Mobilizing Big Data and Data Science for the Sustainable Development Goals
Rural Access Index (RAI) / SDG 9.1.1

Jordan Statistical Office

Ahlam Alrousan
Agenda

- SDGs, SDG 9.1.1 (RAI) Definition
- DOS Strategy +SDG international support
- Data Sources
- Jordan Classifications Urban / Rural, RAI
- Opportunities Challenges, Next step
The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.
A special unit for the SDG’s were established since 2015

Developing SDG’s Platform

Developing Mobile App (in process)

Developing SDG indicators using new technology

More than 70% goals were achieved from 231
SDG 9
Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

- **Goal 9** • Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

- **Target 9.1** • Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

- **Indicator 9.1.1** • Proportion of the rural population who live within 2 km of an all season road.
The Rural Access Index (RAI) is an indicator used to measure rural accessibility. It is defined as “The proportion of the rural population who live within 2 km of an all-season road.”
What Data is Required for RAI?

But what are the sources for these data?

Accessibility
Are they all seasons?

Road network
Where are the roads?

Population distribution
Where do people live?
Data sources:

- Census 2015 of Population & House Holder
- Roads layer
- Population distribution
- Population count

Data of census 2015.

Data cover all Jordan, in deferent format (shape file and raster).
Data sources:

- Landmark Layer
- Building Layer
- Residential buildings in rural localities
Where the people live

According to the general population and housing census for 2015

9531712 total population

920389 rural

8611323 urban

rural and urban localities of the Kingdom.
Buffering

**Rural**: localities that includes of (5000) or less Population as were defined in the 2015 census of Jordan.

**Buffer**: A distance of 2 km from the borders of the street, so that all the residential localities within the boundaries of this area are serviced.
Using Arch GIS tools to make buffering

The shaded area represents the 2 km area around the street that includes the serviced areas. While the unshaded areas represent the unserved.
RESULTS RAI:

Serviced Rural Population: 587204 (63.8%)
Unserved Rural Population: 333185 (36.2%)
Total Rural Population: 920389 (100.0%)

RAI = \frac{Serviced Rural}{Total Rural}
Challenges:

**Challenges to the availability of information:**
1. No enough data.
2. Lack of consistent data in all ministries.
3. The problem of resolution with open street map.
4. Information needs many calculations and time.
5. The building is a point and must be a polygon to ensure that no building is toppled within the buffer.
6. Adopting highways, main and secondary roads only when the buffer is made, and we did not take some streets, such as streets and service.....etc.

**Opportunities:**
1. High interesting and support from government on SDGs.
2. High support from NGOs.
3. The Huge Data We have.
5. Open source Data and tools.
Next step:

Cooperation between Statistical office and the Ministry of Public Works with the support from UN & WB.

Road lap Application

Laser Profilometer
Jordan/RAI 63.8

Population in Jordan/Census 2015 9,531,712

Urban Population/Jordan 8,611,323

Number of Rural Population/Jordan

Number of Urban_Rural Localities

Number Of Population by Governorate

(rai) by Governorate
Mafraq

Percentage of Serviced and Unserved Population by Governorate

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Thank You

Ahlam Alrousan