

Remarks from Dr. Yu Chen

- Associate Professor, International Research Center for Big Data for the Sustainable Development Goals (CBAS): <http://www.cbas.ac.cn/en/>

Contribution to Thematic Session 3 of STI4SDGs: “UN Project on Science, Technology and Innovation (STI) for Integrated Climate Action for Small Island Developing States (SIDS).”

October 9, 2024, Addis Ababa.

Data is crucial and foundational for monitoring and implementing the SDGs. However, 9 years have passed since 2015, we still face significant challenges regarding data gaps. When we refer to data gaps, we can identify at least three key aspects:

- **Lack of Data:** Many small countries or developing countries, especially SIDS, lack the ability and financial resources to obtain timely and full coverage data.
- **Coarse Spatial Resolution:** Many datasets have a coarse spatial resolution, which affects the precision of data-driven decision-making and analysis. Especially for environment related indicators. We need higher spatial granularity to conduct a more precise analysis. And then to give a exact decision suggestions.
- **Insufficient Data Integration:** There is inadequate processing, analysis, and integrated utilization of data, which prevents us from fully leveraging the available information.

To address these issues. Big Earth Data technologies offer promising solutions. Big Earth Data includes traditional remote sensing, ground observations, and geospatial statistical survey data. By integrating these datasets with socio-economic data, we can effectively address data gaps, particularly for environmental indicators.

In recent years, CBAS has developed a long-term series of data products and established a Big Data System platform for SDGs. We have conducted SDG monitoring and evaluation in global, regional, national, and local scale. For SIDS countries. Big Earth Data can provide valuable data and technical support related to climate change challenges, such as natural disaster, sea-level rise, urban planning, land degradation, food security, and biodiversity loss.

Last month in September, a workshop on utilizing Big Data for the implementation of the SDGs for SIDS was successful held in Beijing, China. Co-hosted by CBAS and UN DESA, representatives from ten different SIDS participated in this workshop. The goal was to strengthen the national research capacities of SIDS to support informed decision-making on various SDG aspects. The workshop featured presentations of case studies on SDG evaluation and monitoring using Big Data, aimed at improving methods for obtaining, analyzing, and utilizing big data for SDG indicator monitoring and evaluation. We promoted the use of indicator calculation tools and platforms, shared public data products, and provided practical guidance to mitigate threats to

the physical and economic security of SIDS. This is a successful practice capacity building related to STI, and we are committed to continuing such workshops in the coming years.

A few actionable recommendations for building roadmaps for SIDS from the perspective of Big Earth Data:

1. **Assess Current Data Availability and Needs:** Conduct a comprehensive assessment of existing data sources and their relevance to SDG monitoring in SIDS. Identify specific data gaps, particularly in critical areas such as climate change impacts, biodiversity, and resource management.
2. **Leverage Big Earth Data Technologies:** Invest in Big Earth Data technologies to gather high-resolution, real-time data on environmental and socio-economic indicators. Encourage collaboration with international organizations and private sector companies specializing in Big Earth Data to enhance data collection and analysis capabilities.
3. **Establish Monitoring and Evaluation Frameworks:** Create clear frameworks for monitoring and evaluating the effectiveness of STI roadmaps, using both quantitative and qualitative measures. Regularly review and update roadmaps based on new data, emerging challenges, and lessons learned from implementation.
4. **Strengthen Data Management Systems:** Develop robust data management systems that integrate various data sources, ensuring consistency and accessibility. Implement open data policies that allow stakeholders, including local communities, researchers, and policymakers, to access and utilize data effectively.
5. **Engage Stakeholders in Roadmap Development:** Involve local communities, civil society organizations, and private sector actors in developing STI roadmaps to ensure they reflect local priorities and contexts. Facilitate multi-stakeholder workshops to gather input and foster collaboration among diverse groups.