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SDG INDICATORS INDEXING AT VILLAGE GRANULARITY – HOW EO MAINSTREAMS WITH MANY OTHER DATASETS IN A DATA ANALYTICS APPROACH

Abstract

Well-being, economic growth, hunger, sanitation, poverty, energy, disease, fresh water, disasters, air quality, biodiversity, deforestation, hygiene, urbanization, food security, environment are major challenges to humanity and are articulated in the 2030 Agenda in the 17 Sustainable Development Goals (SDG). We believe that these challenges can be addressed by use of advanced and efficient data techniques and application analytics to "scientifically measure" about people, societies, nations and planet - thereby, contribute to formulation of robust policies and programmes for for a sustainable world.

In implementation of the 2030 Agenda, Earth Observation and data analytics are effective and relevant - specially for realtime information on societies and geographies, monitoring and evaluation of human and environmental conditions and harmonising "measures" towards a uniform indexing. We have worked on a SDG Indexing system with 3 outcomes – one, apply knowledge of EO, Spatial Analytics and GIS AND two, link the advanced knowledge to sustainable development, agriculture AND three, demonstrate possible future business applications for implementations to benefit society.

With above focus, a systems design and pilot study is taken up in Odisha with the involvement of the state. The study relies on EO based "integrated" realtime dataset for realtime assessment of land, water, human activity and changes therein in a most scientific manner AND at high granularity of a village unit. Further, other published data and secondary big data on demography, markets, urbanisation and infrastructure, social development of communities and economic growth are integrated. A "standardised data packet" of 317 parameters of measure are identified Out of these, 60

The end-to-end process of the SDG Indexing concept at village-unit - the system design, EO and GIS analysis methodology and the outcome assessment is discussed in the paper. A major highlight is the crucial importance of space based EO, geospatial techniques and advanced Data Analytics - without which such a that is specifically highlighted.

(In the final paper, other key authors affiliated in the study will also be included).