Science, Technology, and Innovation Forum

May 3. 2023

Think global, act local – people and community led innovation and tech infrastructures for "smarter" and inclusive cities.

The Institute for Conscious Global Change (ICGC) is convinced that Science, Technology, and Innovation are essential to the successful implementation of the 2030 Agenda. In that regard, it uses Geographic Information Systems, Earth Observation and GeoDesign technologies in its primary activity, the Millennium Earth Project (MEP) to that end. ICGC is committed to assisting the UN and Member States in the successful implementation of the Sustainable Development Goals (SDGs), with their 169 targets and 247 indicators. Big Data with its capacity and main characteristics of: Volume, Velocity, Variety, Value, Veracity, Variability, and Visualization provides fusion techniques that allow for vast amounts of heterogeneous data from multiple sources to be fused together to produce a more comprehensive, integrated, and holistic view of data and its underlying relationships. This becomes a significant driver for the accomplishment of the Agenda with Geospatial Information Systems (GIS) being the integrated technology most capable of interpreting the vast amount of data the 2030 Agenda implementation generates.

On November 18, 2016, the Permanent Representative of Jamaica transmitted a letter to the Secretary-General that contained a document A\C.2\74\4 (http://www.un.org/ga/search/view_doc.asp?symbol=A/C.2/71/4) entitled "The Millennium Earth Project (MEP), ICGC's primary activity. It was circulated to all Member States in all six official languages as a document of the Second Committee of the General Assembly. Some highlights and key elements of the MEP in the framework of the 2030 Agenda for Sustainable Development are:

- ***Technology***: Geographic information systems, Earth Observation, GeoDesign and related technologies to integrate the 17 Sustainable Development Goals, their related 169 targets and 247 indicators based on different data of all kinds and all sources.
- ***Representation***: Visualizing development plans which gives power to the voices of the marginalized or underrepresented,
- ***Capacity-building:*** Geospatial education and training as well as formal workshops for a wide range of target audiences to allow communities to begin collecting and analyzing their own data for planning and development.
- ***Innovation***: Opportunity for persons to learn how new innovations and the implementation of technology can help communities develop solutions to best meet their needs
- ***Advocating*****:** Tracking development targets at the local level allows the raising of awareness of societal issues and challenges and advocacy for change on a range of sustainable development, environmental, agricultural, ecosystems and social issues.
- ***Social Monitoring*****:** Creating 3-D spatial models of development plans which allows the Millennium Earth Project to be used as a tool to increase transparency and accountability.

To demonstrate the important role these technologies can play in aiding the United Nations and Member States achieve the Agenda, a research pilot was conducted in the informal settlement of Manyatta, Kisumu, Kenya. A five hundred (500) Households (HH) was conducted using hand-held devices equipped with Global Positioning System (GPS) receivers, as part of the Global Navigation Satellite System (GNSS), The survey was evenly conducted in all 15 units of the settlement to include both wards, Manyatta A and B. This allowed us to acquire the location-based data needed to better ensure no one is left behind. Additionally, key informant interviews with decision makers, a focus group discussion, situational analysis of the human and non-human elements in the settlement which included all geographic and infrastructure elements were conducted; a problem tree analysis which assisted the citizens in identifying the core problems, their causes and effects, resulted in a focus on SDG#6. Together with information from a GeoDesign discussion, the technical and non-technical data informed the GeoDesign of the settlement, a model which can be scaled and replicated globally, and can be seen at the arcgis online portal at ICGC's website at www.icgc.ngo.

The partnership framework consisted of the government (Ministry of Planning-County and City) and representatives of the multi-stakeholder groups to include Women, Farmers, Business, Youth, Religious organizations, academia, Community-Based Organizations, NGOs, Person with Disability, Landlords, UN-Habitat.

ICGC believes all developing countries can be virtually developed in the next three years using GeoDesign technology which consists of four elements: Geographic Information Science; Information technology, Design technology and most importantly, The People of the place. This would be a significant next and middle step toward integrated comprehensive implementation to also include SDGs 11 and 17 with SDG7, energy for all, the driver of the whole agenda providing social, economic and environmental sustainability.

Link: https://storymaps.arcgis.com/stories/e500ffa099b347c18eaf7f85d64443cf

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