national, regional and sub-regional levels, (iii) Capacity building issues in contributing to the collective knowledge as a community with shared interests and concerns, and (iv) International Cooperation and Partnership in collaborating and coordinating its activities with the UN System entities, international and regional networks and programmes, and other development partners, as an important vehicle for mobilizing financial resources and technical know-how in support of Africa's geospatial information development.
4. UN-GGIM: Africa provides a regional focus in coordinating African geospatial development and contributing to the wider global initiative. The Regional Committee works with governments and private sector to improve policy, institutional arrangements and legal frameworks, addressing global issues, contributing to the collective knowledge on geospatial information management.
5. This report covers activities carried out by UN-GGIM: Africa since the ninth session of the Committee of Experts of UN-GGIM. It includes actions taken as a follow-up of resolutions adopted and other activities considered as being of interest to Member States and partners.

2. Objectives

6. With the view of delivering a greater range of services and information to users across jurisdictions for Africa's development agenda, UN-GGIM: Africa endeavours to ensure that systematic and comprehensive frameworks are put in place with related policies, resources and structures that make geospatial

information technologies easily accessible to decision makers and the community in a coordinated way.

7. The main objective of the regional committee is to coordinate African geospatial development through consolidating previous efforts, building upon the achievements of existing initiatives and striving to establish synergies and linkages with other networks and initiatives at regional and global level.

3. Activities | Areas of Work | Achievements

3.1. Organisation of the Fifth meeting of UN-GGIM: Africa.

8. The Fifth meeting of the UN-GGIM: Africa Regional Committee took place in Kigali, Rwanda from the 18-22 of November 2019 as a back-to-back event with the AfricaGIS 2019 Conference. AfricaGIS is the premier conference and exhibition focusing on geospatial information science and technologies in Africa and providing a forum for professionals to meet, interact, and be updated on new developments, products and emerging trends and issues.
9. The Fifth meeting was attended by over 80 participants, including delegates from 27 African countries, as well as observers from international organizations including the Economic Commission for Africa (ECA), the African Union Commission (AUC), the UN-GGIM Secretariat, academia, industry organisations and the private sector.
10. The meeting was organised with substantive financial support from the Economic Commission for Africa (ECA) and the UN-GGIM Secretariat through its Development Account (DA) Programme.
11. In recognition of the dual role of the Regional Committee meetings as both a parliamentary process and a forum for intellectual exchange, the meeting was organised in a scaled down format with several parallel events including: the Workshop on the Integrated Geospatial Information Framework (IGIF); the Expert Group Meeting on the integration of geospatial and statistical information; the Seminar on the Second Administrative Level Boundary (SALBD); the Workshop on Digital Earth Africa and the AfricaGIS 2019 Conference.
12. The premise of this fifth meeting was that Africa recognises the significant contribution that geospatial information can make to almost every area of government, economy, academia and societal development.
13. The main aim of the meeting was to review progress made to date and share knowledge and best practices on the development of geospatial information in the continent. During the meeting, Member States delegates and selected experts were invited to present brief perspective on topics based on current developments in their sector and/or country. The presentations were discussed and reviewed for relevance, coherence and complementarities in relation to African situation and global perspective.
14. The meeting further reviewed the status of implementation of the African Action Plan on Global Geospatial Information Management for Sustainable Development (Gi4SD) and approved the Executive Board's 12-Month Timeline activity plan that defines a set of activities to be carried out for each month of the year.
15. The meeting finally called upon the Economic Commission for Africa (ECA) and the African Union Commission (AUC) to work together to ensure that an

overarching policy for geospatial information management in Africa is adopted by the Heads of State; and raise their awareness, sensitize them to be a champion of geospatial information management and technology in the continent. The meeting also supported the initiative from ECA to host and provide a convening mechanism for the Digital Earth Africa Programme, an operational and user-driven service that will provide regular information and data from satellites to support Member States' decision making and the development of national and continental geospatial infrastructures.

16. The outcomes of the Fifth meeting contributed to achieve the UN-GGIM vision globally, encouraging that more substantive progress is made for the Africa region.

3.2. Geospatial Information Policies

17. The progress of geospatial information benefiting Africans at every level and simultaneously contributing to the global perspective requires cohesive and coordinated efforts. The creation of successful Spatial Data Infrastructures (SDI) to underpin and coordinate all data held on a country is known to lead to economic growth and increased stability of a nation and regions. Over the last three years UN-GGIM: Africa has developed regional national organizations to deal more particularly with relevant issues at those levels and support geospatial policy development. The *Region* has generated several policy materials that can help Member States fast track progress in the implementation of national spatial data infrastructures and their integration into other strategies as well as the synergistic integration of statistical information and the geospatial component for sound decision making. The following policy documents were produced and further augmented with an assessment of the level of maturity and ingestion of geospatial information technology in African countries:

- Guidelines for the establishment of spatial data infrastructures that put forward the different options required to initiate and implement a national geospatial information management policy, strategy for and close collaboration between all geospatial communities to deliver seamless data for local to global objectives and aspirations. The document also outlines the mechanism for articulating the NSDI with other national strategies such as the integrated geospatial information framework (IGIF) and national strategies for the development of statistics (NSDS).
- Assessment of African countries readiness in implementation of national spatial data infrastructures using the approach based on the Carnegie Mellon University developed Capability Maturity Model (CMM) with a total of 20 key indicators identified to collect the data from Member States.
- Manual on standard guiding principles on the integration of geospatial and statistical information in Africa. This strategic document with operational guidelines advises on the establishment and implementation of national statistical geospatial frameworks (NSGF) and delineates experiences and best practices in other parts of the world for the proper integration of statistical and geospatial information in African countries. The framework further outlines some policy principles on how national statistical, planning and geospatial authorities have effective collaboration between

them in the development of their respective data, infrastructures and systems.

- Policy handbook on spatial data taxonomy and matrix identifying the geospatial datasets requirements for the monitoring and implementation of the SDGs in Africa. The matrix enumerates all the geospatial datasets that are labelled based on their criticality for the monitoring and implementation of the goals and targets for each SDG indicators. On the other hand, the taxonomy describes classes of data and information products that are relevant to the monitoring of the SDGs and, classify them by types, uses in computing the SDGs indicators, available formats, scale and resolution.

3.3. Integrated Geospatial Information Framework

18. On the side-line of the Fifth meeting of the Regional Committee, UN-GGIM: Africa and the Secretariat have organised a regional workshop on the development and implementation of the Integrated Geospatial Information Framework (IGIF).
19. The objectives of the workshop were: (a) - To stress on the role and importance of integrated geospatial information management for monitoring and tracking national development priorities and national implementation of the 2030 Agenda for Sustainable Development. (b) - To raise awareness and improve knowledge and understanding of the IGIF. (c) - To engage and consult on the implementation guidance and recommended actions to develop national action plan.
20. The workshop was highly participatory, offering peer-to-peer exchanges and learning opportunities, affording delegates from Member States to understand and consider the IGIF as a basis, a reference, and a mechanism for articulating and demonstrating national leadership in integrated geospatial information management.
21. Noting the closed linkage between IGIF and NSDI, the meeting recommended UN-GGIM: Africa to undertake a prior assessment of the current status of NSDI that will *enable* Member States to know where they are and what are some of the issues, the areas they must focus on in priority, and how they can best embark in the new IGIF framework. The meeting further called upon ECA with assistance from the UN-GGIM Secretariat to develop a comprehensive programme for the modernization of geospatial activities in Africa, as a vehicle for mobilization of resources in support of the enhancement of Member States capacities and for the integration of geospatial and statistical information infrastructures.

3.4. Integration of geospatial and statistical information

22. The SDGs are both statistical and geospatial. Both infrastructures and systems are likely to remain the major sources of data decision making in many African countries - as the dynamism, variations in the size and spatial distribution of the population, *natural* resources, etc. and their related characteristics, play a central role within national data and statistics ecosystems for the foreseeable future.
23. UN-GGIM: Africa aims to play a coordinating role in promoting the strategic use of geospatial and other innovative technologies in support of statistical

systems, and to advocate for their adoption and implementation in accordance with international provisions.

24. As part of the Fifth Meeting, a side-event was organized to enable the national mapping agencies and experts to review the developed strategy for integrating geospatial and statistical information in Africa. A background document was prepared which served as a basis for discussion. The meeting then featured interactive discussion on best approaches and methodologies to operationalize an African-centered Geospatial Statistical Framework (AGSF) - a fit-for-purpose strategy for the integration. The meeting further reiterated its call upon National Statistics Offices (NSOs) and National Mapping and Agencies (NMAs) to encourage the integration of geospatial and statistical information and the improvement of institutional coordination between the two communities in the context of the Vision 2063, the 2030 Agenda, the SDG global indicator framework and the 2020 Round of Censuses.

3.5. Fundamental geospatial data themes, products and services

25. ***National Geospatial Datasets.*** The Region has carried out in-country missions for data inventory and collection, with attempt to build national geodatabases. The Region *has* also organised several regional capacity building workshops to raise awareness and improve countries capabilities in the production of geospatial information.
26. Associated to the data collection, an enterprise geodatabase is now enabled, so that users can connect to the database and upload their spatial data. However, given the social distancing measure being put in place with the coronavirus pandemic, it's not possible to liaise with Member States to provide them with the on-the-job guidance on the desirable data format that should be used to load the data in the system. Data collected from member states are loaded into the system as we *move* forward. Regional workshops planned to validate the data and products by the Member States will later provide feedback to finalize an online application with customized features and functionalities.
27. ***Second Administrative Level Boundary (SALB) Datasets.*** During the proceedings of the UN-GGIM: Africa's meeting, a side-event was organized on the SALB programme, which included the participation of official delegates from about 30 countries as well as observers from international organizations such as the UNFPA GRID3 Programme. The side-event included presentations on the *overall* status of the programme, the regional perspectives from Africa and the efforts being made to achieve mapping of subnational boundaries in Africa.
28. Six countries (Cameroon, Eswatini, Mozambique, Senegal, South Africa and Togo) provided updates on their national perspectives on the administrative boundaries *associated* opportunities and challenges. Overall, African countries have reiterated their willingness to contribute data and viewed the publication of their data on the SALB website as an opportunity to raise awareness to policy makers, facilitate sharing and dissemination to all stakeholders including the international community and the importance of standardization of data across countries. Challenges highlighted remain the capacity and cost related to building quality data in the context of the data collection and

management as well as the updates associated to changes of the administrative boundaries.

3.6. Legal and Regulatory Frameworks for Geospatial Information Utilisation

29. UN-GGIM: Africa has strived to take cognizance of new issues the region hasn't yet *addressed* in its effort of putting in place a legal and regulatory framework for geospatial information utilization in Africa. This includes among others:
 - the topic of ethical/sovereignty imperatives.
 - the taxonomies/assessments of harm for geospatial data production and use.
 - the responsible use and recognition and handling of sensitive geospatial data.
30. UN-GGIM: Africa thereby calls upon partners and all interested parties for sharing of information, practices and resources that can be used for its future work in this field.

3.7. Capacity Development

31. Under the 2030 Agenda for Sustainable Development Sub-Fund United Nations Trust Fund for Peace and Development (UN-PDF) programme, UN-GGIM: Africa in collaboration with ECA, has organised several regional capacity building workshops for Western, Eastern and Northern Africa countries. The workshop aimed at raising awareness as well as contributing to enhance the capacity of the member states in the production of geospatial information; with particular emphasis given to the empowerment of young female geospatial professionals. The participants were drawn from heads of National Institutions or Authorities in charge of mapping and geospatial activities within Northern African Countries, high-level experts selected from academia, research institutions, and the private sector, especially young females and partners and other stakeholders in the sub region, actively involved in geospatial information management.

3.8. Contribution to UN-GGIM Activities

32. The *Africa* region participated in the following UN-GGIM-related events and activities:
 - Participation and contribution to the Ninth Session of the Committee of Experts on UN-GGIM and its side events, held in New York on 5-9 August 2019. As it has been in the past, the session offered good opportunity for many formal and informal contacts with various interlocutors on common interests and to learn from the experience of other regions.
 - Participation and contribution to the Virtual High-Level Forum of UN-GGIM, held through series of three virtual events, scheduled at weekly intervals (26 May, 2 June and 9 June 2020).
 - Participation and contribution to the Expanded UN-GGIM Bureau Meeting, a 2 hour virtual meeting held on Wednesday 13 May 2020.
 - Participation on the meeting of the WG of the IAEG SDG on 5th May 2020.
 - In collaboration with the Secretariat, organization of a Virtual Seminar with National Mapping Agencies to discuss how African countries

respond and prepare in the short and medium-term to track and mitigate the impact of the Coronavirus outbreak.

3.9. Partnerships, Regional & International Collaboration

33. As an overarching mechanism providing regional focus and leadership for geospatial *information* management in Africa, UN-GGIM: Africa implements its activities through strategic partnerships with international and regional initiatives and programmes, and other partners to develop and produce geospatial datasets, applications and procedures relevant to African development agenda. It continues to grow its networking capabilities as well as facilitate and encourage linkages with regional and international initiatives programs such as: the Group on Earth Observations (GEO), the Inter-Agency Meeting on Outer Space Activities (UN-SPACE), the International Global Navigation Satellite Systems Service (IGS), the African Union Commission, the Regional Economic Groupings (RECs), The Private Sector (Esri, Trimble, Airbus Space and Defence, PASCO/JICA...), etc..
34. The Regional Committee provided advisory services to the following: the African *Union* Commission Global Monitoring of Environment and Security (GMES); the African Space Agency, the African chapter of GEO (AfriGEO), etc...

10. The current COVID-19 disruption

35. The exacerbation of the severity of the global coronavirus crisis has a direct effect on the implementation of UN-GGIM: Africa's activities. The impact of the *COVID*-19 outbreak has disadvantaged the operational capabilities of African National Mapping Agencies: a. Additional data demand/pressure; b. Financial impact on mapping budgets and expenditures; c. postponement or cancellation of activities related to the production and update of fundamental and thematic datasets (e.g. survey of geodetic network of ground control points).
36. With support from ECA and other partners, UN-GGIM: Africa has initiated a certain number of synergistic actions to mitigate the disruption due to COVID-19 on geospatial information management in the region. This includes:
 - Continued engagement with Member States through virtual meetings and seminars. A Special Virtual Seminar was organised with National Mapping Agencies to discuss how African countries respond and prepare in the short and medium-term to track and mitigate the impact of the Coronavirus outbreak.
 - Compilation of African countries national efforts in tracking and visualizing the status of the COVID-19 into a compendium of national dashboards. Furthermore, support was given to enable countries build geoportals using Esri Africa Geoportal platform and resources.
 - Building an African Dashboard that tracks the status of COVID-19 in real time. <https://arcg.is/5LCSa>. In parallel, mapping services were provided to various studies and request for information from partners and clients.
 - Appraising new methods and techniques that can help transform data into insights for informed decision-making.

- Administration of a Survey to collect information about the Member States readiness in the use of geospatial information in the tracking of the COVID-19 outbreak and, also countries preparedness to provide tools and dashboard for data geo-visualization and impact assessment.
- Linking UN-GGIM: Africa efforts with Global & Regional Initiatives through partnership and contribution to various regional initiatives: UN-GGIM | Development of Community Support; UNSPIDER | Knowledge Platform; Digital Earth Africa | Earth Observation for Responsiveness to COVID-19; GPSDD | ECA-GPSDD COVID-19 Partnership; etc.
- Development of an Africa Comprehensive Programme on Geospatial Responses to COVID-19 that will inform on ideas, insights and strategies avenues (cooperative management of development information, frameworks for financial appropriation, partnership, etc.).

4. Priority Issues and Challenges

37. In Africa, as in any other region, there are numerous challenges. Some are generic, some are regional specific whilst others may only directly affect some countries or at a sub-national level. The Fifth meeting has acknowledged a certain *number* of issues that must be specifically addressed, and solutions identified. This is necessary to ensure that the Regional Committee operates and fulfills its mandate in a more effective and efficient manner. Member States looked at and made decision on the following challenges:
- Period for the holding of UN-GGIM: Africa meetings. Discussion was held on the best period to hold the Regional Committee's meetings. Participants agreed to ensure that the meetings are conjoined wherever possible with geo-related events in the continent. Such arrangement optimizes the number and quality of participants from around Africa as well as international partners who would consider attending.
 - Official Nominations of countries representatives. Member States are requested to clarify the official representations of their respective countries in the UN-GGIM: Africa process.
 - Technical Focal points for delivery of technical activities. Heads of delegation were advised to consider nominating a technical person that can deal directly with the Secretariat on pressing technical matters.
 - Private Sector Network. The meeting appointed a Task Team comprised of high-level experts to develop the terms of reference towards the establishment of a Private Sector Network for the consideration of the Executive Board.
 - UN-GGIM: Africa Website. The meeting took note of the commitment of the Executive Board to develop the Website of UN-GGIM: Africa before the next meeting in 2020.

5. Perspectives | Outlook | Future Plans

38. UN-GGIM: Africa provide a mechanism that allows the decisions and *discussions* of the global Committee of Experts to cascade to a regional level and focus on the issues facing Member States in the continent. The region will continue to carry out a number of work's programmes and packages and will continue to provide a forum for representatives from Member States to meet, discuss and collaborate on important issues of global geospatial information management. The activity plan for the coming year includes:

5.1. Organising the Sixth Meeting of UN-GGIM: Africa

39. The Region plans to organize the sixth meeting of UN-GGIM: Africa in conjunction with the Statistical Commission for Africa (StatCom-Africa). *Because* of the COVID-19, there is a need to adapt the convening methods as it will be difficult to get capital-based delegations and other stakeholders to join in-person meeting. Therefore, the move was to organize this year an event in a scaled down virtual format, consisting of 2-3-hour session every day for 3 days. Tentatively the sixth meeting is scheduled for 14th, 21st and 28th October 2020. The session will continue to discuss on issues related to sharing knowledge and best practices on the development of geospatial information in the continent; raise awareness on the benefits to be derived through the utilization of geospatial information for sustainable development; look at policies, measures and steps that African countries could take to ensure a successful implementation of the UN-GGIM initiative in the region.

5.2. Flexing the immediate responses to the COVID-19's impact

40. The COVID-19 crisis has revealed that geospatial technology and geo-referenced data can play a central role in Africa's effort to combat the pandemic. However, the collaboration, partnership and togetherness in delivering the relevant information that is required were not always in place in many countries. It will be helpful to exchange views on what practical and feasible steps NMA can take to lead the national efforts in responding to such a crisis?
41. Developing interactive spatial analytics. The COVID-19 crisis made it clear that maps and *visuals* are good but not sufficient to respond effectively to the pandemic challenges. The Committee of Experts must look at how the geospatial community can develop more real time analysis to reveal patterns and insights that better inform decision-making.
42. Availability of financial resources is key for building the spatial data foundation needed to leverage the enabling capabilities of geospatial information. We see a strong need for the Committee for Experts to share views on how to develop a financial *appropriation* framework that will serve as a strategy for resource mobilization by countries in their efforts for geospatial responses to the COVID-19 pandemic.

5.3. Developing an Africa Comprehensive Programme on Geospatial Responses to COVID-19.

43. The survey of African countries assessed the business impact the COVID-19 has on the National Mapping Agencies' geospatial activities; provided insights on the *challenges* and tensions of using geospatial information to respond to

the pandemic; and outlined immediate actions and future plans to strengthen capacity nationally.

44. With ECA support, the Region has started a study to conceptualise and develop a **continental** response to COVID-9 and more globally to pandemic crisis. The strategy will:
 - a. Garner ideas, insights and strategies avenues (determine the strategic high-level goals for NMA's, private sector and civil societies involvement in using geospatial information technology to respond to the COVID-19.)
 - b. Build a road map to articulate ground level infrastructures to support Member States (determine the tactical level comprised of sequences of targets with institutional mechanisms, capacities development, technology and process....).
 - c. Develop a comprehensive logical framework (determine the operational level with identified specific objectives, results, activities, responsibilities/tasks, chronogram and related costs) etc.

6. Conclusion

45. UN-GGIM: Africa strives to develop effective geospatial capacity in Africa as well as promoting the use of spatially-enabled information to meet key global challenges **such** as sustainable development.
46. Strategic guidance extended by the global initiative is essential for UN-GGIM: Africa to continue playing its leading role of making joint decisions and setting **directions** on the use of geospatial information within national and global policy frameworks.
47. Nevertheless, the African entity remains committed to mould policy suited to African **issues** and ensure that national bodies are capable of addressing their unique concerns.

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