



# **REPORT**

## **Meeting of the AMCOMET Task Force on the African Space Programme**

11 September May 2016

9h – 17h30

Lemigo Hotel

Kigali, Rwanda

### **PRELIMINARY AGENDA**

**Chair: Tanzania**

**Rapporteur: South Africa**

## **1. Introduction**

- 1.1. The Meeting on the AMCOMET Task Force on the African Space Programme was held in Kigali, Rwanda on 11 September 2016.

## **2. Participation**

- 2.1. The following African countries participated in the Task Force Meeting: Cabo Verde, Kenya, Mauritius, Morocco, Seychelles and South Africa.
- 2.2. The following agencies, organizations and institutions also participated in the Validation Meeting: African Union Commission (AUC), African Centre of Meteorological Application for Development (ACMAD), AU Space Working Group, EUMETSAT, Group on Earth Observations (GEO), Institute of Meteorological Training (IMTR-Kenya) and South Africa Department of Science and Technology (DST).
- 2.3. The Final Participant List is attached as **Annex 1**.

## **3. Opening of the Meeting**

- 3.1. **Tanzania**, Chair of the AMCOMET Task Force on the African Space Programme was not able to participate to the meeting. Therefore, Kenya, through **Mr. Peter Ambenje**, Acting Director of the Kenya Meteorological Department agreed to Chair the Meeting. **South Africa** is the Rapporteur of the Task Force and was represented by Ms. Christina Botai, Senior Scientist from the South African Weather Service.
- 3.2. The following guests made statements as follows: **Dr. Wenjian Zhang**, Assistant Secretary-General of the WMO, **Dr Joseph Mukabana**, Director of the AMCOMET Secretariat and Regional Offices for Africa and Least Developed Countries of the World Meteorological Organization, **Mr. Jose da Luz**, representative of the the Bureau Chair of AMCOMET and Permanent Representative of Cabo Verde with WMO, **Mr. Hambani Mashleni**, Senior Policy Officer and representative of the Commissioner for Human Resources and Science and Technology and **Ms. Olushola Olayide**, representative of the Commissioner of Rural Economy and Agriculture of the African Union Commission (AUC).

## **4. Organizational Matters**

- 4.1. The Meeting adopted the programme attached as **Annex 2**.

## **5. Conceptualizing the African Space Programme and Governance Framework**

- 5.1. **Dr. Valanathan Munsami**, Chair of the AU Space Working Group, presented the key elements of the African Space Policy and Strategy, approved during the African Union Summit in 2016, and the context for unpacking the user requirements of the African meteorology community.
- 5.2. He recalled that the goals of the African Space Policy is to use space science and technology to derive optimal socio-economic benefits that improves the

quality of lives and creates wealth and to develop and maintain indigenous infrastructure and capabilities that services an African market.

5.3. It also aims to ensure addressing user needs: improving the economy and quality of life, address the essential needs of the African market, development of services and products using African capacities, develop requisite human resources to address user needs, and maintain efficiency and sustainability.

5.4. Dr Munsami urged participants to ensure that relevant activities happening in the region should converge into meeting the ultimate goals of the African Space Programme.

5.5. The presentation is attached as **Annex 3**.

## 6. **Concept Note – African Space Programme (as meteorological input to the African Space Programme)**

6.1. **Ms. Jay Wilson** presented a recap of the agreed components of the African Regional Space Programme and its activities thus far. Key recommendations for participant consideration were the following:

6.1.1. Converging of all complementary activities to improve capacity building efforts for NMHSs in Africa (i.e. GMES&Africa, RAIDEG, MTG, various training resources available, among others)

6.1.2. Identification of Strategic Partnerships (both funding and cooperation)

6.1.3. Need to enhance cooperation between on-going initiatives / programmes to maximize benefits and create synergies

6.1.4. Leverage existing activities and use them as concrete input into the Implementation Plan of the African Space Programme

6.1.5. The presentation is attached as **Annex 4**.

## 7. **Framework on how to identify needs and gaps (Ground and Application Segment)**

7.1. **Dr. Wenjian Zhang** presented an overview of the WMO Space Programme and its activities in Africa as well as the WMO Procedures for identifying new observing requirements and capabilities. Key points include:

7.1.1. WMO framework on assessing the user requirement through the WMO Rolling Review of Requirements Process;

7.1.2. Overview of WIGOS and the importance of in-situ observations; and

7.1.3. Chinese experience in developing its space program and lessons that can be learned.

7.1.4. The presentation is attached as **Annex 5**.

## **8. Overview of RAIDEG Activities and Findings, including linkages to the African Space Implementation Plan**

- 8.1. **Dr. Mariane Kane** presented an overview of the RAI Dissemination Expert Group (RAIDEG) activities and its links to the WMO Structures. T
- 8.2. The primary scope of RAIDEG is to identify and document the needs of the Region in the areas of meteorological / environmental data and satellite derived products in order for Members to fulfil their national or international obligations in support of protection of environment, life and property and spur their socio-economic developments.
- 8.3. RAIDEG activities include the expression of user needs for satellite data, NWP products and software and defining the training needs related to satellite and NWP products
- 8.4. A key point highlighted is that RAIDEG can be a building block in developing the elements of the meteorological input for the Implementation Plan of the African Space Programme.
- 8.5. The presentation is attached as **Annex 6**.

## **9. Facilitated Discussions on the inputs of the Meteorological community in the African Space Implementation Plan**

- 9.1. **Dr. Valanathan Munsami** facilitated discussions to identify the critical issues in terms of the user requirements assessment and to develop an action plan to address highlighted issues. Recommendations from the discussions are highlighted below.

## **10. Way Forward and Recommendations**

- 10.1. Requested the AUC and the AMCOMET Secretariat to support African Countries in sensitizing their governments on the importance of space applications and in-situ observations.
- 10.2. AMCOMET Task Force to consider the formal inclusion of RAIDEG in its activities
- 10.3. Action Plan for meteorological contribution to the African Space Implementation Plan
  - 10.3.1. **Undertake Capacity Development:** AUC, AU Space Working Group (AUSWG), WMO and AMCOMET to collaborate in the development of a structured training programme and its potential linkages to the Pan-African University on Space Science (PAUSS) including a possibility of having a satellite campus on meteorology
  - 10.3.2. **Improve Data Infrastructure:** The AUSWG and AfriGEOSS to engage with AMCOMET, through Kenya and South Africa, on the development of a shared integrated space applications platform within the scope of the Africa Research Cloud programme
  - 10.3.3. **Upgrade Ground Segment:** WMO, AMCOMET and AUSWG to investigate the potential contribution of the RAI (Africa) WIGOS

Implementation Plan to the African space programme implementation plan, particularly with in-situ observations

- 10.3.4. **Enhance Dynamic Modelling and Forecasting:** Develop a human capacity development plan for data assimilation and using modelling numerical weather prediction (NWP)
- 10.3.5. **Deliver Products and Services:** AUSWG to highlight the need for establishing and interaction of communities of practice at national level, leveraging on existing platforms, such as the GEO National Coordination Mechanisms and the GFCS User Interface Platform
- 10.3.6. **Mobilize Resources:** AUSWG need to undertake a socio-economic benefit analysis of the African Space Programme and AMCOMET / WMO to provide existing case studies.
- 10.3.7. **Build Space Segment:** AUSWG, in collaboration with AMCOMET, to develop the value proposition and rationale behind the need for African capacity to build its own satellites.
- 10.3.8. **Foster Strategic Partnerships:** AUSWG to develop a framework to enhance existing and develop new partnerships, through which AMCOMET will bring forth its strategic partners

## **11. Informal Meeting of the Task Force (13 September 2016, 18h00)**

11.1. Dr. Pascal Waniha, representative of the Task Force Chair, requested an informal meeting of the Task Force of the African Space Programme, inviting Permanent Representatives of WMO present during the EUMETSAT User Forum for Africa to consult and agree on concrete next steps in terms of developing a Pilot Project as input to the African Space Implementation Plan.

11.2. The Participant List is attached as **Annex 7**.

11.3. Components of the Pilot Project

- 11.3.1. Identification of existing assets and gaps on the ground (infrastructure) and application segments
- 11.3.2. Propose how regional cooperation in the Application Segment can be strengthened
- 11.3.3. Agree on the Scope of the Pilot Project, which could initially be limited to a sub-group of African Member States
- 11.3.4. Agree on list of institutions to engage with for concrete input into the gap analysis
- 11.3.5. Identify regional and sub-regional thematic activity hubs
- 11.3.6. Design the elements step-by-step to provide a cost-effective Programme, avoid duplication and maximize complementarity with other components of the Global Observing System

- 11.3.7. The long-standing partnership between Africa and Europe and their common interest in key environmental observations are major factors to be taken into account.

#### 11.4. Next Steps and Action Items

- 11.4.1. Task Force Chair to liaise with AMCOMET Secretariat to draft and send letters to Task Force Member States' PRs to designate focal points and enable commencement to work, in particular, on-line
- 11.4.2. AMCOMET Secretariat to support the RAIDEG Working Group in identifying focal points
- 11.4.3. Task Force Members, with the support of the AMCOMET and WMO Secretariat, to develop the Pilot Project Concept Note for the African Space Implementation Plan for Meteorology
- 11.4.4. Task Force Chair, with the support of the AMCOMET Secretariat, to request countries with experience in space activities, to share their experience to ensure the robustness of the Pilot Project Concept Note.
- 11.4.5. AMCOMET Secretariat to take the necessary steps to ensure that the Task Force of the African Space Programme meet during the AMCOMET Bureau Meeting and present the Pilot Project Concept Note for consideration.

**Annex 3: Participants List – Task Force Meeting**

<b><u>Name</u></b>	<b><u>Title</u></b>	<b><u>Institution</u></b>	<b><u>Email</u></b>
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## Annex 2: Agenda

**Sunday, 11 September 2016**

Time	Item	Presenter
09:00 – 09:15	Opening of the Meeting	AUC WMO AMCOMET Secretariat Tanzania (Chair)
09:15 – 09:30	Introductions	ALL
09:30 – 10:00	Conceptualizing the African Space Programme and Governance Framework	AUC
10:00 – 10:15	Concept Note – African Regional Space Programme (as input to the African Space Implementation Plan)  <i>Presentation is a recap of agreed components of the African Regional Space Programme and activities thus far</i>	Tanzania
10:15 – 10:30	Overview of RAIDEG Activities and Findings, including linkages to African Space Implementation Plan  <i>This presents the current status of activities to be built upon for strengthening and developing meteorological application services and products</i>	RAIDEG Chair
10:30 – 11:00	Framework on how to identify needs and gaps (Ground and Application Segment)  <i>Presentation and discussions would take into consideration existing activities (i.e. RAIDEG), identified needs per WMO Survey, including existing ground segment provided through MESA; AMESD, and PUMA projects among others as well as coherence of space and in-situ observations, including an overview of potential partners and stakeholders</i>	WMO
<b>11:00 – 11:30</b>	<b>Tea Break</b>	<b>ALL</b>
11:30 – 13:00	<b>Facilitated discussion</b> on the contributions and expectations of the Meteorological community in the African Space Implementation Plan  <b><u>Expected Outcomes:</u></b> <ul style="list-style-type: none"> <li><i>Understanding the user requirements of the meteorological community in Africa (human capacity development in satellite meteorology and remote</i></li> </ul>	AUSWG and AMCOMET Task Force Chair

<b>Time</b>	<b>Item</b>	<b>Presenter</b>
	<p><i>sensing (ASMET), satellite picture reception tools and processing software (license), rainfall estimation, temperature, tropical cyclones, environmental monitoring of biomass mapping NDVI<sup>1</sup>, , fire weather, fog, jetstreams and TVIR<sup>2</sup>, among others)</i></p> <ul style="list-style-type: none"> <li>• <i>Unpacking the full meteorological value chain needed for Africa (from systematic data observation, processing, service delivery to application)</i></li> <li>• <i>Understanding the existing governance structures and their mechanisms in the African meteorological community (existing frameworks, outline legal requirements and protocols for an operational African Space Programme)</i></li> <li>• <i>Articulation of key interventions<sup>3</sup>, indicators and targets</i></li> </ul>	
<b>13:00 – 14:00</b>	<b>Lunch</b>	<b>ALL</b>
14:00 – 16:00	<b>Continued Facilitated discussions</b>	AUSWG and AMCOMET Task Force Chair
<b>16:00 – 16:30</b>	<b>Tea Break</b>	
16:30 - 17:30	Agreement on Next Steps	AUSWG and AMCOMET Task Force Chair
17:30	End of Meeting	

### **Acronyms:**

AMCOMET	African Ministerial Conference on Meteorology
AMESD	African Monitoring of the Environment for Sustainable Development
ASMET	African Satellite Meteorology Education and Training
AUSWG	African Union Space Working Group
MESA	Monitoring of the Environment for Security in Africa
PUMA	Preparation for the Use of Meteosat second generation satellites in Africa

<sup>1</sup> Normalised Deviation Vegetation Index

<sup>2</sup> Tiros Operational Vertical Sounder

<sup>3</sup> In Earth Observations (ground segment); Navigation and Positioning (application segment); Satellite Communications (application segment); and Space Science and Astronomy (space segment)

**Annex 7: Participants List – Informal Task Force Meeting**

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