DATASPHERE
INITIATIVE

REGULATORY ROUNDTABLE:
DATA SANDBOXES, CLIMATE, AND SUSTAINABILITY CHALLENGES IN AFRICA

INTRODUCTION

As part of the Africa Forum on Sandboxes for Data, the Datasphere Initiative is hosting a series of Regulatory Roundtables to leverage the collective expertise of the vast community of African policymakers and regulators toward data governance solutions.

The third regulatory roundtable on "Data Sandboxes, Climate, and Sustainability Challenges in Africa" delved into the potential of sandboxes as a tool for fostering experimentation and innovation in environmental data usage.

Participants discussed Africa's unique challenges and opportunities in the context of climate change and sustainability. They shared insights and best practices on how data-driven solutions can be effectively regulated and implemented to promote environmental health and sustainable development. The event facilitated meaningful dialogue and collaboration and identified actionable strategies that can support Africa's journey towards a more sustainable and climate-resilient future.

DATA COLLABORATION IS NEEDED TO ADDRESS CLIMATE CHALLENGES

Lorrayne Porciuncula, Executive Director of the Datasphere Initiative, opened the event by highlighting the Datasphere Initiative's mission to foster global collaboration on data governance solutions, and its aim to explore the potential of data-driven innovation in addressing the climate crisis in Africa through these regulatory roundtables.

The first panel delved into Africa's unique challenges and opportunities in the context of climate change and sustainability. Experts from the Digital Impact Alliance, UNESCO, and the World Bank shared insights and best practices on how data-driven solutions can be effectively regulated and implemented to promote sustainable development in the continent.

The moderator, **Dena Montague**, Co-founder of ÉnergieRich, started the discussion by asking speakers about the data challenges hindering the deployment of technologies aimed at enhancing climate resilience in Africa.

Sarah Farooqi, Product Owner at Digital Impact Alliance, spoke about the importance of digital public infrastructure and data exchange to achieve climate resilience. She highlighted specific challenges Africa faces in this regard, such as data accessibility, interoperability, usability, and shareability. These issues hinder effective climate action and require addressing technical, financial, and governance aspects to achieve sustainability goals. This idea was also shared by **Boniface Akuku,** Digital Agricultural Specialist at the World Bank, who highlighted the need to implement strategies to make data more usable and accessible, particularly to leverage innovative technologies addressing environmental challenges.

> *"The data might not be shareable, because the technical mechanisms for sharing the data are not standardized and interoperable. That makes it difficult for stakeholders to exchange data seamlessly and leads to challenges, including fragmentation and siloed data sets,"* said Sarah.

When asked about how traditional environmental knowledge can contribute to more sustainable climate resilience strategies in Africa, speakers underscored the urgency of collective action in addressing climate change, particularly in Africa. They discussed the importance of incorporating digital innovation and inclusivity to tackle environmental challenges and amplify marginalized voices in the development and implementation of digital technologies.

Sarah talked about the design of digital interventions for climate resilience with a focus on community rights and agency. She advocated for inclusive processes, open-source approaches, public-private partnerships, and trust-building mechanisms to ensure the usability and acceptance of solutions led by local communities.

Bhanu Neupane, Advisor on Open Solutions and ICT&Sciences at UNESCO, called for the integration of traditional knowledge with modern technology through participatory planning and advocated for cross-cultural learning from successful initiatives globally. He also highlighted the importance of empowering communities through ownership of data and models to ensure equitable access and prevent exploitation.

> *"The final and most important thing is to empower communities through ownership of data,"* remarked Bhanu.

Boniface underscored the importance of an inclusive process involving co-creation and co-validation with communities, fostering bottom-up solutions for climate change, and promoting a shift from theory to practice with open standards for adaptability and feedback integration.

Sarah highlighted a case study from the Climate Emergency Software Alliance in Indonesia, where they utilized social media data to map real-time disaster impacts, enabling efficient resource mobilization by the government and leading to scalable, open-source solutions that have been adopted beyond Indonesia.

The example shows the importance of community participation and local context awareness in software development for impactful disaster response.

INNOVATIVE SOLUTIONS FOR A SUSTAINABLE FUTURE IN AFRICA

Justin Bryant, Lead, Global Sandboxes Forum at the Datasphere Initiative, introduced the panel on innovative solutions for a sustainable future in Africa, focusing on the role of tools like sandboxes for data in environmental experimentation.

Kenneth Mubea highlighted the work of Digital Earth Africa, which offers accessible data sets, tools, and observations of water resources, flood risks, agriculture and food security, land degradation, coast erosion, and urbanization in African countries. The sandbox they developed provides an environment for interacting with and analyzing Digital Earth Africa's earth observation data.

> " *An example is the relocation of giraffes in Lake Burying in Kenya, where we had floods, and the giraffes were stuck on an island. They used our platform to simulate the changes in the water extension, and were able to provide a safe sanctuary for them,"* shared Kenneth.

On how sandboxes could help unlock insights toward resolving environmental challenges in Africa, **Kenneth** added that Digital Earth Africa is empowering governments to respond to water challenges by cooperating with other partners, like the African Union.

Aditya Agrawal, Founder of D4D Insights, focused on the need for a demand-driven approach, inclusive governance, and collaboration in developing infrastructure and products to address the challenges faced by African countries. He also emphasized the significance of sandbox environments for testing and scaling innovative solutions.

> " *We are focusing on the needs and challenges that countries are facing, and developing an infrastructure that meets those needs through inclusive governance, capacity development, stakeholder engagement, and co-designing principles,"* said Aditya.

Both **Aditya** and **Kenneth** stressed the importance of engaging multiple stakeholders, creating partnerships, and fostering political involvement as essential strategies to mitigate environmental disasters. Aditya discussed the importance of considering the cultural factors of each country and leveraging local knowledge and expertise in developing technologies to foster engagement and build trust.

> " *We are focusing on the needs and challenges that countries are facing, and developing an infrastructure that meets those needs through inclusive governance, capacity development, stakeholder engagement, and co-designing principles,"* said Aditya.

Panelists also added that increasing awareness and sharing examples of how sandboxes are utilized to tackle climate change could significantly enhance their effectiveness and democratize access to crucial information.

The need to learn from previous efforts and initiatives tackling sustainability challenges was one of the takeaways from the roundtable. **Peter Rabley**, Managing Partner at PLACE, exemplified this point by sharing the work of FEWS NET, an early warning system developed in response to the 1985 famine in East and West Africa, focusing on predicting humanitarian crises, particularly those related to food security.

Speakers pointed out that to make a real impact and move beyond pilot projects, it is critical to secure funding and accelerate efforts at both speed and scale.

> " *The challenges we are facing are significant, and we need to move at pace and scale to address them,"* remarked Peter.

Community building emerged as a recurring topic of the discussion, with organizations like Digital Earth Africa engaging youth and women in their initiatives. **Kenneth** emphasized the importance of amplifying youth voices in advocacy and utilizing networks to share lessons and empower governments.

NEXT STEPS

Moving forward, speakers agreed that fostering innovation within institutions is key for effectively addressing the climate challenges faced in Africa.

> " *I think the big opportunity going forward is in new institutions built around data and innovation and funding models for those,"* mentioned Peter.

In alignment with this perspective, **Lorrayne** underscored the importance of establishing new institutions capable of navigating the dynamics surrounding data, norms, actors, and institutions. She emphasized the need to create spaces for experimentation with these new institutional models and highlighted the role of sandboxes in facilitating such endeavors.

Looking ahead, the focus is on expanding initiatives such as regulatory and operational sandboxes globally. The Datasphere Initiative plans to launch a Global Sandboxes Forum this year to foster knowledge-sharing and capacity enhancement across regions, including Latin America, Europe, and North America.

> *"We need to be able to create spaces to experiment with those new institutions, and that's what sandboxes are about,"* said Lorrayne.

In conclusion, the path forward entails embracing new institutional models, agile processes, and collaborative platforms to effectively address the multifaceted challenges of climate change in Africa and beyond.