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ECONOMIC COMMISSION FOR AFRICA

First Session of the Committee on
Development Information, Science and Technology (CODIST-I)

Addis Ababa, Ethiopia
28 April – 01 May 2009

**Report on ECA's Activities in the Area of Geoinformation since
the Fifth Session of the Committee on Development Information**

Acronym	Description
ACS	African Centre for Statistics
AFREF	African Geodetic Reference Frame
AMESD	African Monitoring of Environment for Sustainable Development
ARSDI	Regional Spatial Data Infrastructure for Africa
AU	African Union
AWICH	African Water Information Clearinghouse
CAADP	Comprehensive Africa Agriculture Development Programme
CICOS	Commission Internationale du Bassin Congo-Oubangui-Sanga
CODIST	Committee on Development Information, Science & Technology
ECA	Economic Commission for Africa
FAO	Food and Agriculture Organization
GEO	Group on Earth Observation
GIS	Geographic Information Systems
GMES	Global Monitoring for Environment and Security
GNSS	Global Navigation Satellite Systems
GPS	Global Positioning System
GSDI	Global Spatial Data Infrastructure
ICA	International Cartographic Association
IFAD	International Fund on Agriculture Development
IFPRI	International Food Policy Research Institute
ISTD	ICT and Science & Technology Division
MAFA	Mapping Africa for Africa
MDG	Millennium Development Goals
NEPAD	New Partnership for African Development
NICI	National Information and Communication Infrastructure
NGDI	National Geospatial Data Infrastructure
NSDI	National Spatial Data Infrastructure
RCMRD	Regional Centre for Mapping of Resources for Development
RECTAS	Regional Centre for Training in Aerospace Surveys
SALB	Second Level Administrative Boundaries
SEGS	Spatially-Enabled Government Services
SDI	Spatial Data Infrastructure
TIDB	Transport Infrastructure Database
UN	United Nations
UNECA	United Nations Economic Commission for Africa
UNEP	United Nations Environment Programme
UNGIWG	United Nations Geographic Information Working Group
UNOOSA	United Nations Office for Outer Space Affairs
UNSDI	United Nations Spatial Data Infrastructure
USA	United States of America
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WFP	World Food Program

1. Introduction

1. The ECA Secretariat is pleased to submit its report on activities carried out by the Commission in the area of Geoinformation since the fifth meeting of the Committee on Development Information. The report includes actions taken as a follow-up to resolutions adopted by CODI.5 and other activities considered as being of interest to member States and partners.

2. The implementation of the work programme was to a great extent focussed on promoting and facilitating the realization of the major aspects of the issues recommended during the CODI.5 Meeting.

3. The activities focussed on: (i) Policy issues, (ii) Technical issues, (iii) Capacity building, and (iv) International Cooperation and liaison.

2. Policy Issues

4. An important objective for the Commission is to assist Member States to harmonize national policies in various sectors, as support to integration efforts.

5. Within its programme of Harnessing Information for Development, ECA has undertaken major actions to strengthen the capacity of member States to set up institutional arrangements and implement national policies and programmes that reinforce the linkages within the nexus of food security, population, economy, environment and human settlements. This strategy places emphasis on the building of an African Regional Spatial Data Infrastructure for Africa (ARSDI) linked with the National Information and Communication Infrastructure (NICI) plans. ARSDI will consist of a geodetic framework (incorporating AFREF), metadata clearinghouse systems (incorporating the inventory of fundamental datasets) and a series of federated geospatial and attribute databases. This will involve negotiating coordination, interoperability and data sharing arrangements with partners, including nodes at national levels, which ECA and partners will assist in developing.

6. In the past years, ECA has continued to put in place policies, resources and structures to make available geospatial information technologies easily accessible to decision makers and the community in a coordinate way.

2.1. NSDI Development and linkage with NICI Policies

7. During the period under review, progress was made on integrating geoinformation policies into the national ICT policies of member States. A number of countries have taken steps aimed at developing Spatial Data Infrastructures and Geo-information policies. However, the funding constraints have stalled some of the activities for concrete implementation of technical components of SDI.

8. ECA has been providing assistance to Member States in developing National Spatial Data Infrastructures (NSDI). Interventions have included advisory services on the establishment of NSDI steering bodies (Côte-d'Ivoire and Burundi in 2007), drafting of the action plan for a "Plan Géomatique National" (Côte-d'Ivoire and Niger in 2008); reference materials and reviewing drafts of policy documents to integrate NSDI into

NICI (Sierra Leone in 2007 and 2008); Technical assistance to develop national geoinformation resources (Sierra Leone in 2008); e-mail discussion with the Office of the Surveyor General in Swaziland to develop the NSDI document as a special technical annex to the NICI document. In January 2008, the Sierra Leone Ministry of Lands, Country Planning and Environment (MoLCPE), towards the fulfilment of their National Lands Policy, requested ECA's technical assistance in geoinformation and mapping to begin to recreate the spatial data infrastructure of Sierra Leone with a focus, in the first instance, to support infrastructure redevelopment. ECA undertook in-country consultations with relevant stakeholders to review the draft geo-enabled NICI document and chart the way forward in addressing the country request for: i) featuring the catalogue of Sierra Leone's existing spatial data holdings; ii) assessing the need for training in geospatial metadata capture and dissemination; iii) assessing the feasibility of a data rescue programme to digitize and vectorize the extant hardcopy map collection; iv) drafting of a national standard for digital spatial data; and v) drafting of a term of reference for a national land administration system. ECA has also organised an in-country training on capturing and dissemination of geospatial metadata to the Ministry of Lands, Community Planning, Environment, and Statistics and partners from the local GIS community.

9. Despite the efforts of ECA and other partners, progress in developing SDIs in Africa has been very slow, due mainly to poor awareness and understanding of the link between the content and components of the SDI on the one hand, and the day-to-day decisions and activities of society on the other. Developing an SDI has sometimes been seen as an end in itself. Therefore, given the limited financial resources available to governments, priority is given to supposedly more pressing activities without realizing the dependence of most of them on the availability of timely, accurate and reliable geoinformation resources. ECA has responded by seeking to integrate SDI policies into the very successful work on National Information and Communication Infrastructure (NICI) plans and strategies. This is still at the policy level and there remains a need for closer linkage between the geoinformation products and societal needs. Therefore, in keeping with global trends, one of the programmed outputs for the division in the 2008-2009 biennium is the development of guideline on Spatially-Enabled Government Services (SEGS) with experience in Selected African Countries.

10. The main objective is to develop knowledge, skills and capacity to advise member States:

- A set of guidelines that ECA will draw on when advising African governments on spatially enabling their services to citizens (G2C), businesses (G2B) and other government departments and agencies (G2G);
- Proposal for indicators for benchmarking the services of African government in terms of their spatial enablement.

11. We believe that SEGS will foster the accessibility of spatial data and the use of spatial information technologies in government day-to-day business processes and on-line services delivery.

2.2. Advocacy work in support of African development

12. ECA has published for decision makers, researchers, academia and other dealing with land issues in Africa, a guide on the role of information management in formulating and

implementing land policies. The publication underscores the importance of geospatial technology for the collection and maintenance of data needed for sound land administration. In preparing this publication, a special symposium on “Land Management Information Systems in the Knowledge Economy” was organized at Addis Ababa, Ethiopia, from December 4 – 7, 2006. The background paper for the symposium was prepared by the Centre for Property Studies of the University of New Brunswick, Canada. Experts, mostly from Africa, prepared papers discussing various aspects of managing information about land and specific issues for Africa. The experts presented the papers and deliberated on solutions to the problems identified in their papers. These papers and deliberations contributed a great deal towards the contents of this publication. The Earth Sciences Sector of Natural Resources Canada also contributed to this publication in many ways, including working with ECA to agree on the task brief and objectives of the publication; commissioning the background paper for the symposium (Annex I), as well as other papers; and by reviewing early drafts of this publication. They also organized and sponsored a high-powered Canadian delegation to the symposium to share their rich experiences and insights on LMIS.

13. The Commission has also published a report on a consistent definition and specifications of contents of fundamental geospatial datasets to support Africa’s development agenda, as no standard definition existed. Currently, a comprehensive survey is being conducted to determine the status of these fundamental datasets in Africa, with a view to undertaking a gap analysis and developing a strategy to fill the gaps in the near future. The material for the publication was collected through a comprehensive survey of African and international institutions involved in the production, management and use of geoinformation products in and related to Africa. The Government of South Africa, through the Chief Directorate of Survey and Mapping, as the chair of the Working Group funded a contract undertaken by EIS-AFRICA and the Human and Social Research Council (HSRC) to implement the study.

3. Technical issues

14. ECA has developed numerous information and knowledge resources, applications and services to improve availability and use of information for development at the national, regional and sub-regional levels.

3.1. Implementation of Programmes and Projects

15. The scope of this output is to increase in the number of information and knowledge resources and services developed at the national, regional and subregional levels. It is a continuous activity over the biennium and the results are continuously updated.

16. In developing the various databases and applications, it became obvious that the needed data is not always available, emphasizing the importance to include data collection, management, dissemination and access policies in development information strategies and plans. The work highlighted also the importance of fundamental dataset to enable economic and social indicators to be mapped and visualized up to sub national levels. Interoperability is also critical since data collected by different agencies and organizations cannot be compared if the same base map and reference are not used.

17. Metadata Clearinghouse Node. A very important component of Spatial Data Infrastructure is the clearinghouse system that enables users to search metadata of available

datasets. As part of the work in developing Spatial Data Infrastructures at national and regional level, ECA maintains a clearinghouse system. One of the objectives of maintaining the clearinghouse system is to provide a facility for member States to publish the metadata of their available data holdings, so that decision makers can discover and use accurate data sourced from their original producers. Metadata records are continuously included in the data bank. The five Metadata nodes (Ethiopian Natural Resources Metadata base, AWICH, MAFA, RECTAS, RCMRD) contain as per end of December 2008 more than 10,000 geospatial metadata records.

18. SALB database: ECA has been developing the African component of the Second Level Administrative Boundaries (SALB) geodatabase. Administrative limits data was recorded in nine countries bringing the number of countries with maps fully validated to 17, and a further eight countries awaiting final validation by the national mapping agencies.

19. Transport Infrastructure Database: The transport infrastructure database (TIDB) initially focused in Central Africa was now extended to cover the whole of Africa. This database is aligned to the transport model of the United Nations Spatial Data Infrastructure (UNSDI). Currently, the segments of the trans-African highway have been entered, together with proposed priority transport infrastructure projects of the various regional economic communities and specialized technical organizations. An online application is being developed to support analyses, planning decision-making and monitoring of transport infrastructure elements. This activity benefited from initial input of the ECA Sub-Regional Office for Central Africa, NEPAD and the Regional Integration Division (NRID) of ECA.

20. Programme of Infrastructure Development in Africa (PIDA) geospatial database: It is covering all existing and planned infrastructure facilities in the continent, including all networks and development corridors -- railways, airports, roads, ports, harbours, and waterways -- for transport infrastructure; as well as power plants (hydro, nuclear, oil and gas-fired thermal, geothermal, coal, wind, etc.) and power systems interconnection networks for the power sector. Also to be included are existing and planned cross-border gas and oil pipelines, oil refineries, liquefied natural gas processing plants, synthetic fuels processing plants, and major bio fuels (bio-ethanol and bio-diesel) refineries. More than 43 particular feature datasets were created and customized as an interactive digital atlas to be displayed during the AU Head of States Summit at the end of January 2009. The database will be further built into the ECA node of the African Regional Geospatial Data Infrastructure. This activity was undertaken in partnership with the Infrastructure and Natural Resources Development Section of ECA and the African Union Infrastructure and Energy Department.

21. Public-Private-Partnership Projects Database: It aims at developing a comprehensive database that will enable decision makers and potential investors to determine priority PPP (Public Private Partnership) infrastructure projects with a particular emphasis on transport infrastructure in Africa. This database contains information about the types of projects, their locations, implementation, status, availability of funding, project owner/sponsor, manager, and potential beneficiaries. Fifty-six Railways and thirty-three Electricity PPP-related projects data were recorded and processed for the whole continent. The data were integrated in a geospatial database and a web-based application is being developed to allow users to identify where existing and potential PPP projects are located and to get detailed information with a click of a mouse on any of the projects. This activity was undertaken in partnership with the Infrastructure and Natural Resources Development Section of NEPAD and the Regional Integration Division (NRID) at ECA.

22. MDG Mapper: ECA has been developing since the Spring of 2007, the MDG Mapper (<http://geoinfo.uneca.org/mdg>). The Mapper was conceived, designed, and is currently implemented as a geovisualization and analytical tool to monitor and assess Africa's progress towards the MDGs at the national level. An "off-shoot" project has been initiated to develop a sub-national geovisualization and decision support tool to visualize the sub-national variation of socio-economic indicators. If funded the project will also help accelerate collection and validation of administrative and socio-economic data at sub-national level.

23. Agricultural Commodity Value-Chain Database and Interface. The Heads of State and Government of the African Union assembled in Abuja, Nigeria in December 2006, recalling the decision to adopt the Comprehensive Africa Agriculture Development Programme (CAADP) at the Maputo Summit in July 2003 as a framework for accelerating agriculture development and Food Security on the continent, declared their commitment to increase Intra-African trade by promoting and protecting rice, maize, legumes, cotton, oil palm, beef, dairy, poultry and fisheries products as strategic commodities at the continental level, and cassava, sorghum and millet at sub-regional level and to develop continental and regional market information systems and support the development of the same at national level by 2008. As a result, the Geo-information Systems Section of ICT, Science and Technology Division and the Agricultural Marketing & Support Section of the Food Security and Sustainable Development Division are developing a spatially enabled database system to support the analyses of the regional trends of agriculture production and marketing in Africa. The System will enable decision makers to analyze and model the relationships between suitable agro-ecological zones for the priority crops identified in CAADP, the actual production of the crops and their marketing and distribution patterns. An inventory of available data and information resources was conducted with extensive survey through international and regional partners (FAO, World Food Program, IFAD, IFPRI, ECA African Centre of Statistics and United States Department of Agriculture). Data collected so far was processed, analyzed and validated. All spatial datasets and other auxiliary data are integrated, stored and managed in a standard geodatabase. A proposal was initiated to acquire and process high-resolution data. We therefore wish to request members States to assist in getting agriculture statistic data from their respective countries.

24. Spatially-enabled Database System for security operations: Emphasis on security planning for UN personnel and facilities has increased since the killing of UN personnel in Iraq in August 2003, adopting military applications where appropriate. Such security plans require the mapping of UN facilities and residences of staff, detailing assembly points and possible evacuation routes in the event of emergencies. In collaboration with the Security and Safety Section, the Geoinformation Systems Section is currently developing a spatially enabled database system for security applications in Addis Ababa and elsewhere in Ethiopia. When completed, the final product will be a spatial database with appropriate interface showing the locations of residences of staff members, important landmarks, circulation and navigation routes and other designated locations of security and safety value. A prototype was developed with capabilities of generating a route map showing the shortest or most convenient to the place of interest, including directional route descriptions. A field survey was conducted to collect location of landmarks and others important facilities in Addis Ababa cities.

25. StatBase Geovisualization Interface: The ECA African Centre of Statistics has built and deployed the StatBase database. However, the nature of the issues requires that data be presented in their spatial context. A proposal was developed to build a spatial database

containing the national and sub-national administrative, statistical, and geographies datasets and to create a geovisualization interface for StatBase data display, query and analysis. The system is expected to increase awareness of the benefits in using GIS technology in the analysis and dissemination of statistical information and products, as well as incorporating GIS capabilities in overall census activities.

3.2. Fields projects: AFREF

26. Knowing that the foundation of accurate Geospatial information starts with a uniform coordinate reference system, ECA pursued its effort to develop through the African Reference Frame (AFREF) Project, a unified geodetic reference frame for Africa so that maps and other geoinformation products can be represented on the same datum. AFREF will be based on current satellite positioning technologies, and will form the geodetic infrastructure for multinational projects requiring precise geo-referencing (e.g. three-dimensional and time dependent positioning, geodynamics, precise navigation, and geo-information). Like other continental geodetic reference frames, it will be part of the global geodetic infrastructure. As such, it is being implemented and will be maintained in close cooperation with international partners with expertise and interest in geodetic reference frames, notably the International Association of Geodesy (IAG), the International Global Navigation Systems by Satellites (GNSS) Service (IGS), the United Nations Office for Outer Space Affairs (UNOOSA), among others.

27. ECA negotiated with Trimble to donate five (5) reference stations to the AFREF project through ECA. ECA and the International Steering Committee on AFREF have developed criteria for selecting the locations to install the donated stations. The agreed installation sites are: Maun (Botswana); Niamey (Niger); Moshi (Tanzania); Kinshasa (DRC) and Asosa (Ethiopia). In 2008, two stations were installed and made fully operational in Botswana and Tanzania. The installation sites for two other stations (Niger and Ethiopia) were prepared and the installation process is ongoing. For the remaining one (DRC), the custodianship agreement is still in negotiation with the hosting institution (Commission Internationale du Bassin Congo-Oubangui-Sanga, CICOS).

28. AFREF steering committee special meeting was organized during the 2008 AfricaArray Workshop. The meeting agreed on some changes on the management structure of AFREF, reviewed the implementation and recommended to explore the possibilities for multiple uses and co-location of GNSS and other earth observation equipment and infrastructure. A survey questionnaire was designed by ECA to make an inventory of on-going GNSS projects across the continent. An on-line submission form was built and solicitations to more than 100 individuals/organizations were sent out. Member States are requested to actively contribute to the inventory.

29. A data sharing policy is being currently drafted. A literature review was conducted to collect, analyze and synthesize relevant materials as inputs to develop the full information charter. Moreover, a new proposal has been drafted to seek funding for:

- Getting additional reference stations to achieve the initial coverage of at least one in every country;
- Establishing five regional data processing and computing centres;
- Establishing two data archiving and dissemination facilities;
- Developing institutional and methodological frameworks and carrying out sensitization activities;

- Conducting capacity building for national framework alignment with AFREF requirements.

4. Capacity Building

4.1 AFREF Workshop in Nairobi, Kenya

30. In 2008, a training course on GNSS stations implementation and maintenance was organized in partnership with Trimble Corporation and The Regional Centre for Mapping of Resources for Development (RCMRD). ECA is assisting in providing advisory services for the selection of appropriate skilled technical staff in the countries.

4.2 Support to national capacities for the utilization of geoinformation technologies

31. Ethiopia, 2008. As part of the Commission endeavour to enhance national capacities for the utilization of geoinformation technologies, an intern from the Adama University in Ethiopia conducted under guidance of the Geoinformation Systems Section a research study on the use of high-resolution remote sensing data to delineate and incorporate spatial patterns and socio-infrastructure into a GIS database.

4.3 Knowledge Sharing

32. More than half-dozen seminars were organized at ECA to raise awareness and share knowledge on the importance of using geospatial technology for resources management:

- Seminar on "Operational Activity Security Information System" aiming at demonstrating how to combine operator-friendly statistical and spatial data entry and analysis tools that allow the users to share and display a wide range of data on digital maps, graphs and reports that make the data intuitive to use.
- Seminar on the correlation between Remotely Sensed and Weather Stations' Rainfall Data in Ethiopia
- Seminar on New High Resolution Satellite Imagery - GeoEye-1 and its contribution to geospatial data acquisition.
- Seminar on developing an Agricultural Commodity Value-Chain Database, featuring how geoinformation can be used to analyze and model the relationships between suitable agro-ecological zones for the priority crops identified in the Comprehensive Africa Agriculture Development Programme (CAADP).
- Seminar on Generation of Digital Elevation Model (DEM) for Security Applications
- Seminar on MDG Mapper, a geovisualization tool for estimating projected attainments in the MDG.

5. International cooperation and liaison

33. The Commission continues to collaborate and coordinate its activities with other agencies in UN system, with international and regional associations and programmes, and other development partners, as an important vehicle for mobilizing financial resources and technical know-how in support of Africa's developments in the field of geoinformation. Efforts have been made to develop partnership with regional and international organizations through contribution and participation to several forums on geoinformation at national and sub-regional levels: Group on Earth Observation (GEO) capacity building process, UNESCO

/ African Union High-Level activities on the Critical Role of Remote Sensing Applications for Africa's Sustainable Development, the Inter-Agency Meeting on Outer Space Activities for inter-agency coordination and cooperation in space-related activities within the United Nations System.

34. The Commission has assisted the African Union, Member States and Regional Economic Communities on establishing the African Monitoring of Environment for Sustainable Development (AMESD) Project and to design a conceptual framework for the Global Monitoring for Environment and Security (GMES Africa) Programme. Support has also been provided to member States to establish the West African Regional Network aimed at strengthening the integration of space-based and in situ earth observations of land cover dynamics in West Africa.

35. ECA continues to support the work of the Governing Councils of both Regional Centres for Training in Aerospace Surveys (RECTAS) and Regional Centre for Mapping of Resources for Development (RCMRD). The Commission participated in the RECTAS 41st and 42nd GC meetings in 2007 and 2008 and also to 42nd meeting of RCMRD Governing Council in 2008. The Commission also participated in the 8th AfricaGIS meeting held in Ouagadougou in September 2007 and in the 7th African Association for Remote Sensing for the Environment (AARSE) meeting held in Accra in October 2008.

36. The Commission continues to work with the Global Spatial Data Infrastructure (GSDI) Association to advance the SDI concept in Africa. ECA coordinated the review of the African applications to the 2007 and 2008 GSDI Small Grants program.

37. In 2008, ECA applied for a full membership in the Group on Earth Observation (GEO). During the GEO-V Plenary session in Bucharest, Romania, on 19 November 2008, the Commission was officially recognized as a GEO Participating Organization. Africa remains poorly represented in the work of GEO/GEOSS. However Africa has much to gain from participating in GEO and thereby shaping its direction. The Commission is urging Member States to apply for GEO membership which is only contingent to formal endorsement (simple letter) of the GEOSS 10-Year Implementation Plan.

6. Future activities for the period 2009 – 2011

38. The urgent need for the continent to exploit the opportunities of the new economy, and in particular the Internet, is fully recognized. Geoinformation is relevant to many aspects of innovation and productivity for economic growth. The Commission plans to give emphasis on the development of applications in these areas.

6.1. Capacity-building and education in geospatial technologies

39. ECA in collaboration with specialized regional centre (RECTAS and RCMRD) will continue to develop training programs in geo-information technologies and their applications in resource assessment, planning, management and monitoring for resource technicians, managers and scientists.

40. In 2009/2011 and beyond, ECA will increase its effort toward the development of an indigenous African capability in Space Science and Technology. The Commission will

continue to champion sound research and transfer of technology's programmes, where activities will be significantly expanded to cover the fostering of innovation, product and service development, and earth observations applications.

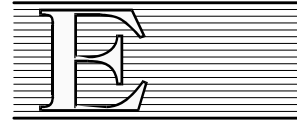
6.2. Advancing scientific knowledge of geoinformation

41. As part of its commitment for creating and managing knowledge in the continent, ECA will continue to enable Member States participation in important regional geo-related events and to partner with African sciences and research institutions, as well as other sectors to increase awareness in space applications. In particular, ECA will provide support to the organization of the regional conference of African Association of Remote Sensing of the Environment (AARSE), in October 2010.

6.3. Meeting key development challenges in Africa

42. Today, Africa faces major pressing issues: climate change impact, water scarcity, energy shortage, environmental stresses and food crisis, which affect citizens, business and the community at large. ECA will continue the development of geoinformation database for priority areas defined by regional initiatives (of the African Union, the NEPAD, and other continental bodies); and the continued support to existing centers of excellence.

43. There are a number of agencies and organizations with different yet possibly complementary datasets and approaches to spatial data management. ECA will continue to promote and support activities for coordinating the input and views of key stakeholders to ensure that the standards and approaches to be adopted in geospatial information make sense, are build on existing standards and approaches in such a way that they anticipate the future potential use of geoinformation resources to tackle emergent issues in the continent.



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ECONOMIC COMMISSION FOR AFRICA

First Session of the Committee on
Development Information, Science and Technology (CODIST.1)

Addis-Ababa (Ethiopia)
28 April – 1 May 2009

**Sub-Committee on Geoinformation
Status of implementation of Resolutions**

Action Items	Recommendations	Activities done so far	Remarks
On Standardizing Geographic Names	<ul style="list-style-type: none"> • Recommends that member States develop national standards on geographical names taking into consideration national socio-cultural contexts. • Urges ECA in collaboration with ECOSOC and the United Nations Expert Group on Geographical Names (UNGEGN) to organize the next UNGEGN meeting in Africa. 	<ul style="list-style-type: none"> • ECA is assisting in hosting the 25th Session of UNGEGN in Nairobi, May 2009. ECA intervention includes: (1) mounting the exhibition; (2) leveraging our connections to (try to) ensure good African participation in Nairobi; and (3) deliver a half-day workshop on a new gazetteer tool. • South Africa participates to the ISO/TC 211 initiative on developing a suite of international address standards (going beyond just postal addressing). • South Africa circulated for comments the South African Address Standard (SANS 1883) as a Draft South African Standard (DSS), the last stage before final publication. 	<p>The Gazetteer tool will be fully generic for any member State, as an occasionally-connected desktop application in the Web 2.0 framework.</p>
Land Information Management Systems	<p>That ECA member States should:</p> <ul style="list-style-type: none"> • Consider and adopt the different principles of LMIS developed by ECA and partners • Provide for LMIS in their land policies • Allocate more funds for LMIS for the benefit of the economy, as well as all other social and political activities 	<ul style="list-style-type: none"> • Publication and dissemination of the background document on Land Management Information Systems in the Knowledge Economy : Discussion and Guiding Principles for Africa. • Development of the Land Policy Website for the ECA's Land Policy and Administration initiative Section (http://geoinfo.uneca.org/LPI). The website is to be used as an official site for the Land Policy Initiative of the African Union (AU), the Economic Commission for Africa (ECA) and the African Development Bank (AfDB). It is being served as a repository for land coverage, land policy information on every country. • Initial involvement of African Experts (SouthAfrica) to the Land administration domain model (LADM) for ISO 19152. LADM covers formal cadastres and land ownership, as well as social tenure and other informal land administration. The project came from FIG and there is a plan to publish the Committee Draft (CD) in June 2009. 	
Spatial Data Infrastructures (SDIs) and Fundamental Datasets	<p>Requests ECA to:</p> <ul style="list-style-type: none"> • Organize training workshop at the subregional level on the implementation of CORS • Negotiate with providers of space imagery to make satellite images affordable to member States • Leverage funding for SDI development activities for member states with special attention to Mapping Africa for Africa (MAFA). 	<ul style="list-style-type: none"> • Provision of assistance to Member States in developing national geographic information infrastructures (NSDI). ECA's intervention has included: organizing and facilitating stakeholders' workshops (Botswana in 2007); Advisory services on the establishment of NSDI steering bodies, drafting of the action plan for a "Plan Géomatique National" (Cote-d'Ivoire and Niger in 2007 and 2008); reference materials and reviewing drafts of policy documents to integrate NSDI into NICI (Sierra Leone in 2007 and 2008); Technical assistance to develop national geoinformation resources (Sierra Leone in 2008). • Publication of the report on fundamental geospatial datasets. • Organization of a training course on GNSS stations implementation and maintenance in partnership with Trimble Corporation and The Regional Centre for Mapping of Resources for Development (RCMRD). 	<p>In 2008, ECA has applied and was officially recognized as a full participating organization of the Group on Earth Observation (GEO). The membership will strengthen ECA efforts in dialoguing with space agencies and earth observation data providers for accessibility to satellite imagery.</p>

Action Items	Recommendations	Activities done so far	Remarks
<p>Metadata Profile for Africa</p>	<ul style="list-style-type: none"> • Endorses the development of the African profile of ISO 19115, to support the realisation of the objectives of the Mapping Africa for Africa (MAFA) initiative • Requests ECA, supported by experts from the geographical information community, to identify a suitable metadata tool that can be adapted, and developed further, to support the African profile of ISO 19115 • Encourage ECA and specialized institutions to participate actively in ISO/TC 211 meetings and activities, and to create a mechanism to disseminate the relevant standards to the geographical information community in Africa. 	<p>Acquisition, test and deployment of the Geonetwork Metadata publisher tool. This open source solution was already used for delivering a short course of metadata creation, dissemination, and discovery in Sierra Leone.</p>	<p>ECA would--both from our initial review and from a more thorough assessment done by FGDC/NOAA (http://www.fgdc.gov/metadata/iso-metadata-editor-review)--endorse that African member States adopt the GeoNetwork open source solution for the creation, maintenance, and dissemination of geospatial metadata. It is easy to install, configure, and use.</p>