

**Sub-task Number:** CB-09-05d

**Sub-task Title:** Geo-resources Services for Africa

**Overarching Task:** Infrastructure Development and Technology Transfer for Information Access

**Area:** CAPACITY BUILDING

**Relevant Committee:** CBC

**Related Targets:** (to be included in 2009)

**Sub-task Definition** (as given in the 2009-2011 Work Plan):

Build upon the AEGOS project to design a pan-African infrastructure of interoperable data and user-oriented services to strengthen the sustainable use of geo-resources in Africa. Safeguard, share, valorise the knowledge and data archived in African and European geological surveys. Support geoscientific communities and institutional decision-makers in the design and implementation of sustainable development public policies.

**Leads** (GEO Member or PO, Entity carrying out the work, Contact: e-mail):

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### **Motivation/Background**

The sustainable use of resources of geological origin such as minerals and non-energy raw materials, groundwater and geothermal energy require knowledge based on data, information and expertise. In Africa, it is a key issue, not only for development of the African countries, but also for the world's future in order to face the rising demand for raw materials, better infrastructures and services. Collectively, European geological surveys have a unique archive of public Africa-related georesources data that need to be shared with their African partners. Identifying and providing access to this data and information represents a major stake for sustainable policy making and capacity building in geosciences

**Outputs** (e.g. products and services which result from the activities of the Task/sub-task; outlined in the form of deliverables with timelines)

Planned: 2009-2011: Preparatory phase for the building of a pan-African information system for georesources in Africa – several components: i) distributed architecture of national multidisciplinary data sets; ii) internet and satellite-based access to geoscientific metadata and harmonised / trans-border data; iii) user-oriented products and services as decision-support systems combining georesources information with socio-economic and sustainable development indicators; iv) geoscience contribution to the Global Earth Observation System of Systems (GEOSS), in the context of the Infrastructure for Spatial Information in Europe (INSPIRE); v) permanent network of institutions and geoscientists with a charter of partnership; vi) capacity building and training curricula for the sustainable use of georesources.

Produced (current status): Project started in December, 2008

Proceedings of project workshops – refer to “Activities” section.

**Activities** (operations or work processes through which resources are mobilized to produce specific outputs; outlined in the form of milestones including timelines)

Planned:

2009: Inventory (questionnaires and thematic workshops) of state-of-the-art before designing the components of the AEGOS infrastructure: standards, data models, hardware/software/networks, data themes and data sets, curricula and training practices, education centres, user needs, products and services, potential innovative projects, test beds, links and contributions to other international programmes such as GEOSS, INSPIRE, GMES, etc.

2010: Detailed design of the AEGOS infrastructure components (technical, staff, institutional) and presentation of first results at the mid-term conference. Second set of thematic workshops. Feedback from end-users and integration. Preparation of the charter of partnership including the AEGOS sustainability model and intellectual property right management rules.

2011: Presentation of final results as terms of references for AEGOS subsequent development and implementation.

*Progress (current status):* Kick-off meeting in February, 2009

Workshop “Existing initiatives, standards and methodology for metadata and data specification”

Workshop “Existing initiatives, infrastructures and technical standards”

Workshop “Identification of data themes, user-oriented data products and services”

Workshop “Interoperability and interdisciplinarity in support of GEOSS”

Workshop “Definition of curricula, qualifications and contents”

*Resources (indication of resources – e.g. financial, human – contributed by GEO Members or Participating Organizations to produce outputs)*

Total staff effort: 259 person months – Total cost: 2.4 MEuros.

### **Architecture and Data Component**

1) Please briefly describe any task-related Earth observation resources (data set, system, website/portal) and any related Web Service interfaces that are contributed to GEOSS. State whether these items are or will be registered with the GEOSS Component and Service Registry for access via the GEO Web Portals, and whether any associated standards or other interoperability arrangements will be registered in the Standards and Interoperability Registry.

2) Please also describe what data and information your activity/system needs that you would request to be accessible through the GEOSS Common Infrastructure.

### **Capacity Building Component**

(capacity building is defined to include the development of capacity related to: (i) Infrastructure and technology transfer (Hardware, Software and other technology required to develop, access and use EO); (ii) Individuals (education and training of individuals to be aware of, access, use and develop EO) and (iii) Institutions – building policies, programs & organizational structures to enhance the value of EO data and products).

1) In accordance with the above definition does this Task have a capacity-building component? If so, please provide a short description of this component including a description of end users.

Qualified personnel will be required to perform the implementation and maintenance activities of the AEGOS infrastructure. The dedicated work package of AEGOS project aims at designing a common strategy for an organization of the capacity building, training and transfer of knowledge to this personnel and also the educators/trainers. Three priorities are identified: i) definition of the curricula corresponding to the qualifications required by the personnel to work on the AEGOS implementation and maintenance; ii) detailed description of the capacity building activities as modules, training schemes, production of multi-lingual training materials; iii) definition of the training infrastructure and organization (in-house training, intensive courses, on-the-job training, e-learning) in connection with the existing education infrastructures such as universities and schools in Africa and Europe.

2) Have any additional CB needs for this Task been identified? Please provide a short description.

**User Engagement Component**

*(please briefly describe to what extent end users are engaged in this Task and influence the nature of the outputs produced)*

End users include the public bodies in charge of the georesources at national and international level (geological surveys, water board, ministries) as well as the education organizations such as universities and schools. These end users contribute to this CB task as soon as it is implemented through an inventory of existing curricula and identification of gaps and needs in relevance to the sustainable management of georesources.

**Science and Technology (S&T) Component**

*1) Please briefly describe the elements of scientific research or technological development contained in this Task.*

The AEGOS observation system involve both technological and geology-related scientific issues. They include computer hardware, software and wide area network components, as well as spatial data infrastructure and comprehensive thematic components i.e. underground natural resources such as minerals, non-energy raw materials, groundwater and geothermal energy.

*2) In relation to the S&T component(s) of this task, please describe gaps, priorities, continuity needs, barriers, scientific expertise and additional resource needs (this information will be used for developing a gaps and needs assessment in Task ST-09-01)*

The demand is still strong in Africa for qualified personnel in the field of data management, processing capacities. These are often oriented towards the exploration and exploitation of the natural resources. AEGOS CB task aims at integrating other thematics such as socio-economic and activities on sustainable development indicators as new and necessary concerns for the sustainable development of both the underground natural resources and African populations relying on them.

**Members and POs' Contributions to Outputs and Activities above:**

*(Input is optional. This section gives the chance to Members and POs to provide more details (3-5 lines) on their individual activities, making a clear connection with the Outputs and Activities outlined above).*

**Participation (Table to be filled in 2009):**

Type	Member or PO	Representing	Contact Name	EmailAddress
Lead(PoC)	EC	AEGOS	M. Urvois	m.urvois@brgm.fr
Lead	France	BRGM - Bureau de Recherches Géologiques et Minières / AEGOS consortium Coordinator	M. Urvois	m.urvois@brgm.fr
Contributor	Belgium	RBINS - Royal Belgian Institute of Natural Sciences	Y. Vanbrabant	
Contributor	CGS	Council for Geoscience – South Africa	L. Chevallier	
Contributor	Czech Republic	CzechGS - Czech Geological Survey	D. Čáková	
Contributor	EC	JRC – IES - European Commission / Joint Research Centre – Insitute for Environment and Sustainability	S. Peedell	
Contributor	Ethiopia	GSE - Geological Survey of Ethiopia	T. Shagi	
Contributor	Finland	GTK - Geological Survey of Finland	R. Teerilahti	
Contributor	France	CIFEG - Centre International pour la Formation et les Echanges en Géosciences	F. Pinard	
Contributor	France	IRD - Institut de Recherche pour le Développement - France	M. Jessel	
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Contributor	Germany	BGR - Bundesansalt für	M. Toloczyki	

Type	Member or PO	Representing	Contact Name	EmailAddress
		Geowissenschaften und Rohstoffe - Germany		
Contributor	Ghana	GSD - Geological Survey Department - Ghana	K. Boamah	
Contributor	Guinea	DNG - Ministère des Mines et de la Géologie - Guinea	A. Cissé	
Contributor	Netherlands	TNO - Netherlands Organisation of Applied Scientific Research	P. Letitre	
Contributor	Poland	PGI - Polish Geological Insitute	M. Granicznny	
Contributor	Portugal	LNEG (former INETI) -Portuguese Geological Survey - Portugal	C. Antunes	
Contributor	SEAMIC	Southern and Eastern African Mineral Centre	K. Tadesse	
Contributor	Senegal	MMI - Ministère des Mines et d l'Industrie - Senegal	M. Sylla	
Contributor	Tanzania	IRA - Institute of Resource Assessment – Tanzania	S. Mwansasu	
Contributor	UEMOA	Union Economique et Monétaire Ouest Africaine	A. Koné	
Contributor	Uganda	GSM - Geological Survey and Mines of Uganda	J. Odida	
Contributor	UK	BGS - British Geological Survey	S. Mash	
Contributor	Zambia	GD-SOM-UNZA - Geology Department – School of Mines – University of Zambia	I. Nyambe	