

Please use track changes to add your contributions to these questions in the form of bullet points

Guiding Questions

1. What is the current state of data infrastructure in Africa, and what are the main challenges that need to be addressed to improve it?

- In the context of KADI infrastructures are facilities that provide resources and services for the research communities to conduct research and foster innovation in their fields. Infrastructure is seen as a combination of the 'hard' sciences (infrastructures required to enhance adaptation to climate risks and challenges (e.g. enhanced forecasting and monitoring of key resources; enhanced detection and monitoring of greenhouse gas emissions – oceanic and land) and the so called 'softer' infrastructures including the relational, institutional, cultural and social infrastructures.
- KADI focuses on in 'situ data' which is not necessarily sensitive data.

Challenges:

- Most data infrastructure is fragmented between public and private institutions.
- There's almost non-existent sharing modalities between the two sectors.
- Observing equipment is also not standardized. This affects the quality of data being received.
- Some good examples (modelling activities) from which we can learn, but it should be expanded (still relatively poor).
- Main challenge: restricted data policy (you often have to pay for data)
- Sub-saharan Africa has (at least) three regions (Western, Eastern, Southern Africa). The collaboration within the regions is more intense than at continental level. This needs to be considered.

2. How can we enhance data access and availability for researchers, policymakers, and businesses across the continent? Are there successful models or initiatives that other regions can replicate?

- GAW data are freely available under CCby license.
- Encourage the sharing of climate analysis and information as opposed to data. There are also data portals such as KMD Map Room that can be utilized.
- NHMS (National Meteorological and Hydrological Services) in can also focus on problem-solving initiatives to support sector decision making as opposed to sharing data.
- Networking between regional data centres.

3. What role do public and private sector investments play in building robust data infrastructure, and how can we attract more investments into this sector?

- KMD: Makes gridded datasets (interpolated satellite and station data) available instead of sharing point data, because its more consistent (rainfall and max/min temperature)
- Policy (KMD is enacting the National Framework for Climate services which seeks to support collaboration of public and private sectors in supporting the climate service value chain)
- private sector might need success stories.

4. How do existing policies and regulatory frameworks impact data infrastructure development, and what changes are needed to support better data management and utilization?

- Access has to be first clarified, before setting up frameworks
- Policies on data infrastructure are largely lacking at national levels and even within organizations,-need for more awareness on the importance of this.
- Such policies will ensure there's standardization of equipment, modalities for access and sharing and sustainability measures
- There is no need to reinvent research infrastructure: distributed data infrastructure across different countries and organizations.

- National regulations that make it possible for public data to be open and accessible.
 - The OECD, EU and the USA have experience— Need for similar support by the AU encouraging open access to data from public funded initiatives and projects.
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5. Can you provide examples of how improved data access and utilization have directly contributed to economic development in specific African countries or sectors?

Transport sector in Kenya requires data for infrastructure design and maintenance budgets. Lack of such data inflate budgets and create wastages.

Aviation sector use weather data to schedule and manage airports operations. Lack of such data leads to losses incurred by operators in the sector

Agriculture is the main economic activity in Kenya. Reliable data sets and forecast can be used for advisory (what to plant, where and when) of the growing calendar. Lack of such data impacts the sector and negatively affects the national planning and budgets.

Data-Driven Agriculture: In Kenya, organizations like the Kenya Agricultural and Livestock Research Organization (KALRO) and platforms like M-Farm and iCow have leveraged mobile technology and data to provide farmers with real-time information on weather patterns, market prices, and best practices for crop management. This has enabled farmers to make more informed decisions, leading to increased productivity and income. For instance, the use of data-driven weather forecasts has helped farmers reduce losses

Other sectors that are directly impacted (negatively/positively) by climate data includes Energy, Disaster risk management, Water etc

6. What technological innovations are most promising for advancing data infrastructure in Africa, and how can we ensure these technologies are accessible and scalable?

Affordable observing stations e.g 3D Amazon Web Services (AWS)

Use of M2M (Machine to Machine) sim cards for telemetry in AWS.
These sim cards are able to use the available network to transmit data.

7. How important is capacity building in the context of data infrastructure, and what strategies can be implemented to ensure that individuals and institutions have the necessary skills to effectively use and manage data?

- Being part of the international projects (e.g. GAW) opens the door for capacity building (training opportunities)
- Capacity building is key to success on data infrastructure in Africa. The potential of data is highly untapped. This should be streamlined and mainstreamed in all organizations operations

8. How can we foster better collaboration and partnerships between governments, the private sector, academia, and civil society to enhance data infrastructure and utilization in Africa?

- AfriGEO is a a good meeting point where these different actors can meet and know about each others' work. This would encourage collaboration and birth partnerships.
- It's important to build and sustain ownership of data infrastructure.
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RCMRD International Conference

Panel session on EO utilization globally.

Conference Objectives

- To bring together various user domains within and beyond EO to understand the science policy interaction.

- To spur ideas on effective utilization of Earth observation information in decision making.
- To enhance integration approaches for societal benefits. Existence of Life: There are several features which make our planet suitable to life, but there are two main ones.

Existence of Life: First of all, it lies in the so-called habitable zone, the region around a star, secondly the Earth's natural resources which includes air, water, soil, minerals, plants, and animals. The relationship and interaction among the listed resources have been the base for studies, technological advancements, decisions, resource use approaches, models, and engagements that are aimed at not only understanding our HOME but also achieving the optimum potential from our HOME.

Our Home Ecosystems are structural and functional units where living things interact with one another and their surroundings. The information derived and observed from the interactions in the various ecosystems in our HOME has led to various advancements in our social systems, political, economics, health, policy, and environmental realms. Amidst the advancement also lies various challenges both man-made and natural that emanates from the interactions for example floods, earthquakes, droughts, land degradation, loss of resource quality and quantity.

As the world focuses on integration aimed at better understanding the complexities in our HOME by utilizing information available on land forms, environmental related stress, health related issues, Blue Economy, Conservation, Urbanization, Urban Growth, Land Conflicts, land Management, Poverty among others. The possibility and potential that Earth Observation and GIS generated layers of information provides for better understanding of our HOME and for better decision making is definitely critical for the integration. At RIC2024, RCMRD and Partners provides you with an excellent opportunity to present your institution, innovations, share experiences, ideas, methods, technological advancements, and engage with key players from the boarder industry from all over the globe on the “OUR HOME: EARTH” ideas.

Guiding Questions on Our Home: EO utilization globally Panel Session.

1. Introduction about your institution and mandate?

The KADI Project is a Horizon Europe funded project coordinated by a European research infrastructure called ICOS. KADI is building the foundations for an African Observation network. It has a consortium of 16 partners from research institutes, universities and government agencies like the KMD here, NRF in SA, and the Universite Felix Houphet Boigny in CI.

The Integrated Carbon Observation System, ICOS, provides standardized and open data from ca.180 measurement stations across 16 European countries.

Greenhouse gas concentrations, carbon fluxes in three domains: Atmosphere, Ecosystem and Ocean

2. Example of EO application in your respective areas of action.

- Use the expertise of ICOS in terms of measuring GHGs to support the development of climate services with concrete applications.
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3. Challenges in EO utilization and Plan to overcome the challenges.

4. Any other thoughts on OUR HOME: Earth