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Background

Maputo Declaration: African policy makers request EC to open its GMES initiative to Africa (Oct 2006)

Build on existing EO activities in Africa in order to increase benefits

Joint approach to solve global challenges - MDGs, sustainable development compromises (Climate Change, Food Security, Security,...)

Space for Development: the case of GMES & Africa
Lisbon event, 6-7 December 2007

Lisbon Process
The objective to develop the GMES and Africa Action Plan was established at the 2nd Summit and the Plan was adopted as a deliverable of the Space component of the 8th Africa-EU Partnership

Africa-EU Partnership on EO

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GMES & Africa
EU-Africa partnership for Earth Observation in Africa

The EU support to the Earth Observation Reference System through a strong and long term partnership between EU and Africa, established by the Lisbon Declaration (2007), to promote and improve availability, access and use of Earth Observation information for the benefit of the African citizen.
### GMES & Africa – Action Plan

#### Cross Cutting Issues (5)
- Capacity building
- Institutional policy
- Infrastructures
- Financing
- Monitoring and Evaluation

#### Thematic Areas (9)
- Marine and coastal areas
- Water resources management
- Long-term management of natural resources

#### Remaining 6 Chapters (prioritised in Dec 2014)
1. Food Security and Rural Development
2. Impacts of Climate Variability and Change
3. Natural Disasters
4. Health Management Issues
5. Conflicts and Political Crisis
6. Infrastructures and Territorial Development

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## GMES & Africa - Applications

<table>
<thead>
<tr>
<th>GEOSS</th>
<th>Copernicus</th>
<th>GMES &amp; Africa</th>
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<tbody>
<tr>
<td>4 Cross Cutting Activities and 9 Social Benefit Areas</td>
<td>5 Services</td>
<td>5 Cross Cutting Activities and 8 Thematic Areas</td>
</tr>
</tbody>
</table>

### Cross Cutting Activities
- **Capacity Building**
- **Architecture and Data**
- **Science and Technology**
- **User Interface**

### Climate Change
- **Observation Infrastructure**
- In-situ and spatial (ESA, EUMETSAT...)

### Social Benefit Areas
- **Disasters**
- **Health**
- **Energy**
- **Climate**
- **Agriculture**
- **Ecosystems**
- **Biodiversity**
- **Water**
- **Weather**

### Monitoring Services
- **Marine**
- **Land**
- **Atmosphere**
- **Security**
- **Emergency**

### Thematic Areas
- **Natural resources**
- **Marine and coastal areas**
- **Water resources**
- **Climate variability and change**
- **Natural disasters**
- **Food security & rural development**
- **Infrastructure & territorial development**
- **Conflicts and political crises**
- **Health Management**

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GMES & Africa – Action Plan

**Action Plan** based on Open Consultation to assess:

- Identification of Users and relevant stakeholders
- Mapping of existing EO-related activities and programmes
- Identification of Gaps
- Needs for service development
- Needs for capacity building
- Identification of adequate financing instruments
GMES & Africa Building Blocks

- **FP7 Space Call 2008 - 3 projects (total 3 M€) for Coordination and Support Actions in view of the future implementation of GMES services in Africa (start 2010)**
  - **GARNET-E** Emergency Response and Risk Reduction (start May 2010 / 2yrs)
  - **EAMnet** Marine Matters (start March 2010 / 3 yrs)
  - **SAGA-EO** Support Action to GMES Africa on Earth Observation (start Aug 2010 / 2yrs)

- **FP7 SICA (Specific International Cooperation Action) to promote participation of non-EU MS or Associated Countries in the FP7 within particular areas (start 2011)**
  - **WATPLAN** Spatial EO monitoring for planning and water location (start Feb 2011 / 2½ yrs)
  - **MALAREO** EO in Malaria Vector Control and Management (start Feb 2011 / 2 yrs)
  - **REDDiness** Support EO-driven forest and carbon monitoring in Central Africa for REDD (start Jan 2011/2 yrs)
  - **REDDAF** Reducing Emissions from Deforestation and Degradation in Africa (start Jan 2011 / 3 yrs)


# GMES & Africa – Coordination Mechanism

<table>
<thead>
<tr>
<th>Political</th>
<th>EUROPE</th>
<th>AFRICA</th>
</tr>
</thead>
<tbody>
<tr>
<td>JEG8</td>
<td>MS (PT), EC</td>
<td>MS (TN), AUC</td>
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<table>
<thead>
<tr>
<th>Strategic</th>
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<tbody>
<tr>
<td><strong>Coordination Team</strong> (extended at March 2010 to include 6 African MS)</td>
</tr>
<tr>
<td>EC (JRC, DG GROWTH, DG DEV), MS, ESA, EUMETSAT</td>
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<tr>
<th>Technical</th>
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<tbody>
<tr>
<td><strong>Consultation Team</strong></td>
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<tr>
<td>Experts on Thematic Areas</td>
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<tr>
<th>Implementation</th>
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<tr>
<td><strong>Funding Mechanisms</strong></td>
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<tr>
<td>FP7 (Space, Environment, INCO), JRC, EDF, ESA…</td>
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</tbody>
</table>

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GMES & Africa – Past Roadmap

**Lisbon Process**
Draft, discuss, submit the Action Plan

**Coordination Meetings**
- Dec 07: ToR for Lisbon Process
- Oct 2008: Accra
- Mar 2009: Ispra
- Jun 2009: Brussels
- Dec 2009: Brussels
- Sep 2010: Cairo II
- Aug 2010: Brussels
- Jul 2010: Cairo I
- May 2010: Draft0 CT revision
- Jul 2010: Opens E-Consultation
- Aug 2010: Closes E-Consultation
- Sep 2010: HLSD
- Addis Workshop
- Jul 2010: Hamammet, Side Event 3rd Summit
- 9 Nov 2010

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BRAGMA supporting GMES & Africa

BRAGMA
BRIDGING ACTIONS FOR GMES AND AFRICA

• Partners from 10 Countries: 5 African / 5 European
• Coordination / Support Action – 1M€
• 2 Years Project, starting January 2012
1. SUPPORT COORDINATION AND PROMOTE AWARENESS
   • Invest on the connection with the governance
   • Organise key meetings
   • Facilitate participation of selected African stakeholders at relevant events
   • Create a Web Site, Social Networks and Newsletters to connect networks and disseminate information

2. SUPPORT A COHERENT STRATEGY BETWEEN EUROPE AND AFRICA
   • Build synergies between GMES & AFRICA related projects
   • Contribution of GMES services

3. SUPPORT THE EFFECTIVE DEVELOPMENT, CONCLUSION, ENDORSEMENT AND IMPLEMENTATION OF THE ACTION PLAN, IDENTIFYING AND FACILITATING THE SCOPE AND DEFINITION OF HIGH PRIORITY PROJECTS
3 Thematic Workshops:

1. Marine and Coastal Areas – Kenya
2. Water Management – Nigeria
3. Long Term Management of Natural Resources – Egypt

Validation Workshop – South Africa
3 Thematic WS

• To contribute to the implementation of the Action Plan producing Concrete and Visible Results through a simpler modular approach

• To guarantee the sustainability of the initiative

• To analyze the contribution of GMES services and GMES & Africa related projects, supporting a coherent strategy between Europe and Africa

• To support the effective development, conclusion, endorsement and implementation of GAAP, identifying and facilitating the scope and definition of high priority projects

• To outline operational modalities to reach GMES & Africa Objectives – allowing Africa to make full use of the potential of space systems for sustainable development and reinforcing Africa’s capacity and ownership in using and contributing to remote sensing science

• To define modalities to establish African-European operational collaboration to make best use in Africa of GMES Europe services
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GMES&A-BRAGMA
Develop, conclude, endorse, implement the Action Plan

SUPPORT THE EFFECTIVE DEVELOPMENT, CONCLUSION, ENDORSEMENT OF GAAP

Technical meetings for drafting the technical implementation chapter
GMES&A-BRAGMA Support the Effective Development, Conclusion, Endorsement of GAAP

- Harmonisation between 3 WS (Priority Implementation Actions)
- Cross Cutting Issues (Governance & Infrastructure)
- Call for Implementation (Tangible Outputs for the 4th EU-Africa Summit)
Participation

• 80 Participants from 24 African coastal countries – Marine and Coastal Areas
• 60 Participants from 30 African countries – Water Management
• 45 Participants from 28 African countries – Natural Resources Management
• 100 Participants from 30 African countries – Validation / Consolidation

• AUC, EC, regional organisations (COI, ECOWAS, IGAD, COMESA), AMCOST, AMCO

• Involvement of International organisations (e.g. GOOS-AFRICA, IOC/UNESCO)

• Synergies with FP7 and EDF projects / EU-Africa Cooperation Projects
BRAGMA

Promote awareness

WEBSITE

www.bragma.eu
Global Monitoring for Environment and Security (GMES) & Africa

Group type: Public group

Marine and Coastal Areas WS - Draft Agenda  » back to group document overview
Support to development, consultation/endorsement of the GAAP

- Conducting 4 WS
- Developing 3 thematic action plans

Support to dissemination of the Action Plan via

- BRAGMA website - www.bragma.eu
- Capacity4Dev portal (http://capacity4dev.ec.europa.eu/africa-eu-part.gmes/dashboard)
- E-Platform MIXXT - http://bragma.mixxt.eu/networks/mypage/index
GMES & Africa – Action Plan

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MARINE AND COASTAL AREAS MANAGEMENT

Operational services and products are:

1. Operational coastal sea level, coastal circulation and coastal sea state (data, analyses, imagery and mapping)
2. Operational biological productivity (data, analyses, imagery and mapping)
3. Coastal sensitivity and vulnerability atlases & state of environment reporting
4. Ship traffic situation and maps
5. Regional weather forecast systems (weekly basis)
6. Real-time Disaster Warning Systems
7. Mapping of coastal land use and near-shore coastal and marine habitats
8. Mapping marine and coastal ecosystem services
WATER RESOURCES MANAGEMENT

Operational services and products are:

1. Mapping the precipitation and potential evapo-transpiration
2. Mapping the transboundary water resources including characterization of the basin catchment
3. Identification, mapping and monitoring of the ephemeral water bodies
4. Management of the groundwater reservoirs
5. Generating and early warning and outlooks for stakeholders and decision makers.
LONG TERM MANAGEMENT OF NATURAL RESOURCES

Operational services and products are:

1. Characterization and mapping of Land cover at different scales and standardised format
2. Characterization and mapping of land cover changes at different scales and standardised format
3. Developing and operational model for monitoring land-use to support land management policies
4. Developing a decision support system for Assessment of Long Term NRM Strategies in Africa.
5. Developing a decision support services for Early Warning Systems
Services monitoring Earth systems:
- Land: Water Resources, Natural Resources, Food Security, Territorial Development
- Marine: Marine and Coastal Areas
- Atmosphere

Horizontal services:
- Emergency: Natural Disasters
- Security: Conflicts and political crises
- Climate: Climate variability and change

Copernicus Services / GMES & Africa Thematic Areas
Copernicus space component

**Space Infrastructure – Led by ESA**

Delegation Agreement with ESA

- GIO and post : Contributing Missions - Satellite missions built for purposes other than Copernicus but offering part of their capacity to Copernicus (EU/ESA MSs, EUMETSAT, commercial, international)
- SENTINEL - Satellite missions developed specifically for Copernicus

1. **Sentinel 1 – SAR imaging**
   All weather, day/night applications, interferometry

2. **Sentinel 2 – Multispectral imaging**
   Land applications: urban, forest, agriculture,..
   Continuity of Landsat, SPOT

3. **Sentinel 3 – Ocean and global land monitoring**
   Wide-swath ocean color, vegetation, sea/land surface temperature, altimetry

4. **Sentinel 4 – Geostationary atmospheric**
   Atmospheric composition monitoring, trans-boundary pollution
### MESA Thematic Actions

<table>
<thead>
<tr>
<th>Regional Economic Community - REC</th>
<th>Regional Thematic Action - THEMA</th>
<th>Regional Implementation Centre – RIC</th>
</tr>
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<tbody>
<tr>
<td>CEMAC</td>
<td>Management of Water Resources (for fluvial transportation and environmental assessment)</td>
<td>CICOS, Kinshasa</td>
</tr>
<tr>
<td>ECOWAS</td>
<td>Water Management for Cropland and Rangeland Management</td>
<td>AGRHYMET, Niamey</td>
</tr>
<tr>
<td>IGAD</td>
<td>Land Degradation Mitigation &amp; Natural Habitat Conservation &amp; Forest Information System <strong>NEW</strong></td>
<td>ICPAC, Nairobi</td>
</tr>
<tr>
<td>IOC</td>
<td>Coastal and Marine Resources Management</td>
<td>MOI, Quatre-Bornes with NMHS for training</td>
</tr>
<tr>
<td>SADC</td>
<td>Agricultural and Environmental Resource Management</td>
<td>BDMS/SADC-CSC, Gaborone</td>
</tr>
<tr>
<td>ECOWAS</td>
<td>Coastal and Marine Resources Management <strong>NEW</strong></td>
<td>U Ghana</td>
</tr>
<tr>
<td>Continental</td>
<td>Support to Climate Services (Climate Change Monitoring) <strong>NEW</strong></td>
<td>ACMAD, with the other RCC</td>
</tr>
</tbody>
</table>
Distribution of selected projects addressing Long-term management of Natural Resources across Africa

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GMES&Africa – next steps

- The 2014-2017 Roadmap of the Africa-EU Partnership agreed at the last Summit in April 2014 commits the two partners to cooperate to “strengthen African capacity to monitor environment and security in Africa using Earth Observation techniques through the implementation of the Global Monitoring for Environment and Security (GMES) and Africa Action Plan, and more specifically, in the three priority thematic chapters: marine and coastal areas, water resources and natural resources management”

- The on-going study for the use of Pan-African Programme funds to implement the GMES&Africa PanAf Programme should be finalised in 2015 to start implementation on 2016

- There is no fixed date for the next GMES & Africa thematic workshop on EO for Food Security and Rural Development
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