Defining the Context – The 2030 Agenda, “Leaving No One Behind” and Official Statistics

4th International Conference on Big Data for Official Statistics

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• 17 Goals, 169 Targets, 230 Indicators = Huge Data Needs
THE CHALLENGES:

Data are not available, dynamic, disaggregated, high quality, useable, accessible, open, or used effectively.

- Data on entire groups and key issues are unavailable.
- Data are not dynamic or disaggregated.
- Data quality is poor and major gaps remain.
- Data that exist are often not useable.
- Data that are useable are not accessible or open.
- Data that are accessible are often not used effectively.

DATA CHALLENGES LEAVE TOO MANY BEHIND
DATA FOR WHAT?

Improved Decision-Making and Policy
Increased Citizen Empowerment
Increased Innovation and Entrepreneurship

To Achieve and Monitor Sustainable Development
Harnessing the Data Revolution
“Data is the Oil of the 21st Century”

- Supporting and complementing government and civil society efforts to generate data for statistics for the formal SDG monitoring framework
- Unleashing innovation in production, accessibility and use of real-time, dynamic, disaggregated data from multiple sources

Disaggregated, Real-time, Dynamic, Open, Usable, Actionable
Earth Observation Data

GEO GROUP ON EARTH OBSERVATIONS

NASA

esa

Committee on Earth Observation Satellites

Biodiversity and Ecosystem Sustainability

Disaster Resilience

Energy and Mineral Resources Management

Food Security and Sustainable Agriculture

Infrastructure and Transport Management

Public Health Surveillance

Water Resources Management

Sustainable Urban Development
Citizen-Generated Data

http://staging.winguweb.org/2015/datashift/
Privately Held (Big) Data

- **Real Time** Operation Management
  - ex: Provide mobility information every hour for security staffing
  - ex: Provide real-time personal health risk to users in mobility
  - ex: Optimise hospital location for density of population
  - ex: Optimise distribution of drugs in function of diseases geography, calendar events,…

**Customer Time (Velocity)**

**Policies & Consulting**

- Single Data source
- Multiple data sources

**Variety of Sources for Data Analysis**

**Faster:** monthly...daily...

**SLOWER**
Data refresh (yearly, quarterly)
Open Data

1. Open by Default
2. Timely and Comprehensive
3. Accessible and Usable
4. Comparable and Interoperable
5. For Improved Governance and Citizen Engagement
6. For Inclusive Development and Innovation

opendatacharter.net
Data Roadmaps for Sustainable Development

Support countries at national and sub-national levels to develop and implement whole of government and multi-stakeholder data roadmaps for harnessing the data revolution for sustainable development, with particular emphasis on the SDGs and local priorities articulated in national plans.
Country Led Approaches

- The Data Roadmaps for Sustainable Development approach is iterative, based on experiences and implementation models from partner countries

  - Colombia
  - Philippines
  - Sierra Leone
  - Kenya
  - Tanzania
  - Senegal
  - USA
  - Ghana

SDG Goals and Targets → National Plans and Priorities → Localized Framework
Data for Action

- Fill data gaps more efficiently, frequently and cost effectively
- Real-time, dynamic, disaggregated data
- Official and non-official data
- Use innovative approaches and range of stakeholder to solve problems

More informed and data driven decision making
## Country Level Lessons Learned

### INSTITUTIONAL
- Strengthening institutional cooperation
- Engagement with the private sector
- Mobilization of funding and resources
- Data literacy

### TECHNICAL
- Interoperability
- Alignment between open data and the SDGs
- Data sharing frameworks
- New innovation, data and platforms
- Environmental data
- Geospatial methods
Data Collaboratives - 2017

• Leave No One Behind
  • Data disaggregation
  • Citizen generated data
  • Marginalized populations
  • Inclusive Data Charter

• Data Interoperability
  • Addressing core issues at the country level and piloting methods for increased interoperability

• Environmental Data
  • Climate open data – Tanzania and Sierra Leone
  • Earth observation data applied to environmental issues
  • Illegal mining in Ghana
Other Initiatives

- Better engagement with the Private Sector
- What makes a successful private-public-partnership
- Working with DIAL and GSMA on mobile data for the SDGs
- Innovation Fund with the World Bank and DFID
  - 2\textsuperscript{nd} call focused on environment and leave no one behind. Total 4.5 million USD
- Financing on data for development
- A new, integrated GPSDD website to be launched any day
Population Distributions

Alex de Sherbinin, CIESIN

Population estimate results at various resolutions from multiple methods
Tracking agricultural change.
Water quality monitoring: Lake Burley Griffin
Some prototyped applications for the data cube:

- Vegetation change, agricultural production
- Flood inundation mapping, farm dam development
- Wetland management and characterisation
- Carbon accounting
- Seagrass and substrate mapping
- Coastal change and water quality
- Shallow water bathymetry
- Mining footprint and urban development
- Bushfire scar mapping and forestry inventory

- Dr Stuart Minchin,
- Geoscience Australia

Further Information

Email: Earth.Observation@ga.gov.au
Address: Cnr Jerrabomberra Avenue and Hindmarsh Drive, Symonston ACT 2609
Country Engagement on EO Data

- Intergovernmental Network on Open Data for Agriculture and Nutrition
- Dynamic and real-time data for smallholder farmers
- Establishing data cubes initially focused on a particular thematic issue
- Making upcoming population censuses more dynamic and cost-effective
- Waste management
UN Environment-GEO-NASA-UMD Collaboration on SDG 6

Pilot Activities
Outreach & Engagement
Capacity Building
Information Products

EO Case Studies for the 2030 Agenda

In person trainings & webinars

Toolbox: Data for Action

Data for Action
Earth Observation Data for the SDGs
Remote Sensing Data and Analysis
GeoMapping for SDG	

A Primer on SDG 2, Zero Hunger

EO4SDG-GPSDD-DANE Workshop at DANE HQ, Colombia
Bringing Data Sources Together

Geospatial + Mobile Data + Surveys

WorldPop Project
Flowminder.org
http://www.worldpop.org.uk/
Mamou, Guinea

29 hours
68 contributors
20,105 buildings

Humanitarian OpenStreetMap
bio.007 Marine and Terrestrial Protected Areas

IUCN & UNEP-WCMC

```javascript
var data = null;

var xhr = new XMLHttpRequest();
xhr.withCredentials = true;

xhr.addEventListener("readystatechange", function () {
    if (this.readyState === this.DONE) {
        console.log(this.responseText);
    }
});

xhr.open("GET", "https://api.resourcewatch.org/v1/query/de452a4c-a55c-464d-9037-8c3e9fe48365?sql=SELECT%20%20");
xhr.send(data);
```
Data4SDGs Toolbox: Data for Action

http://www.data4sdgs.org/toolbox
What’s Needed Moving Forward

- We must change our normal ways of working, break down silos, and become more collaborative across sectors
- We need to embrace innovation and be okay with failure – as long as we learn from it
- We need to work at multiple scales bringing national and sub-national planning efforts together in the interest of the SDGs
- We need to unlock innovative funding models that are sustainable and develop public-private partnerships that work
- Increase data literacy and capacity for data science focused on how data is used for decision making and action
- Better link initiatives with a common purpose to reach further impact