GMES FOR AFRICA - REGIONAL NETWORK FOR INFORMATION EXCHANGE AND TRAINING IN EMERGENCIES

The Role of GARNET-E in supporting Disaster Management and Emergency Response for Africa

Presented
by

Teshome Erkineh
Geo-Spatial Analytical Service (GeoSAS), Ethiopia

at

The UN-SPIDER Regional Workshop:
Building Upon Regional Space-based solutions for Disaster Management and Emergency Response for Africa

Addis Ababa, Ethiopia
7 July 2010

SEVENTH FRAMEWORK PROGRAMME

GMES

Outline of Presentation

I. Background
II. Project overview
III. Purpose of GARNET-E
IV. GARNET-E Objectives
V. The GARNET-E Network
VI. Scope of work
VII. Strategy and benefits
VIII. Next steps

I: Background

- What is GARNET-E?
  - GMES for Africa: Regional Network for Information Exchange and Training in Emergencies
  - **GMES (Global Monitoring for Environment and Security)** is a joint initiative of the European Union (EU) and European Space Agency (ESA)
  - GMES provides reliable and timely Earth Observation (EO) based information services as well as ground-based informationrelated to environmental and security issues
  - GMES uses images from Earth observation satellites.
  - These data are coordinated, analysed and prepared to provide services for a variety of end-users

Services Provided by GMES

GMES Services can be classified into three major categories:

- **Mapping**
  - **Topography or road maps but also land-use and harvest, forestry monitoring, mineral and water resources.**
  - **This service generally requires exhaustive coverage of the Earth surface, archiving and periodic updating of data.**
- **Support for emergency management**
  - **in case of natural hazards and particularly for civil protection.**
  - **Provide the latest possible data before intervening.**
- **Forecasting**
  - **For marine zones, air quality or crop yields.**
  - **Systematically provides data on extended areas, permitting prediction and modelling .**

Response Mechanisms in Europe

- **GMES Respond**
  - **Began in 2004, as one of the European Space Agency's (ESA's) GMES projects.**
  - **Respond is led by Infoterra, UK and is supported by 18 European partners.**
  - **The GMES Respond mission is to increase the effectiveness of the international humanitarian and development communities, through *the appropriate and reliable application of geographic information*.**

- **GMES SAFER** - Services and Applications for Emergency Response
  - **SAFER began in January 2009 .**
  - **Led by Infoterra France with 53 partners in 16 countries**
  - **Provides services and application for emergency response–and helps to reinforce the European capacity to respond to emergency situations.**

SAFER Ambitions and Expected Results

- **A user-driven operational service:**
  - SLA (service level agreements) and quality assurance
  - Operational validation by the users
- **Rapid mapping with priority on quick information delivery:**
  - Assessment maps available in less than 24 hours
  - Reference maps (prepared in advance) and available in less than 6 hours
  - Anticipation of new acquisitions, based on events monitoring
- **More complete information:**
  - Progressive enrichment with thematic products and services
  - Prevention and post-crisis phases
- **An end-to-end service:**
  - Single point of contact available 24/7 and service gateway
  - Geo-information available on the field

SAFER

- Types of situation:
  - Meteorological Hazards,
  - Geophysical Hazards,
  - Man-Made Disasters,
  - Humanitarian Disasters
- Geographical scope of services:
  - Europe
  - Give priority for Africa, SE and Central Asia
- Users:
  - Decision makers (European Government, national & regional authorities), implementing partners, field operators.
  - Civil Protection (national level)
  - Humanitarian Aid (UN agencies, national teams, Red Cross, NGOs…)

Additional Services Under Development in SAFER (Early warning and Thematic Services)

- Flood products (Europe)

  Flood Risk Analysis, Flood Plain Early Warning, Flash Flood Early Warning

- Fire Products (Europe)

  Global Fire Risk Index, Fire Monitoring etc

- Earthquake and Volcanic Hazard Products (Europe)

  Eruptive Volcanic Parameters, Damage Mapping, Crisis Deformation Mapping

- Landslide Products (Europe)

  Landslide Inventory Mapping, Landslide Monitoring, Rapid Landslide Mapping, Real-Time Shallow Landslide Forecasting

- Humanitarian Products

  Upgrades to core products and new thematic products

II Project Overview
How was GARNET- E Initiated?

- Driving force:
  - The demonstrated ability of Satellite data as a credible tool for **basic mapping**, **land cover change** and **rapid mapping & damage assessment** (especially flooding) in an African context.
- Maputo declaration:

– In the above context, the Commission of the African Union, the Secretariat of the African, Caribbean and Pacific (ACP) Group of States and five Regional Economic Communities of Sub-Saharan Africa called upon the European Union to plan an extension of its GMES initiative to Africa and other ACP countries, through a declaration signed in October 2006 in Maputo – Mozambique

- Followed by the declaration of the Lisbon Process 2007/08.....

Why was GARNET-E Initiated?

- GMES's vast potential to serve the African continent, but has not yet been fully exploited.
- There is a wish to extend and provide GMES Core services in Africa
- Coordinate GMES emergency responses core service activities in an African context with:
  - The integration of African requirement into the definition of the core services
  - Strengthening and building regional and local capacities, in order African users and policy makers to access the EO derived information provided by the services

III: Purpose of GARNET-E

- To enable and enhance the ability of African states to use satellite Earth Observation for the management of natural and man-made humanitarian emergencies.
- To develop a network of EU, African organisations and African users in order to build economic, technical and commercial capacity within Africa, along the priority lines being identified in consultation with the African Union under the 'GMES and Africa' initiative

IV: GARNET-E Objectives

General:

To re-align the "GMES Emergency Response in Africa" agenda: from technical activities focussed purely on risk reduction and response using European resources, to activities much more directed to building sustainable local capacities, leading to real wealth creation in Africa.

Technical Objectives

- To exchange information, through training exercises on:
  - GMES Emergency Response Core Service; and
  - the International Charter Space and Major Disasters; and
- To improve the quality of the GMES Service in Africa, through:
  - requirements gathering exercises; and
  - the ingestion of in situ data.

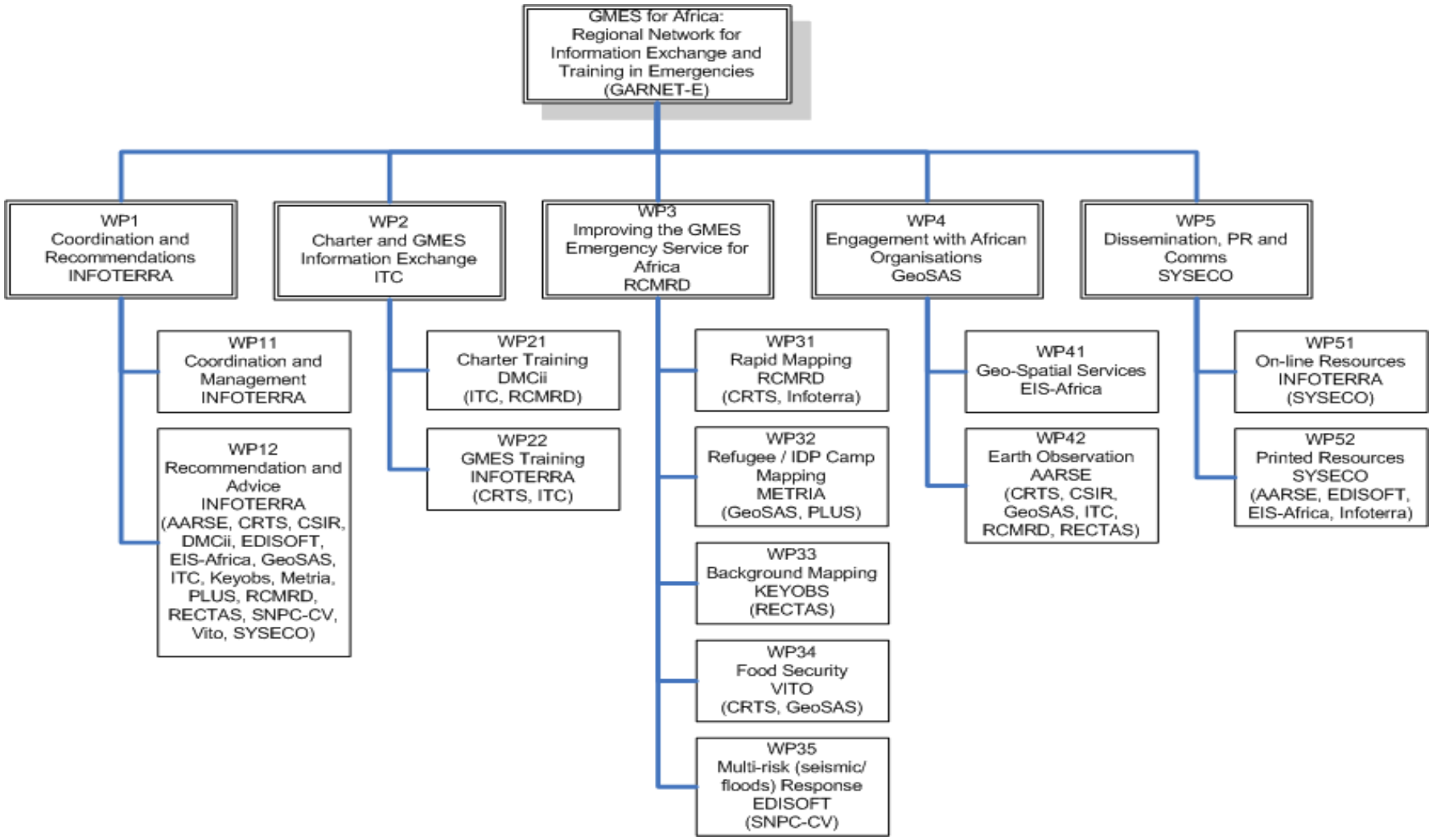
V: The GARNET-E Network

- 17 Partners

1. AARSE, Nigeria
2. CSIR, South Africa
3. CRTS, Morocco
4. EIS-Africa, South Africa
5. GeoSAS, Ethiopia
6. RCMRD, Kenya
7. RECTAS, Nigeria
8. SNPC-CV, Cape Verde
9. SYSECO, Belgium
10. DMCii, UK
11. Infoterrra, UK
12. ITC (University Twente), Netherlands
13. Keyobs, Belgium
14. Metria, Sweden
15. PLUS, Austria
16. VITO, Belgium
17. EDISOFT, Portugal

- Led by Infoterra from the UK,
- Supported through €1Million EU funding from EC
- Started operation as of 1st May 2010 for two years

VI: Scope of work/work packages



Work Package Overview

Work package 1: Coordination and Recommendations: led by Infoterra, UK

- Has two sub-components
  - Coordination and management: led by Infoterra
  - Recommendation and advice: led by Infoterra

- Major responsibilities:
  - Coordinate and manage implementation of the project
  - Provide recommendations and advice in support of the preparation of an Action Plan of the European Commission and the Commission of the African Union on GMES and Africa Initiative for endorsement at the next EU- Africa Summit.

Work Package 2

Charter and GMES Information Exchange : Led by ITC, Netherland

- Has two sub-components
  - Charter training: led by DMCii, UK
  - GMES Emergency Service Training: led by Infoterra, UK
- Major Responsibilities:
  - provide training and training materials to African organisations
    - on the use and benefits of the International Charter - Space and Major Disasters.
    - on the use of the GMES Emergency Response Core Service.
  - address African concerns and issues regarding the use of the Charter (including triggering, data delivery, licensing and value-adding).
  - Provide information to African organisations on the general aspects of the GMES programme
  - Work in close co-ordination with the relevant activities of the Charter secretariat, UNITAR-UNOSAT and the UN-OOSA SPIDER initiatives, UNEDRA events and different international conferences organizers on Earth Observation, Disaster management etc.

Work Package 3

Improving the GMES Emergency Service for Africa :

led by RCMRD, Kenya

- Has five sub-components
  - Rapid Mapping (WP31): led by Infoterra, UK
  - Refugee/IDP Camp Mapping (WP32): led by Metria, Sweden
  - Background Mapping (WP33): led by Keyobs, Belgium
  - Food Security (WP34): led by Vito, Belgium
  - Multi-risk (seismic/ floods) Response (WP35): led by EDISOFT, Portugal

WP 3 contd.

- **Major responsibilities:**
  - Gathering Africa-specific requirements from potential local and regional African users of GMES services
  - Enhance existing methodologies employed within the GMES Emergency Response Core Service to improve emergency response products and services (GMES rapid and background mapping products, refugee/IDP camp mapping) in an African context
  - Sharing knowledge and information on how to generate accurate crisis mapping from EO imagery,
  - Conduct Case Studies, relating to previous and contemporary crisis events

Work Package 4

Engaging with African organizations : led by GeoSAS, Ethiopia

- Has two sub-components
  - Geo-spatial services: led by EIS Africa, South Africa
  - Earth observation: led by AARSE, Nigeria
- Major responsibilities
  - Create network of networks by engaging EO data producers, a broad spectrum of public and private African entities working in the geo-spatial and environmental information and remote sensing and earth observation fields with the GMES and Africa process
  - Disseminate information and knowledge relating to the GMES and Africa emergency Response initiatives to African communities
  - Empower individuals within key African EO organizations to attend GMES and Africa events, through the provision of funding

Work Package 5

Dissemination, public relations and communications : led by ITUK

- Has two sub-components
  - Online resources : led by Infoterra, U K
  - Communication activities and tools: led by SYSECO, Belgium
- Major responsibilities
  - Conduct public awareness and marketing of the project activities
  - Promote the existence of GMES and Africa, The Emergency Core Service and this network
  - Organise and perform dissemination, PR and communication activities
  - Develop and maintain project web site
  - Create web based platform for exchange of information between partners of the consortium , associated network members and with the EC project office

VII: Strategy and Benefits

Overall strategy:

- engage the key players in Europe with corresponding African stakeholders; and
- specifying and improving a potential African implementation of the GMES Emergency Service.

Overall benefits:

- Real benefits to local people, through NGOs working in the field and through entrepreneurial, commercial initiatives, in-country;
- Bringing together major European players, with a proven capacity to provide a high capacity service, with African skills and local knowledge.

VIII:- Next Step to realise GARNET-E Objectives

- To create awareness about the initiative of GARNET-E
- GARNET-E can help SPIDER to bridge the gap between the space and disaster management communities through its "network of networks" approach
- SPIDER can help GARNET-E by introducing us (e.g. through this workshop) to your expert communities across Africa
- Over the next 2 years our work package leaders will be coordinating their efforts with yours to develop capacity building in disaster management in Africa

Contacts

- GeoSAS contact details (WP4):
  - General Manager – Teshome Erkineh
    teshomee@geosas.net
- Infoterra contact details (Coordinator):
  - Project Manager – Jo Lambert
    jo.lambert@infoterra-global.com

Thank You!!!