



This action is funded by the European Union

ANNEX 8

of the Commission Implementing Decision on the Annual Action Programme 2015 of the DCI Pan-African Programme

Action Document for the GMES and Africa Support Programme

1. Title/basic act/ CRIS number	Global Monitoring for Environment and Security (GMES) and Africa Support Programme CRIS number: DCI/PANAF/038-010 financed under Development Cooperation Instrument			
2. Zone benefiting from the action/ location	Pan-African The action shall be carried out at the following location: Africa			
3. Programming document	Pan-African Programme Multi-Annual Indicative Programme 2014-2017			
4. Sector of concentration/ thematic area	<i>Strategic area 5: Global and cross-cutting issues</i> Component 1: Climate change and Environment			
5. Amounts concerned	Total estimated cost: EUR 31 750 000 The contribution is for an amount of EUR 26 500 000 from the general budget of the European Union for 2015 This action is co-financed in joint co-financing by: - an in-kind contribution of EUR 800 000 from the Joint Research Centre (JRC) This action is co-financed by potential grant beneficiaries for an indicative amount of EUR 4 450 000			
6. Aid modality and implementation modalities	Project Modality Direct management: procurement of services and administrative Arrangement with the Joint Research Centre Indirect management with the African Union Commission (AUC)			
7. DAC code(s)	41010, 22040			
8. Markers (from CRIS DAC form)	General policy objective	Not targeted	Significant objective	Main objective
	Participation development/good governance	x	<input type="checkbox"/>	<input type="checkbox"/>
	Aid to environment	<input type="checkbox"/>	<input type="checkbox"/>	x
	Gender equality (including Women In Development)	x	<input type="checkbox"/>	<input type="checkbox"/>
	Trade Development	x	<input type="checkbox"/>	<input type="checkbox"/>
	Reproductive, Maternal, New born and child health	x	<input type="checkbox"/>	<input type="checkbox"/>

	RIO Convention markers	Not targeted	Significant objective	Main objective
	Biological diversity	<input type="checkbox"/>	<input type="checkbox"/>	x
	Combat desertification	<input type="checkbox"/>	<input type="checkbox"/>	x
	Climate change mitigation	<input type="checkbox"/>	<input type="checkbox"/>	x
	Climate change adaptation	<input type="checkbox"/>	<input type="checkbox"/>	x
9. GPGC thematic flagships	N/A			

SUMMARY

The proposed action is a contribution to the **Global Monitoring for Environment and Security (GMES) & Africa** initiative.

The **expected outcome** of the action is to improve capacities of African policy-makers and planners to design, implement, and monitor national, regional and continental policies and to promote sustainable management of natural resources through the use of Earth Observation (EO) data and derived information. The Action is in line with the Roadmap (§64-65) adopted at the 4th Africa-EU Summit and will contribute to the following result of the Multi-Annual Indicative Programme of the Pan-African Programme: *accurate data and products available from EO allowing for a better management of water and natural resources.*

The action will set up, through African thematic, scientific and academic networks and in cooperation with European partners, an African *Water & Natural Resources Service* and an African *Marine & Coastal Service*, in order to receive and process EO and geo-data; elaborate and disseminate EO-based information; build African capacities to fully benefit from these services to allow to better assist policy makers; and increase the impact of EO derived information on the decision-making process.

The programme will enable the consolidation of services developed through the intra-ACP 'Monitoring of Environment and Security in Africa' (MESA) project in relation to three thematic chapters of the GMES & Africa initiative, and support their expansion to other geographic zones of the continent, including Northern African countries and South Africa. Support will be provided to also develop new services.

It is proposed that the programme be implemented through 3 contracts: (i) indirect management with the AUC to coordinate implementation and grants; (ii) a service contract for technical assistance; and (iii) an administrative arrangement with the Joint Research Centre (JRC) to ensure technical backstopping and contribution to training.

1 CONTEXT

1.1 Sector/Country/Regional context/Thematic area

On average over 2005-2015, Africa has experienced impressive growth, with an annual real Gross Domestic Product (GDP) increase of 5.6%. This has not only been driven by favourable commodity prices but also extended to countries that do not possess significant natural resources. This dynamism should continue since, according to the African Development Bank, Africa's GDP is expected to double by 2030. With 30 million km² of land, making Africa the second biggest continent, the subsoil is a tremendous asset. Demography is also dynamic. According to UNICEF, 16% of the world's population lives in Africa, reaching one person out of four by 2030 and four persons out of ten at the end of the 21st century.

According to the World Bank, almost one out of every two Africans lives in extreme poverty and 18 out of 33 fragile States identified in 2015 are African. There is also room for more progress in the areas of inclusion, gender equality and environmental sustainability which are needed to further promote sustainable human development.

1.1.1 Public Policy Assessment and EU Policy Framework

The Maputo Declaration adopted in 2006 by African partners explicitly called upon the European Union to plan for an extension of GMES (now Copernicus) to Africa, through which African decision-makers, at continental, regional and national levels, would have access to Earth Observation (EO) data and services, needed to operationally implement relevant policies supporting the sustainable management of environment and security in Africa.

The so-called ‘Lisbon process’ aimed at implementing an ‘Action Plan on GMES and Africa’ was subsequently launched at the Lisbon Summit in 2007 as part of the Joint Africa-EU Strategy. Driven by a ‘Coordination Team’ composed of stakeholders from relevant EU and African States and institutions, its main objective is to allow 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 applications.

Three chapters out of the nine thematic priorities identified by the Action Plan have so far been validated: (1) long term management of natural resources, (2) marine and coastal areas, and (3) water resource management. The 4th Africa-EU Summit held in April 2014 agreed to implement these first three chapters. Three additional chapters are yet to be validated in relation to climate change adaptation, disasters risk reduction and, rural development and food security.

GMES and Africa will make use in particular of the technology offered by the European Copernicus programme. The Sentinel satellites of Copernicus should satisfy part of the Earth Observation (EO) data needs in Africa considering the acquisition and dissemination modalities are compatible with African requirements. Four operational Copernicus services are also disseminating, free of charge, products of high interest for Africa: i) land monitoring; ii) marine monitoring; iii) atmosphere monitoring; iv) emergency management.

GMES and Africa is in line with the EO priorities of the Africa Space Policy under development by the AU. It will also contribute to the AfriGEOSS (Global Earth Observation System of Systems) initiative developed within the GEO (Group on Earth Observations) framework.

1.1.2 Stakeholder analysis

GMES & Africa services and products will be developed by regional centres and will benefit a large community of stakeholders from the public and private sectors at continental, regional, national and local levels.

Level	Users	Needs
Political	<ul style="list-style-type: none"> • AU "Specialised Committees" (STCs) • Ministerial conferences • African Union Commission • Regional Economic Communities • UN Agencies, GEOSS, AfriGEOSS • Governments and local authorities • Aid Agencies and financial institutions 	<ul style="list-style-type: none"> • Tools supporting decision and policy making by depicting global trends in: • Environment status; • Natural resources status information; • Food security condition; • Climate change adaptation; • Emergency Response & Disaster Risk Reduction.

Technical	<ul style="list-style-type: none"> • Pan-African institutions and networks; Managers of pan-African projects • African Regional Centres engaged in capacity building and utilisation of remote sensing • Mandated national institutions (i.a. geographical and mapping services; water resources institutions; fisheries, agriculture and livestock services; forestry and environmental services; national disaster risk reduction & civil protection agencies; space agencies) • Scientific community at international, regional and national levels including research centres, and universities 	<ul style="list-style-type: none"> • At continental and regional levels, need for low and medium resolution data (i.a. vegetation maps, vegetation changes; water resources; forest cover and cover changes; land use cover, disaster risk, potential fishing zones, navigation traffic density). • At country level, need for medium and high resolution data and products, i.a. coastal habitat and water quality, vegetation, water resources, weather and crop forecast, land use data, land degradation, disaster risk.
Private sector	<ul style="list-style-type: none"> • Insurance and micro-insurance companies • Water resources: navigation, water supply, electricity production, mining • Marine and coastal: fisheries, aquaculture, tourism, mining, building, navigation • Natural resources: forestry, mining, agriculture and farming, national parks management 	<ul style="list-style-type: none"> • Need for usable and reliable services and early warning systems (i.a. water level, agriculture stress, environment degradation, fire, drought, coastal erosion, weather information).
Other End users	<ul style="list-style-type: none"> • Civil society, non-governmental organisations (NGOs); community-based organisations (CBOs), producers associations 	<ul style="list-style-type: none"> • idem

1.1.3 Priority areas for support/problem analysis

Africa is today the host of numerous initiatives, projects and networking based upon satellite data and imagery to improve environment management practices. Despite the crucial role that space technology can play in supporting management of natural resources, most African countries lack of sufficient human, technical and financial resources to utilise EO based products and services. Yet Africa is in direct need of such services. The last Africa Environment Outlook⁽¹⁾ highlighted the following critical issues:

- Atmosphere: Africa is extremely vulnerable to climate variability and climate change. Variations in rainfall patterns have led to incidences of drought and flooding, often with disastrous consequences for populations and for the environment.
- Biodiversity: many of Africa's biological resources are declining rapidly as a result of habitat loss, overharvesting of selected resources, and illegal activities. Additional measures are required including additional research and documentation.

¹ Produced by the United Nations Environment Programme (UNEP) and Grid-Arendal – see: <http://www.grida.no/publications/other/aeo/?src=/aeo/>

- Coastal and marine habitats: coastal and marine habitats and resources in several parts of Africa are under threat from pollution, overharvesting of resources, inappropriate development in the coastal zone, and poor inland land management.
- Forests: Africa has among the fastest rate of deforestation in the world. In addition to its ecological impacts, deforestation also means definitive loss of vital resources causing communities to lose their livelihoods and vital energy sources.
- Freshwater: lack of availability and low quality of freshwater are two major limiting factors for development in many parts of Africa, constraining food production and industrial activities, and contributing significantly to the burden of disease.
- Land: degradation of soil and of vegetation resources in Africa is largely a result of increasing population pressures, inequitable land access and tenure policies, poor land management, and widespread poverty. The results are declining agricultural yields, affecting economies and food security; desertification of arid areas, raising competition for remaining resources; and increased potential for conflict.
- Urbanisation: although most Africans currently live in rural areas, the region's rates of urbanisation are among the highest in the world. Poor economic growth and low investment in infrastructure have left provision of housing and basic services in urban areas lagging far behind rates of inward migration, resulting in a proliferation of informal settlements in urban Africa.

Despite their trans-boundary or global dimension, those issues have so far mainly been addressed individually by African countries. The action will be geared towards supporting the coordinated implementation of policies deriving from pan-African and international frameworks through the establishment of systems and the development of capacities of African institutions in supplying appropriate EO based information services to the relevant policy makers. The priorities are aligned with the GMES & Africa Action Plan for long term management of natural resources, marine and coastal areas, and water resource management.

2 RISKS AND ASSUMPTIONS

Risks	Risk level (H/M/L)	Mitigating measures
Some receiving stations and related processing software are not used by the beneficiaries at country level	High	Sound selection of beneficiary organisations and/or provision of software adapted to the technological level of the organisation.
The impact of the data and services on procedures for early-warning and forecasting is low	High	Grant beneficiaries to integrate GMES & Africa data and services within their own bulletins, web pages, disaster situation maps, etc.
Copernicus satellite data are not fully available for Africa, or do not fully meet African needs	Low	Cooperation agreements between Africa and EU to facilitate data acquisition and dissemination plan to support GMES & Africa Services. Set up of agreements with other satellite data providers.

Copernicus services do not disseminate required data (i.e. hydrology and regional marine data)	Low	User requests must be communicated to Copernicus and related agencies long before the project start.
The quality of the services is below the minimum standard to provide relevant information	Medium	A high level technical assistance is put in place and the programme is supported by European institutions.
The products do not reach the end users	High	Involvement of end-users in the definition of the products, constant liaison with the users during the programme development and training programme for end-users.

Assumptions

- African governments remain committed to promote EO-based services in view of improving capacities in managing natural resources and environment in a sustainable manner and to cooperate with each other in sharing in-situ data, knowledge and technology as well as developing products and services for the betterment of Africa;
- Outputs of the 'Monitoring of Environment and Security in Africa' (MESA) programme are achieved by the end of the MESA project period and related equipment (receiving stations) is operational;
- AUC & EU policy agreements on EO-data exchange, including long-term continuity of services are set up;
- Copernicus core services are operational and high resolution data window acquisitions over Africa are defined and are operational;
- Internet access facilities and bandwidth are improving in most African countries and the cost of connections is decreasing over time;
- EUMETCast broadcasting service is operational and the bandwidth is wide enough to integrate new data and products as one of several options for data dissemination;
- A collaboration agreement for access to and sharing of satellite data and products between Europe and Africa is adopted;
- Copernicus Sentinels (1, 2 and 3) and Meteosat Third Generation satellites are operational before or during the action;
- Substantial proportion of trained staff under MESA remain within their institution well beyond programme completion;
- Fundamental educational programmes in fields prerequisite to specialised thematic EO training are well established;
- The Pan-African University Space Science Hub is established and operational.

3 LESSONS LEARNT, COMPLEMENTARITY AND CROSS-CUTTING ISSUES

3.1 Lessons learnt

Earth Observation (EO) services have been widely recognised as essential in providing comprehensive geospatial information on environment for more informed decision-making. EO has been widely promoted by the European Commission, EUMETSAT, European Space

Agency (ESA), and by financial institutions. This action will be based in particular on lessons learned from a series of projects and programmes implemented over the past 10 years in Africa with the aim to strengthen capacities in Africa to receive, process, analyse and exploit EO data for environmental and societal issues. Several collaborative projects have been funded, during that period, under the Research Framework Programmes 6, 7 and Horizon 2020, and under the European Development Fund, where PUMA², AMESD³, and MESA included institutional (policy making), human (training and activities) and technical components (development and maintenance of infrastructure).

The most critical issue is probably the dissemination of information and data related to EO and the effective use by **end users and policy makers**. Previous projects were built around a technology-driven approach, where decision makers and end user needs were only given retrospective consideration. Political entities such as AUC and Coordinating Regional Organisations (including Regional Economic Communities (RECs) and other African inter-governmental bodies) must take and be given a more active role in bridging the gap between EO technology and end users, namely by embedding EO information in policy review processes. Sensitisation programmes need to be undertaken to promote investment into EO services by regional and national institutions in order to ensure their sustainability and continuity in time. Involvement of the private sector into the process should also be considered to ensure the sustainability of the services.

In terms of **data processing**, receiving stations and related software are relatively complex for novice users and require tailored training. Furthermore, a sound selection of the beneficiary organisation is mandatory to avoid wasting resources in equipping inappropriate organisations. The demand for high resolution satellite images was constant in previous programmes and will be corrected with GMES & Africa by giving access to Sentinel High Resolution data. An important **training** component will be needed to allow an optimal use of these new EO data. Universities have a natural interest to work with EO data and their implication will be reinforced within this action, in particular in their role as innovators and providers of capacity building opportunities.

3.2 Complementarity, synergy and donor coordination

The action will build on the outcomes of the 'Monitoring for Environment and Security in Africa' (MESA) programme (EUR 37 million, 2013-2017) funded under the 10th European Development Fund (EDF) to support the consolidation of the achievements of AMESD, as a contribution to the implementation of GMES & Africa. MESA is implemented at AUC level and is supporting thematic EO data & services in 5 African sub-regions through Regional Implementation Centres (RIC). In addition one Continental Implementation Centre for climate services has been developed for the entire continent. This action will build on MESA activities in relation to the three GMES and Africa thematic chapters, opening up to new applications and to a geographic extension of the activities to North Africa. .

Other actions with which synergies should be built in particular are:

- The Intra-ACP 10th EDF programmes *Building Disaster Resilience to natural hazards in sub-Saharan African regions, countries and communities*, BIOPAMA (Biodiversity and Protected Areas Management), CLIMDEV and other projects to be potentially funded under the 11th EDF Intra-ACP envelope in support to climate forecasting could contribute to the implementation of GMES and Africa and, in particular, its future chapters on disaster risk reduction and climate change adaptation;

² Preparation for Use of MSG (Meteosat Second Generation) in Africa.

³ African Monitoring of the Environment for Sustainable Development.

- Environment-related actions as part of the EDF Regional Indicative Programmes and National Indicative Programmes;
- Research projects as part of Horizon 2020/FP7, projects from European Space Agency and projects from the JRC;
- UN funded projects and international initiatives such as the African Global Earth Observation System of Systems (AfriGEOSS) developed within the Group on Earth Observation (GEO);
- Partnerships with African National Space Agencies (South Africa, Nigeria, Algeria, Kenya, Egypt, Morocco, Ghana) and pan-African initiatives such as the AU/NEPAD activities related to space Sciences and Technologies, such as the Pan-African University (PAU) and its space science hub and the African Institute for Space Science (whose goal is the development of space exploration technologies in Africa).

3.3 Cross-cutting issues

- Environment: environment is at the core of this action. See problem analysis *supra*.
- Gender: the action will highlight the special role of women and children as victims of environmental hazards. Women and children belong to vulnerable population groups dependent on natural resources and living in fragile areas who suffer from environmental degradation. They are, at the same time, key (potential) caretakers and beneficiaries of improved environmental management practices.
- Democratic governance and human rights: This action will foster good governance by promoting sustainable management of natural resources and reducing the impact of disasters. In addition, access to environmental information constitutes a fundamental civil and political right that enables citizens to better plan their future and be forewarned of potential threats to their livelihood.

4 DESCRIPTION OF THE ACTION

4.1 Objectives and results

The *general objective (impact)* is to promote a more sustainable management of natural resources by improving decision making process through provision of additional pertinent information.

The *specific objective (outcome)* is to improve African policy-makers' and planners' capacities to design, implement, and monitor national, regional and continental policies and to promote sustainable management of natural resources through the use of EO data and derived information.

There are five *expected outputs* as follows:

- i) Access to Earth Observation data is maintained, improved and sustained
- ii) An EO-based African service for monitoring and management of water resources and natural resources adequately informs policy makers and other end-users
- iii) An EO-based information service for monitoring and management of marine and coastal environments adequately informs policy makers and other end-users

- iv) Capacities of African public institutions and private sector to deal with EO-based information for water and natural resources and marine and coastal applications are enhanced at regional and national level
- v) Policy makers, administrators, entrepreneurs, scientists and civil society active at regional, national and local levels in Africa are aware of opportunities provided by Earth Observation data and geospatial information technologies and rely on them for decision-making

4.2 Main activities

The main activities foreseen under each output are as follows:

Output 1 (Access to Earth Observation data)

- Maintain and install receiving stations
- Upgrade existing software (e.g. Emma, eStation, Water Observation and Information System (WOIS))
- Strengthen access to Copernicus data and information
- Develop a framework for promoting intra-African collaborative actions and open access to in-situ data

Output 2 (African Water & Natural Resources Service)

- Consolidate existing water and natural resources services (e.g. MESA)
- Extend existing water and natural resources services to other regional areas in Africa
- Design and develop new regional and continental applications

Output 3 (Marine & Coastal environments Service)

- Consolidate existing marine services (e.g. MESA)
- Extend existing marine services to other regions in Africa
- Design and develop new regional and continental applications

Output 4 (Capacity building)

- Establish a cooperation framework with universities in relation with the Space Science Hub of the Pan-African university
- Pursue existing training courses (e.g. MESA) to support GMES & Africa Services operations
- Conduct capacity building measures on Earth Observation and integration in decision-making frameworks in the thematic sectors
- Establishment of virtual networking platforms
- Improve private sector capacity and involve private sector in value-added services
- Support and expand operations of current eLearning initiatives such as the MESA Learning Management System

Output 5 (awareness raising)

- Adopt awareness raising strategies and practices in the development and provision of GMES & Africa services/applications
- Strengthen awareness of private sector and civil society on opportunities provided by Earth Observation data and technologies
- An African portal cataloguing EO information available to African States is established

4.3 Intervention logic

GMES & Africa's design takes into account the needs expressed in the GMES & Africa Action Plan, the views gathered from MESA stakeholders with regard to the continuation of the current services, and the GMES/Copernicus structure.

The action will set up two services through African thematic, scientific and academic networks and in cooperation with European partners:

- i) A Water & Natural Resources Service (currently divided in two components: *Long Term Management of Natural Resources*, and *Water Resources Management*); and
- ii) A Marine & Coastal Service

These services will be based on the establishment of systems to i) receive and process EO and geo-data; and ii) elaborate and disseminate EO-based information. The action will enable the development of capacities of experts in acquiring wider and deeper knowledge on EO techniques and environmental issues. This should in turn allow them to better assist policy makers and increase the impact of EO derived information on the decision-making process.

The two GMES & Africa services will cover several themes. Each theme relate to specific areas (such as surface water monitoring; groundwater knowledge consolidation; sub-tropical and tropical lands seasonal monitoring; monitoring and forecasting of physical and biological oceanography variables, etc). The issues related to each theme will be addressed by one or more applications (referred to as 'services' in the MESA project). The application will either be based on the existing MESA services or will be developed on the basis of existing or upcoming Copernicus service concepts.

The support programme is expected to be implemented in two phases. This action covers activities for the first phase (phase 1) of the support programme for an initial period of 48 months. An extension of this action (phase 2) will be considered on the basis of a mid-term review to cater for i) the deployment of applications developed during phase 1; and ii) the development of new applications resulting from the validation of new thematic chapters as part of the GMES & Africa Initiative.

The financial allocation under this action (phase 1) should enable the establishment of GMES & Africa applications that address more than 50% of the needs identified in the GMES & Africa Action Plan (as adopted in 2013 in Johannesburg) for the entire continent, including the review and consolidation of MESA services in various geographical zones. The applications to be developed are to cover the different zones of the continent to various extents. Where appropriate, existing MESA services will be consolidated and extended to about 12 additional geographical zones. In addition, the scientific and methodological basis to develop the other half of the applications can be developed, in view of a full deployment in specific zones on a pilot basis in phase 2 of the programme. The zones that would be concerned specifically by the extension of services are to be determined through a consultative process with the key partners which should take into consideration the regional priorities and specific urgencies.

The development of the products that should constitute the basis of the GMES & Africa applications will be done through the collaborative actions of Service Implementation Partners (SIPs - environment monitoring agencies and universities) located across the sub-regions of Africa and the Private Sector. Those actions will be coordinated by a selection of specific partner that will have the role of Regional Implementing Centres (RICs).

The coordination of the programme at continental level will be ensured by the AUC (policy and strategy coordination, overall monitoring). Policy coordination to promote functional cooperation at regional level will be ensured by African regional organisations which have an

active role in environment monitoring, including RECs and other inter-governmental bodies. The national level is the one where actual impact is the most required but which is also the most demanding in terms of resources. Coordination shall be ensured by the National Focal Points already identified under MESA and new ones to be set up in the countries not covered by MESA.

5 IMPLEMENTATION

5.1 Financing agreement

In order to implement this action, it is not foreseen to conclude a financing agreement with the partner country, referred to in Article 184(2)(b) of Regulation (EU, Euratom) No 966/2012.

5.2 Indicative implementation period

The indicative operational implementation period of this action, during which the activities described in section 4 will be carried out and the corresponding contracts and agreements implemented, is 60 months from the date of adoption by the Commission of this Action Document.

Extensions of the implementation period may be agreed by the Commission's authorising officer responsible by amending this decision and the relevant contracts and agreements; such amendments to this decision constitute technical amendments in the sense of point (i) of Article 2(3)(c) of Regulation (EU) No 236/2014.

5.3 Implementation of the budget support component

Not applicable.

5.4 Implementation modalities

5.4.1 Direct management

5.4.1.1 Procurement

Subject in generic terms, if possible	Type (works, supplies, services)	Indicative number of contracts	Indicative trimester of launch of the procedure
Programme technical support	Services	1	1 st 2016

5.4.1.2. Administrative arrangement with the Joint Research Centre for the provision of scientific and technical services

On the basis of Article 183.2c of the Financial Regulation, an *Administrative Arrangement for the provision of scientific and technical services* will be signed between the following Directorate Generals of the European Commission: International Cooperation and Development and Joint Research Centre. The services that will be provided by JRC include scientific advice, eStation software maintenance and evolution, trainings, generation of products and indicators, and an in-kind contribution covering i.e. the participation in the project governance.

The justification for signing this administrative arrangement directly with JRC is that it presents a unique implementation advantage: i) JRC is the joint research body for the Commission Services; ii) JRC has greatly contributed to the success of the AMESD and MESA projects, and the resulting experience and networks will be valuable for GMES; iii) due to JRC's familiarity with the AMESD and MESA software that will be upgraded under

GMES, their assistance is considered to be more cost-effective than the alternatives; and iv) JRC is involved in a number of related programmes, and will promote synergies between GMES and those programmes.

5.4.2 Indirect management with the African Union Commission (AUC)

A part of this action with the objective of “improving African policy-makers and planners capacities to design, implement, and monitor national, regional and continental policies and to promote sustainable management of natural resources through the use of EO data and derived information” may be implemented in indirect management with the AUC in accordance with Article 58(1)(c) of the Regulation (EU, Euratom) No 966/2012.

This implementation entails: a) policy dialogue facilitation for the development and implementation of an appropriate framework for ensuring data access and sharing between Africa and international partners (in particular the EU) and within Africa; b) coordination of the development and implementation of a GMES and Africa *African Water & Natural Resources Service* and *African Marine and Coastal Service*; c) facilitation of a continental network of training centres to train EO experts in supporting the provision of services and to also train end-users to facilitate the integration of EO information in their decision making processes especially at policy level; d) raise awareness among policy-makers, universities, research institutions, NGOs and the private sector on the use of EO services.

This implementation is justified considering that: a) the AUC has a mandate to coordinate policies on space issues, including earth observation at pan-African level; b) the action will follow-up on MESA, currently on-going and for which AUC is the delegated Regional Authorising Officer; b) AUC’s grant mechanism is compliant with the EU pillar for grants; c) this modality will enable consistency and effective coordination with other related initiatives as part of the Africa-EU Partnership.

The entrusted entity would carry out the following budget-implementation tasks: award and manage grants. Grants will represent up to 90% of the budget allocated to the AUC under indirect management through this action. The objective of the grants will be to support Regional Implementation Centres and Service Implementation Partners to perform the following: i) receive and process Earth Observation (EO) and geo-data, ii) elaborate and disseminate EO-based information, iii) build capacities of experts to fully enable them to better assist policy makers, and iv) increase the impact of EO derived information on the decision-making process. These tasks will be conducted by undertaking research, consulting end-users, sub-contracting tasks to other institutions, hiring experts, publishing reports and conducting training amongst others. The AUC would also establish a cooperation agreement with relevant African Universities for the provision of training services to EO experts and end-users. Those activities would also be implemented through grants agreements from the AUC to the universities concerned.

5.5 Scope of geographical eligibility for procurement and grants

The geographical eligibility in terms of place of establishment for participating in procurement and grant award procedures and in terms of origin of supplies purchased as established in the basic act and set out in the relevant contractual documents shall apply.

The Commission’s authorising officer responsible may extend the geographical eligibility in accordance with Article 9(2)(b) of Regulation (EU) No 236/2014 on the basis of urgency or of unavailability of products and services in the markets of the countries concerned, or in other duly substantiated cases where the eligibility rules would make the realisation of this action impossible or exceedingly difficult.

5.6 Indicative budget

Activities	EU contribution (EUR)	Indicative third party contribution (EUR)
5.4.1. Direct management		
5.4.1.1 Procurement	4 000 000	
5.4.1.2 Administrative arrangement with JRC	1 500 000	800 000
5.4.2. Indirect management with AUC	21 000 000	4 450 000
Total	26 500 000	5 250 000

The 'indicative third parties contribution' corresponds to the estimated contribution (including in-kind) from the grant beneficiaries to outputs 2 and 3 of this action. The exact contribution will be further assessed as part of the contracting process and is expected to reach on average up to 20% of the grants provided as per outputs 2 and 3.

In addition to the above, in-kind contributions are expected from other project partners, in particular the European Commission's Joint Research centre (JRC) (estimated at EUR 800 000), EUMETSAT, Copernicus, and the European Space Agency (ESA). Furthermore, AUC staff working on this action will be supported through another action (see annex 9: Action Document for the African Union Support Programme III).

5.7 Organisational set-up and responsibilities

The oversight and strategic orientation of the GMES & Africa Support Programme will be attributed to a Programme Steering Committee (PSC). The work of the PSC will be coordinated by the AUC and the European Commission and reported upon by these two commissions to the other stakeholders of the GMES & Africa Initiative.

The implementation of the action will be partly delegated to the AUC, subject to the general and special conditions of a PAGODA (Pillar Assessed Grant or Delegation Agreement). The AUC will entrust specific components of the action to specialised institutions: Regional Implementation Centres (RICs) and Service Implementation Centres (SIPs)). RICs will sign grant agreements with the AUC and also act as coordinators for other grant beneficiaries. The selection of the RICs and SIPs will be done on the basis of a set of technical and objective criteria (such as regional mandate, human capacity and facilities) as well as their financial management capacity. Nine RICs and about thirty potential SIPs have already been pre-identified. The final selection of the RICs will be determined jointly with the AUC. The selection of RICs and SIPs may be reviewed by the PSC during the implementation phase. Due to the fact that the applications that need to be developed require specific and specialised skills, there is therefore a strong dependency between the selections of applications and the selection of RICs. Hence, the selection of RICs and applications should be done concurrently.

The coordination of the activities of the RICs and SIPs with regard to the policy dimensions (support of services to the implementation of thematic policies) will be under the responsibility of Coordinating Regional Organisations, including African Regional Economic Communities (RECs) and other inter-governmental bodies. These organisations will be part of the PSC.

A team of long-term and short-term technical assistants will be mobilised (through a direct service contract with the EU) to support AUC with the implementation of the action and its coordination.

European institutions (Commission, EUMETSAT, and ESA) will contribute to the overall guidance on the strategic orientations of the programme through the PSC. In addition, the Commission will support the maintenance and upgrade of software required to access and process data. This activity will be implemented through an administrative arrangement with the Joint Research Centre.

5.8 Performance monitoring and reporting

The monitoring of the action will be undertaken at various levels. The overall performance monitoring at outcome and outputs levels will be undertaken by the PSC on the basis of information provided by the AUC through appropriate reports and a set of indicators as established by the logical framework of the action.

The day-to-day technical and financial monitoring of the implementation of this action will be a continuous process and part of the implementing partner's responsibilities. To this aim, the implementing partner shall establish a permanent internal, technical and financial monitoring system for the action and elaborate regular progress reports (not less than annual) and final reports. Every report shall provide an accurate account of implementation of the action, difficulties encountered, changes introduced, as well as the degree of achievement of its results (outputs and direct outcomes) as measured by corresponding indicators, using as reference the logframe matrix. The report shall be laid out in such a way as to allow monitoring of the means envisaged and employed and of the budget details for the action. The final report, narrative and financial, will cover the entire period of the action implementation.

The Commission may undertake additional project monitoring visits both through its own staff and through independent consultants recruited directly by the Commission for independent monitoring reviews (or recruited by the responsible agent contracted by the Commission for implementing such reviews).

5.9 Evaluation

Having regard to the importance of the action, a mid-term and a final evaluation may be carried out for this action or its components via independent consultants contracted by the Commission.

The mid-term evaluation will be carried out for learning purposes, in particular with respect to informing decision on the opportunity and feasibility of a second phase of the action.

The final evaluation will be carried out for accountability and learning purposes at various levels (including for policy revision), taking into account in particular the fact that the action cuts across a number of EU policies in the context of its cooperation with Africa, including environment and climate change adaptation, infrastructure, biodiversity and disaster risk reduction.

The Commission shall inform the implementing partner at least six months in advance of the dates foreseen for the evaluation missions. The implementing partner shall collaborate efficiently and effectively with the evaluation experts, and inter alia provide them with all necessary information and documentation, as well as access to the project premises and activities.

The evaluation reports shall be shared with the implementing partner and other key stakeholders. The implementing partner and the Commission shall analyse the conclusions and recommendations of the evaluations and, where appropriate, jointly decide on the follow-

up actions to be taken and any adjustments necessary, including, if indicated, the reorientation of the project.

The financing of the evaluation shall be covered by another measure constituting a financing decision.

5.10 Audit

Without prejudice to the obligations applicable to contracts concluded for the implementation of this action, the Commission may, on the basis of a risk assessment, contract independent audits or expenditure verification assignments for one or several contracts or agreements.

The financing of the audit shall be covered by another measure constituting a financing decision.

5.11 Communication and visibility

Communication and visibility of the EU is a legal obligation for all external actions funded by the EU.

This action shall contain communication and visibility measures which shall be based on a specific Communication and Visibility Plan of the Action, to be elaborated at the start of implementation and included in the budget for the different implementation modalities.

In terms of legal obligations on communication and visibility, the measures shall be implemented by the Commission, the partner country, contractors, grant beneficiaries and/or entrusted entities. Appropriate contractual obligations shall be included in, respectively, the financing agreement, procurement and grant contracts, and delegation agreements.

The Communication and Visibility Manual for European Union External Action shall be used to establish the Communication and Visibility Plan of the Action and the appropriate contractual obligations.

APPENDIX - Indicative Logframe matrix

	Intervention logic	Indicators	Baselines (incl. reference year)	Targets (incl. reference year)	Sources and means of verification	Assumptions
Overall objective: Impact	To promote a more sustainable management of natural resources by improving decision making process through provision of additional pertinent information	Indicators associated to the Sustainable Development Goals (SDGs)	To be evaluated by AUC during the first year of GMES & Africa		AUC and UN documents and reports related to SDG Targets	
Specific objective: Outcome	Improved African policy-makers and planners capacities to design, implement, and monitor national, regional and continental policies and sustainable management of natural resources through the use of EO data and derived information promoted	Number of EO based applications that are used routinely for informed environmental decision making and monitoring of African Water & Natural Resources and Marine & Coastal resources	Most of the Regional or National policies / strategies in link with Natural Resources Management and Marine & Coastal are evidence based policies	Most of the Regional or National policies / strategies in link with NRM and Marine & Coastal are established based on robust products	Continental / Regional / National policies / strategies on Environment, Agriculture, Coastal and Marine areas management, etc, Regional and National contributions to the International Conventions reports Sustainable Development Goals (SDGs) Reports	African Governments remain committed to promote EO-based services and to cooperate with each other in sharing in-situ data, knowledge and technology as well as developing products and services; AUC & EU policy agreements on EO-data exchange include long term continuity of services Copernicus core services & Sentinels, EUMETSAT and other European data/products providers are operational and continue their services; MESA outputs have been achieved and most receiving stations are operational; EUMETCast broadcasting service is operational and the bandwidth is wide enough to integrate new data (Sentinels) and products.

Output 1	Output 1: Access to Earth Observation data is maintained, improved and sustained	Number of EUMETCast stations maintained;	160 EUMETCast stations/institutions are operational in 47 countries by the end of MESA project implementation period	Existing EUMETCAST receiving stations network is maintained; new (5 to 16) GMES & Africa stations are installed in North African countries as well as in the new institutions involved in GMES & Africa in the first 02 years of the project.	GMES & Africa final report ;Continental (AUC), Regional (RECs) and National reports ;MESA Final report; EUMETSAT User database; EUMETSAT & JRC Reports; Data agreements with EO or In-situ data providers	MESA outputs have been achieved ; EUMETCast broadcasting is operational and continues its services, and its bandwidth is wide enough to integrate new products (e.g, MTG, Sentinel-3 products, ,,,); Copernicus Core services are operational; High Resolution data (Sentinel 1A 1B and 2) acquisitions over Africa are defined and are operational; Internet access facilities and bandwidth are improving in most African countries
		Number of new EUMETCast stations installed				
		Number of New EUMETCast Key Units registered				
		Appropriate software to process and analyse EO based information are operational	eStation software is upgraded and operational	eStation software is operational and integrates new data formats as well as new functionalities; WOIS software is operational		
		Number of agreements on data access between (i) AUC or any other institution (REC, RIC, SIP, etc.) and (ii) EU, African Space Agencies, as well as other EO data providers and existing African downlink centers	To be quantified by the end of MESA (MESA Final report)	MoU signed between AUC and EU relevant institutions		
Output 2	Output 2: An African African Water& Natural Resources Service for monitoring and management of Water Resources and Natural Resources adequately informs policy makers	Number of African Water& Natural Resources related MESA services consolidated; appropriate AMESD/MESA information services related to African Water& Natural Resources thematic domains; appropriate AMESD/MESA information services related to African Water& Natural Resources thematic			Websites, reports and bulletins from GMES & Africa, RECs, RICs, AUC, African countries and other stakeholders and decision makers; Thematic partnerships agreement and reports; National Network records;	MESA outputs have been achieved ; Thematic information service providers are operational and continue their services ; Internet access facilities and bandwidth are improving in Africa ; Copernicus Sentinels and METOSAT Third Generation satellites are operational; EUMETCast broadcasting service is operational and the

	domains are consolidated and continue to operate during GMES & Africa implementation			Monitoring and peer review reports; External monitoring and evaluation reports; Product catalogues	bandwidth sufficient to support transmission of new datasets ; Copernicus Core Services are operational and High Resolution data window acquisitions over Africa are defined and are operational
	Number of existing Water & Natural Resources related services extended	0	07 existing services are extended to 1 to 4 other regions		
	Number of African experts who have participated to services exchange programmes between regions and countries	20 by the end of MESA (including for IOC and ECOWAS Marine Services)	African experts have participated to services exchange programmes between regions and countries.		
	Number of New services developed	0	07 New Water & Natural Resources EO and geo-information based services have been defined, developed, validated and most of them operationally implemented.		
	Status of the Water & Natural Resources Thematic Networks	Water & Natural Resources related thematic networks initiated during AMESD and MESA are functional TIGER Network (WRM) is functional	Water & Natural Resources thematic networks initiated during AMESD, MESA, and TIGER are consolidated and developed throughout African regions		
	Status of the coordination of the Water & Natural Resources service		The coordination of Water & Natural Resources Service by AUC, network of RICs and SIPs is operational		

				at national / regional and continental levels.		
Output 3	Output 3: An EO based information service for monitoring and management of Marine & Coastal (M&C) environments adequately informs policy makers and end users	Number of Marine & Coastal (M&C) related MESA services consolidated	All existing information services related to M&C thematic domains	All existing information services related to M&C thematic domains are consolidated and continue to operate during GMES & Africa implementation	see output 2 supra	see output 2 supra
		Number of M&C related MESA services extended	0	04 existing services are extended to 1 to 4 other regions		
		Number of African experts who have participated to services exchange programmes between regions and countries	see output 2 supra	see output 2 supra		
		Number of New M&C services developed	0	04 New M&C EO and geo-information based services have been defined, developed, validated and most of them operationally implemented.		
		Status of the M&C Thematic Networks	Existing M&C related thematic networks are fonctionnal	M&C thematic networks are consolidated and developed throughout African regions and regional body's stakeholders.		

		Status of the coordination of the M&C service		The coordination of M&C Service by AUC, network of RICs and SIPs is operational at national / regional and continental levels.		
Output 4	Capacities of African public institutions and private sector to deal with EO-based information for Water & Natural Resources and Marine & Coastal applications are enhanced at regional and national level	Cooperation framework between AUC and PAU on GMES & Africa cooperation		Three agreements in place; Training by PAU institutions on EO started	GMES & Africa Training reports	MESA objectives have been achieved ; MESA Strategic document have been elaborated Trained staff remain within their institution well beyond programme completion ; Trained technical experts have achieved sufficient skill levels; Fundamental educational programmes in fields prerequisite to specialised thematic EO training are well established
		Number of expert trainers trained	40 expert trainers trained by month 24 of MESA project	240 additional experts trained (or receive more advanced training)		
		Number of decision makers trained in the interpretation of products	100 decision makers trained	1640 persons trained on generic issues and 140 on specialised topics		
		Number of virtual networking platforms operational	none	platforms for 50% of all the themes (6 themes)		
		Number of MoU between CCBs and / or RICs and a University in place	01 cooperation MoU is place between each RIC and a University and 01 educational programme per MESA Thema has started	Existing Partnerships are maintained; New Partnerships have been developed with PAU and Thematic Networks of Universities	MoU signed between CCBs and / or RICs and Universities	
		Number of educational thematic programme			University programmes	
		Private sector EO activities development strategy		Strategy adopted, Funds mobilised		
Output 5	Policy makers, administrators, entrepreneurs, scientists and civil society active at regional, national and	Mechanisms to integrate EO based information and reports in support to international treaties are in place			Surveys targeting decision makers; African Space Policy Documents; Websites, reports	Framework documents (02) have been produced by the end of MESA programme

	<p>local levels in Africa are aware of opportunities provided by Earth observation data and geospatial information technologies</p>	<p>Number of countries that have formalised the integration of EO based information into their policies for monitoring and reporting on environmental matters</p>	<p>10 countries (02 per MESA RECs)</p>	<p>15-25 countries</p>	<p>and bulletins from GMES & Africa AUC, CCBs, RICs; Government environmental reports; RECs strategies related to Sustainable developments; meeting reports</p>	
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