Recent Progress with GMES and Africa Action Plan (GAAP)

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What is GMES and Africa?

- Overall African framework for Earth Observation (EO) applications
- Established during 2nd EU – Africa Summit, GMES and Africa is an extension of Copernicus
- Finalising the GMES and Africa Action Plan (GAAP) is a key priority for Space under the Africa – EU Strategy
Recent GMES and Africa Meetings

- Multi-stakeholder consultation meetings to co-design & endorse final versions of GAAP Chapters
- Supported by JAES (Joint Africa – EU Strategy) Support Mechanism, EC, AUC and BRAGMA
  - Marine & Coastal Areas (09 – 10 October 2012, Mombasa, Kenya)
  - Long Term Management of Natural Resources (25 – 26 June, Sharm el Sheikh, Egypt)
Consolidation and Validation Meeting
15 – 16 October, Johannesburg, South Africa

• Will discuss
  – Results of previous thematic expert meetings
  – Two Cross Cutting Issues (Governance, Infrastructure)

• Draw up recommendations and proposed implementation plan for finalised GAAP Chapters

• Discuss the consultation process for validation of the remaining chapters
Next Steps

• To learn more about GMES and Africa and progress with the GAAP, please visit
  – www.bragma.eu

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GMES and Africa Action Plan (GAAP)

What is GMES and Africa?

Launched during the 2nd EU-Africa Summit (Lisbon 07 December 2007), **GMES and Africa** is an extension of the Global Monitoring for Environment and Security (GMES) Initiative, now called **Copernicus** (www.copernicus.eu). **GMES and Africa** is focused on establishing an overall African framework for Earth Observation (EO) applications, based on a long term equitable and transparent partnership between African & European stakeholders, identifying necessary steps to launch and implement a sustainable process.

Finalising the **GMES and Africa Action Plan (GAAP)** is a key Space priority under the Africa – EU Strategy, and will be discussed during the next EU - Africa Summit in April 2014.

A detailed **GMES and Africa Action Plan (GAAP)** is required to address operational services in terms of nine specific Thematic Areas and five associated Cross Cutting Issues. With the active support and involvement of the European Commission and African Union Commission, BRAGMA has engaged in broad consultation with key stakeholders to finalise a number of chapters of the baseline GAAP.

During 2012 and 2013, BRAGMA engaged with all key stakeholders and organised expert meetings in Kenya, Nigeria and Egypt, addressing three Thematic Chapters. A consolidation & validation workshop (which will also discuss two Cross Cutting Issues) will take place in South Africa.

**GMES and Africa Meetings**

These multi-stakeholder consultation meetings to co-design and endorse final versions of GAAP chapters are supported by the JAES (Joint Africa - EU Strategy) Support Mechanism and BRAGMA.

- **Marine and Coastal Areas** (09 – 10 October 2012, Mombasa, Kenya)
- **Long Term Management of Natural Resources** (25 – 26 June 2013, Sharm el Sheikh, Egypt)
- **Consolidation and Validation Workshop** (15 – 16 October 2013, Johannesburg, South Africa)
- **GMES and Africa Roundtable, AfricaGIS 2013 / GSDI 14** (07 November 2013, Addis Ababa, Ethiopia)

**BRAGMA Partners**

- Instituto de Investigacao Cientifica Tropical (IICT, Portugal)
- Institut de Recherche pour le Developpement (IRD, France)
- Musee Royal de L’Afrique Centrale (MRAC, Belgium)
- Paris-Lodron-Universitat Salzburg (PLUS, Austria)
- Department of Science and Technology (DST, South Africa)
- National Authority for Remote Sensing and Space Sciences (NARSS, Egypt)
- Centre d’Etudes et de Recherches de Telecommunication (CERT, Tunisia)
- National Space Research and Development Agency (NASRDA, Nigeria)
- Ministry of Education, Science and Technology (MoEST, Kenya)
- IIMC International Information Management Corporation Limited (IIMC, Ireland)
- AAVANZ - Inovação, Unipessoal Lda. (AAV, Portugal)

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GMES and Africa Action Plan (GAAP)

Snapshot of Endorsed Chapters

GMES and Africa Action Plan (GAAP) will accelerate cooperation between stakeholders and service providers.

**Marine and Coastal Areas**

The sustainable management of Marine and Coastal Areas in Africa requires the establishment of a pan-African EO monitoring, data management and analysis system. The GMES and Africa Service for Marine and Coastal Areas proposed in Chapter 6 of the GAAP is focused on providing services on a Large Marine Ecosystem (LME) scale through complementary regional implementation centres:

- Network of Marine Remote Sensing Centres as fully operational successors to existing pilot facilities, such as AMESD/MESA and EAMNet
- Network of Coastal Observatories, gathering in situ observations from priority areas (e.g. mega cities, ports, localities at risk from natural disasters and climate change)
- Network of Modelling and Forecasting Centres, providing products (e.g. reports on marine environment, ecosystem health reports, coastal vulnerability atlases) to public and private user communities & downstream service providers
- African Capacity Building Network of Higher Education Institutions, with strong public and private sector links, where empowered and trained staff will generate, disseminate and utilise marine and coastal products

These structures will maximise impact by integrating multi-disciplinary expertise. The focus on LMEs will maximise the value of data from the Sentinel satellite series, providing regional validation of core service and LME-contextualised products integrating satellite, in situ and modelled data. The networks will provide a common framework to facilitate rapid service implementation and expansion of existing MESA Regional Implementation Centres. MESA will contribute to further development of GMES & Africa Services.

**Water Resources Management**

Water Resources Management (WRM) is critically important for agricultural productivity, energy generation, achieving the MDG’s and water related health issues. Implementing Integrated WRM is a challenging task in Africa where weak water information systems can result in policies and management decisions based on unreliable information. GMES and Africa represents a unique opportunity to:

- Enhance Integrated WRM and water governance related African human, technical and institutional capacities
- Improve African WRM decision making processes and planning by establishing sustainable information services that exploit global EO capacity

The GMES and Africa WRM model will build on initiatives that demonstrate the potential impact of EO-based information towards achieving Integrated WRM at national and trans-boundary levels. Key African stakeholders supporting these efforts include the African Ministerial Council on Water.

Significant progress has been made in terms of engagement by Basin Commissions and NHMs, identifying user needs, and establishing a policy foundation for WRM. While methodologies have been validated and demonstrated in several African Member States, the critical issue is long-term sustainability. It is necessary to continue building upon existing African capacities, services and infrastructure, further develop existing cooperation with partners and stakeholders, maintaining existing service capabilities, with special emphasis on capacity-building and building-on-capacity.

There are many relevant EO-based precursor services (e.g. base mapping, hydrological network mapping; water availability estimation; large lake water quality; ground water exploration; water infrastructure monitoring) to build upon.

**Long-Term Management of Natural Resources**

Sustainable long-term management of Africa’s natural resources is important not only for the people of Africa but also for the entire globe. Nearly 90% of Africans draw their subsistence from the use of forests, woodlands, wetlands, rangelands and their flora and fauna biodiversity. The extraction of mineral resources is the basis of economic growth in many African countries. The African environment is critical for maintaining a stable climate and biodiversity reservoir for the entire planet. However, there are immense pressures on this fragile environment (e.g. land degradation, logging activities, intensive agriculture, illegal mining, urbanisation and poverty). To support the sustainable use of resources to meet local needs and deliver global services, permanent monitoring of Africa’s natural resources is required.

The following recommendations are formulated for consideration by policy makers and decision takers:

- Support availability of compatible, accessible and interoperable information and data sets
- Facilitate the development of information services for natural resources inventories and assessment, and reinforcement of existing national and regional facilities
- Foster necessary local expert capacity to support pan-African natural resources management
- Encourage institutional dialogue & development of operational services to improve decision making processes in the long-term management of African natural resources

EO-based NRM initiatives must target the strengthening of co-operation between European and African projects and programmes, and between information producers (scientific community, universities, implementation centres and companies) and users (political institutions) on both sides. The European GMES Copernicus programme can provide some lessons in that respect for system architecture and implementation mechanisms.