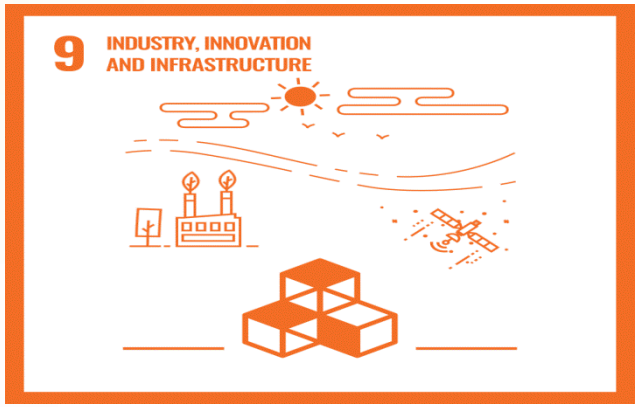
Mobilizing Big Data and Data Science for the Sustainable Development Goals

Rural Access Index (RAI) / SDG 9.1.1



Jordan Statistical Office

Ahlam Alrousan

دائرة الإحصاءات العامة
Department of Statistics

United Nations
Statistics Division

THE WORLD BANK

EXPO 2020 DUBAI UAE

Agenda

- SDGs, SDG 9.1.1 (RAI) Definition
- DOS Strategy +SDG international support
- Data Sources
- Jordan Classifications Urban /Rural, RAI
- Opportunities Challenges, Next step

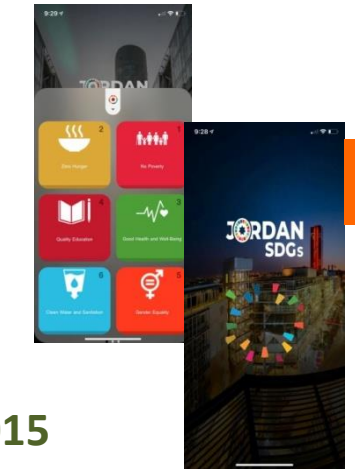
United Nations Sustainable Development Goals

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.

Dos &SDG International Support

Jo SDG portal

SDAG ‘s Mobile APP



1. A special unit for the SDG’s were established since 2015
2. Developing SDG’s Plat form
3. Developing Mobile App (in proccess)
4. Developing SDG indicators using new technology
5. More than 70% goals were achieved from 231

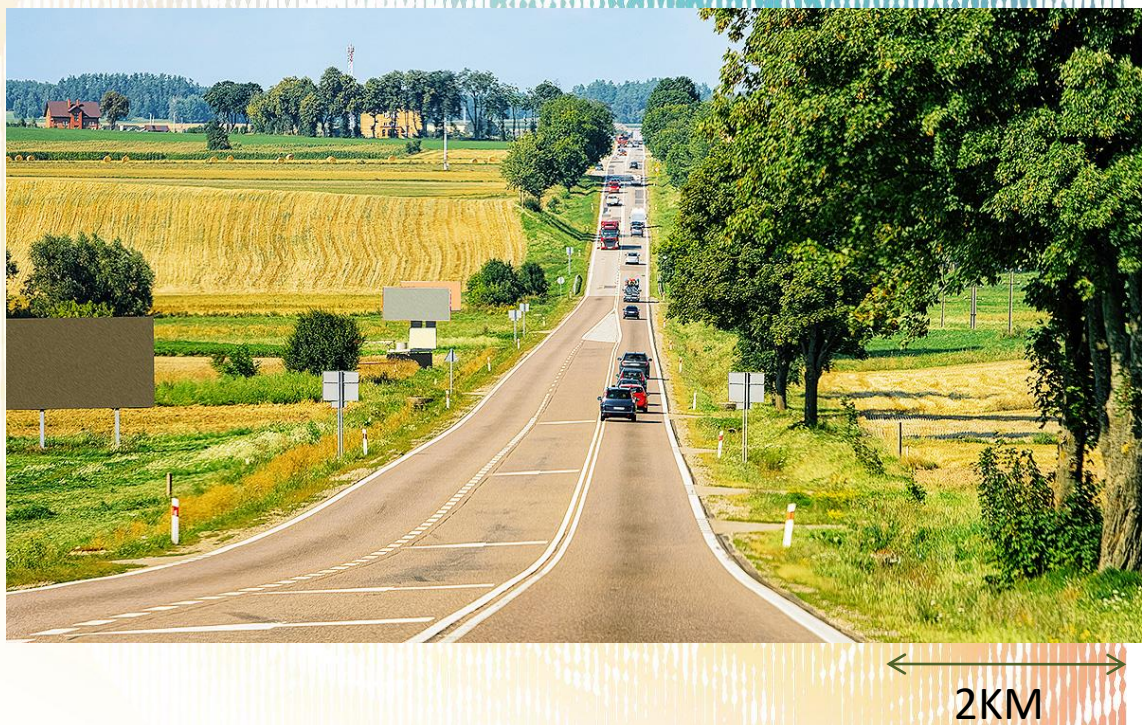
SDG 9
Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

- **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.

RURAL ACCESS INDICATOR

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



1 NO POVERTY

2 ZERO HUNGER

3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

5 GENDER EQUALITY

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?

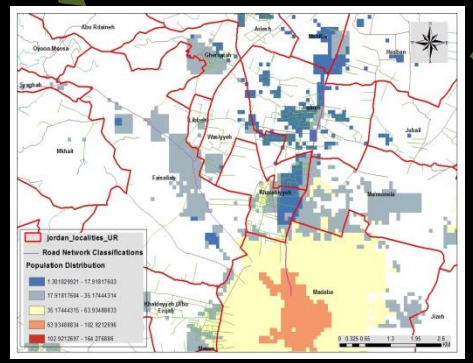
Population distribution

Where do people live ?

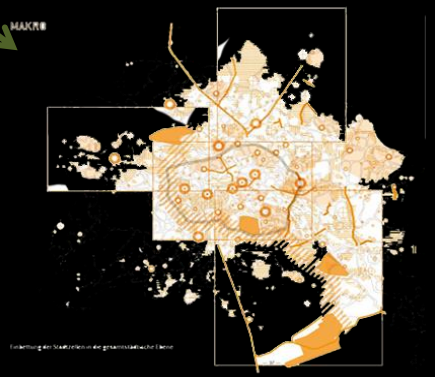
Data sources :

Census2015 of Population & house Holder

Roads layer
Population distribution



Population count



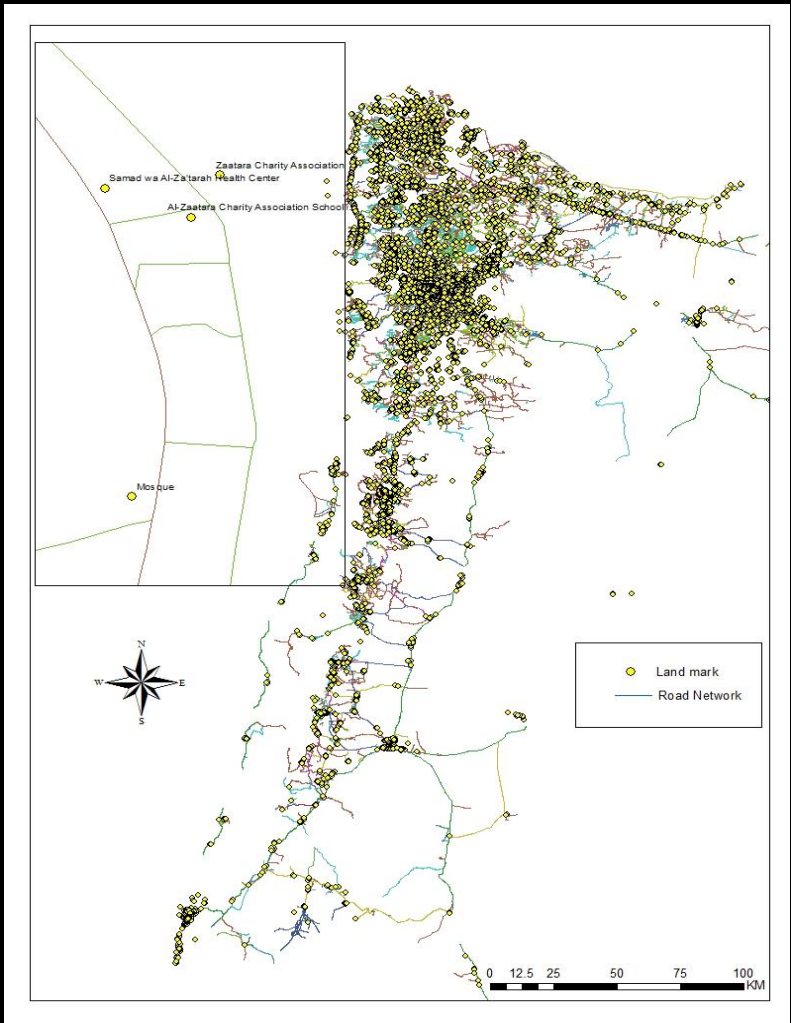
Population Density

Data of census 2015 .

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

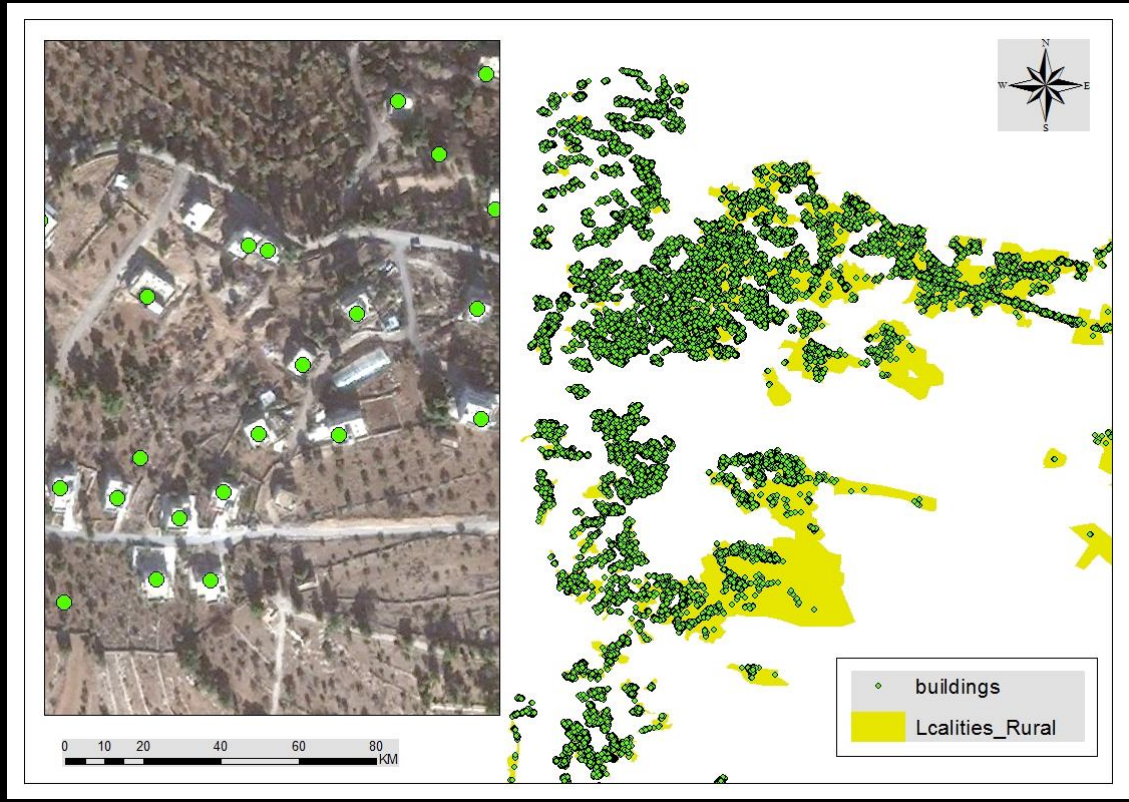
Data sources :

Land mark Layer



Landmarks and Services of landm

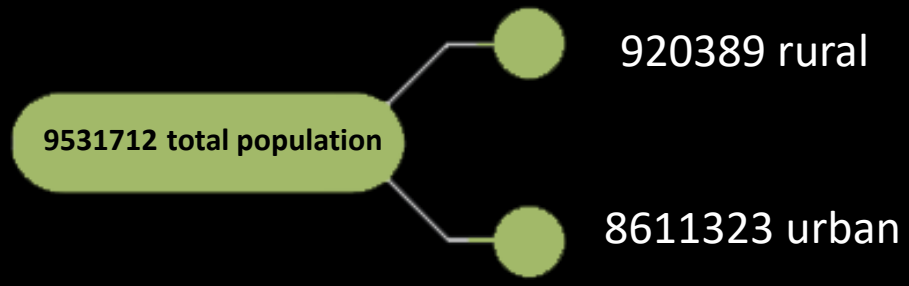
Building Layer

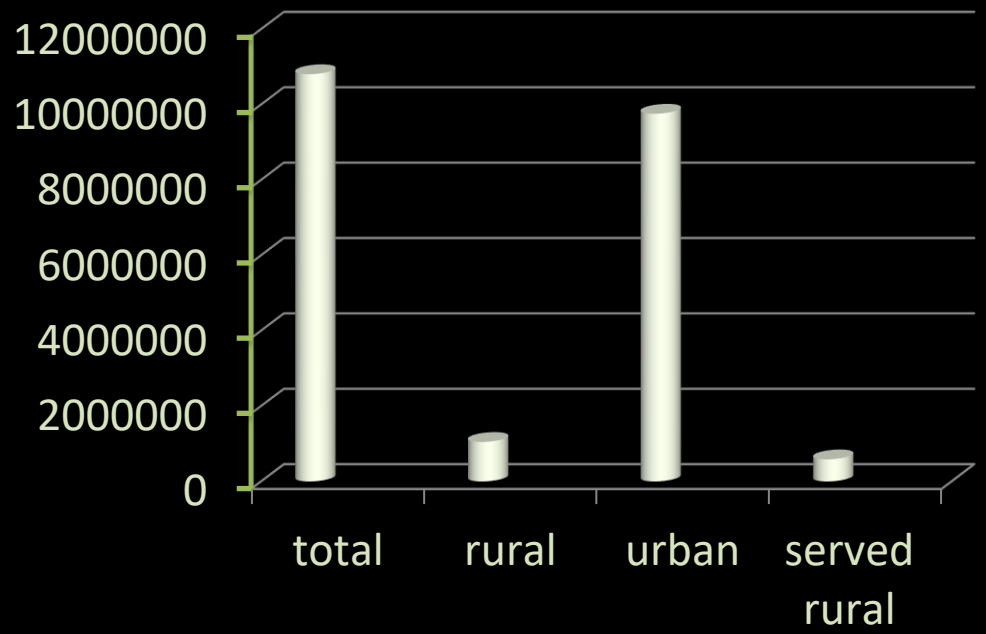


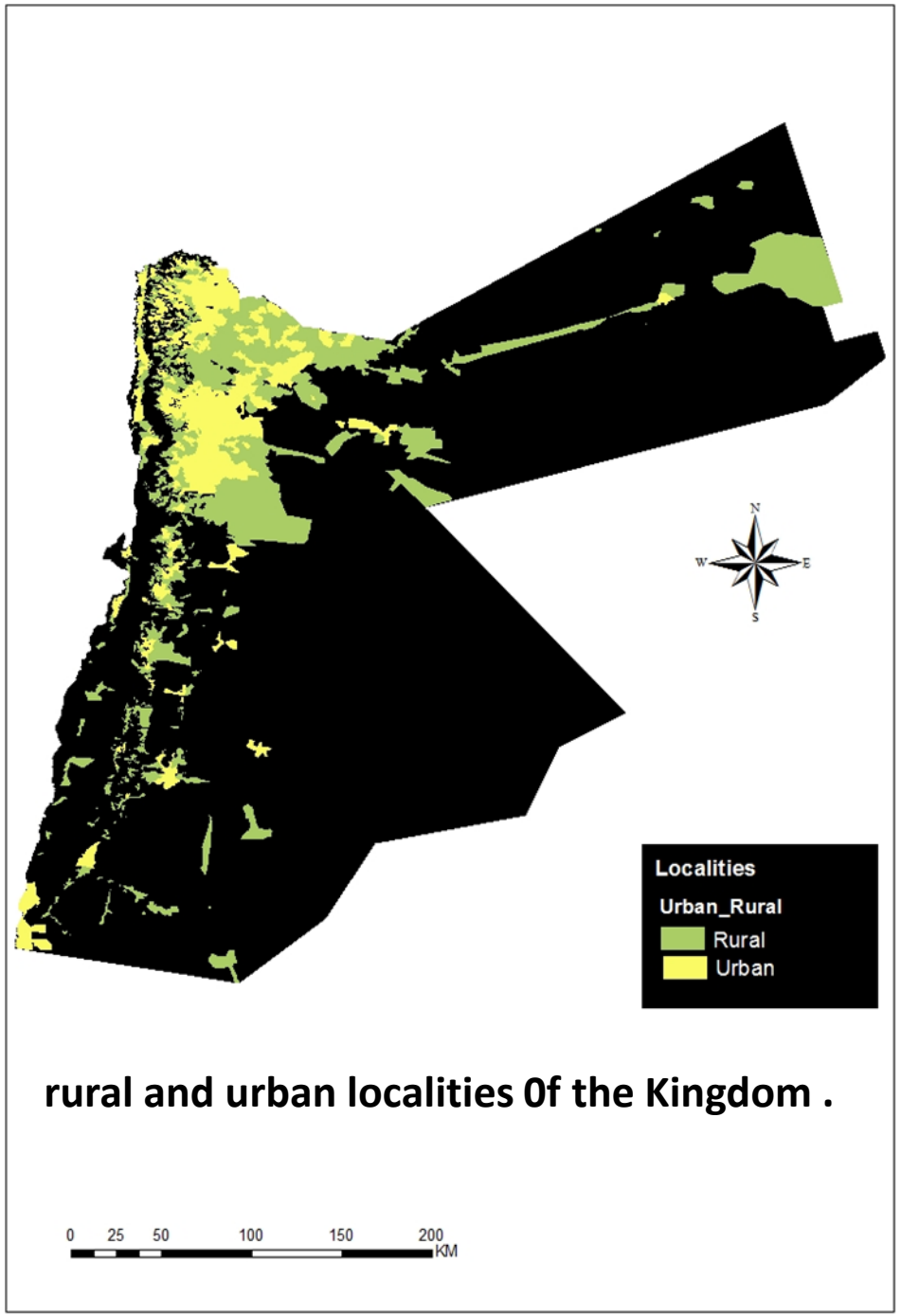
Residential buildings in rural localities

Where the people live

According to the general population and housing census for 2015







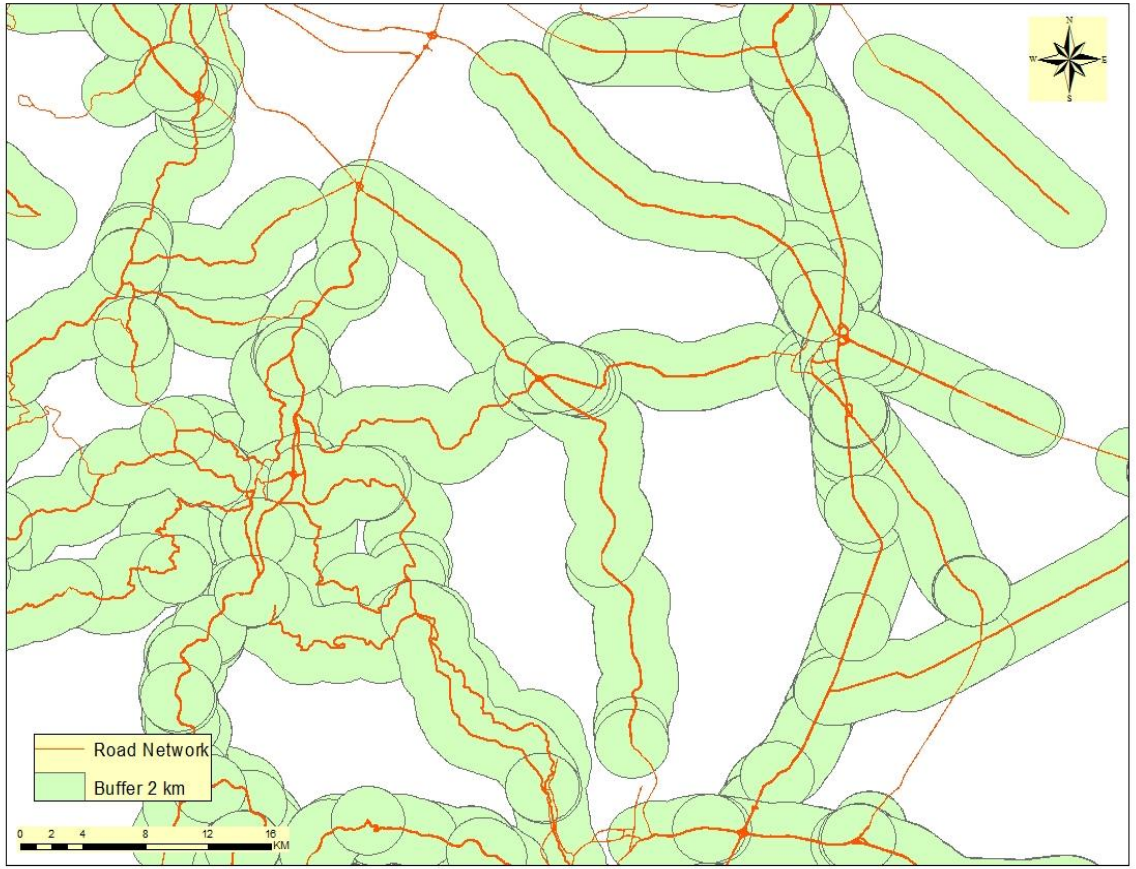
rural and urban localities 0f the Kingdom .

Buffering

Rural : localities that includes of (5000) or less Population as were defined in the2015 census of jordan.

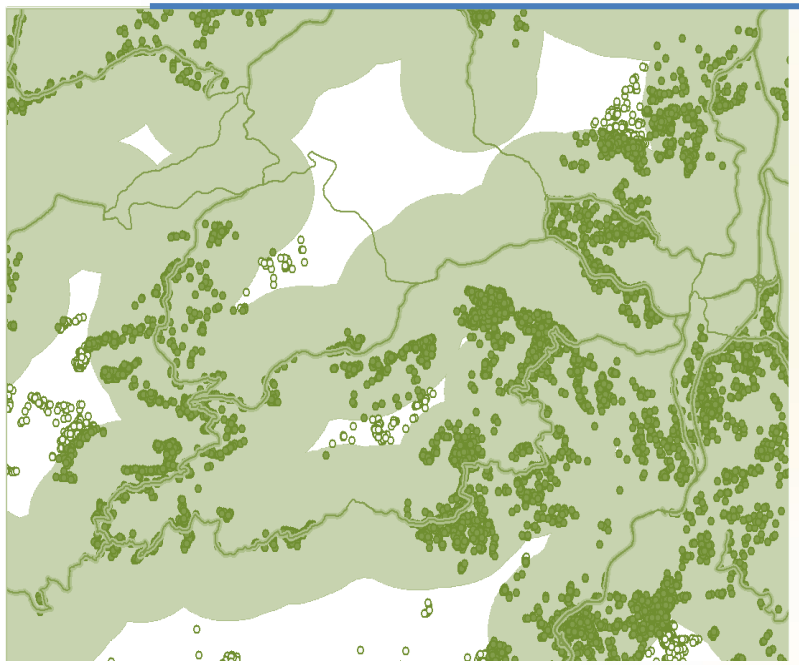
Buffer : A distance of 2 km from the borders of the street, so that all the residential localities within the boundaries of this area are serviced.

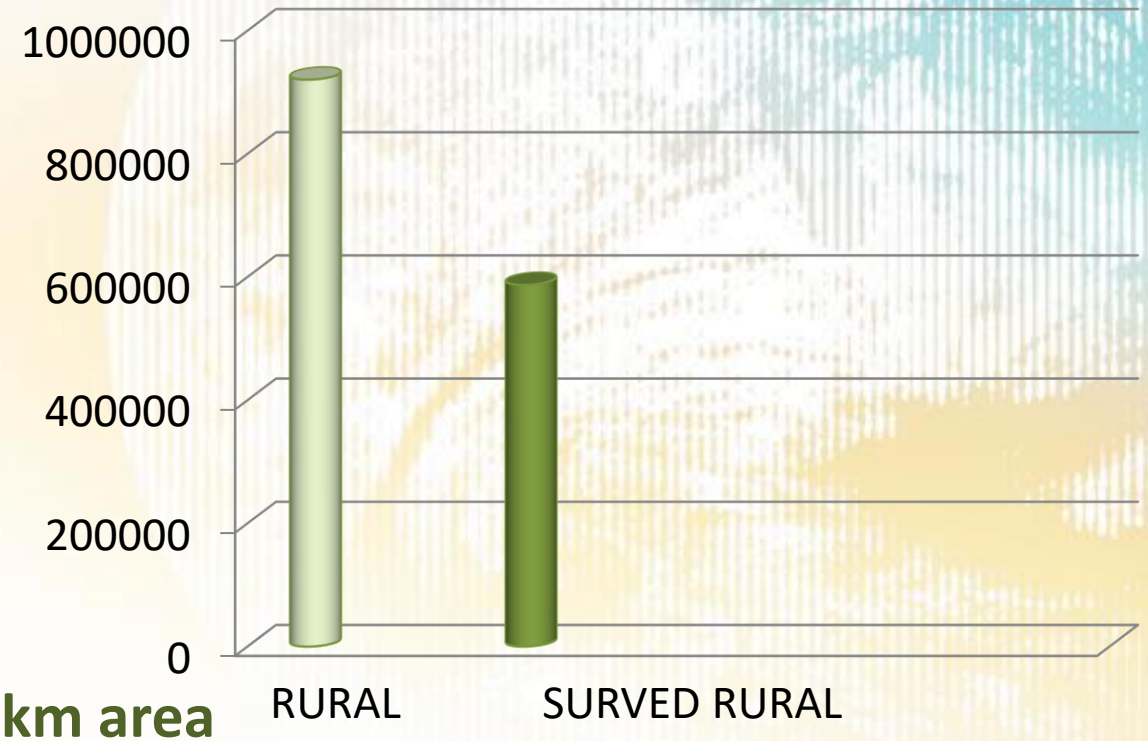
Buffering using ARC GIS tools



Buffering

Using Arch GIS tools to make buffering

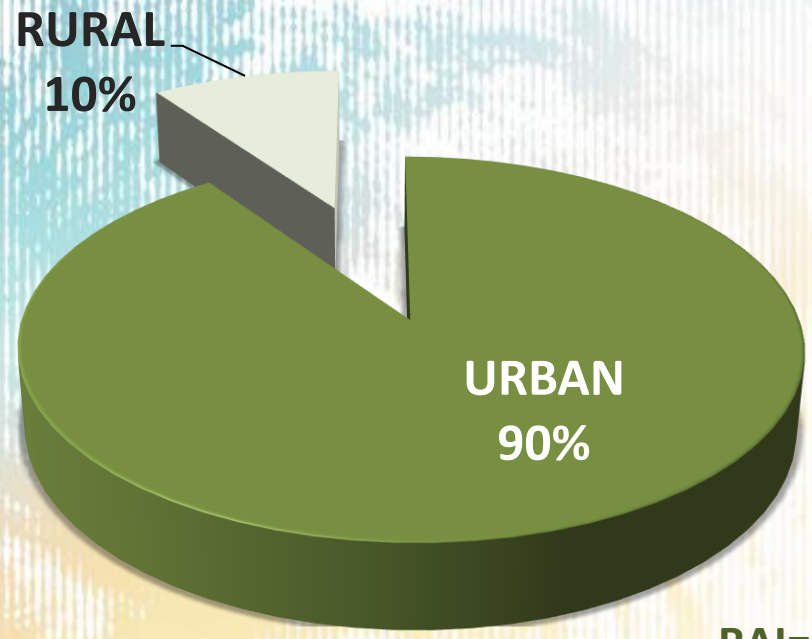


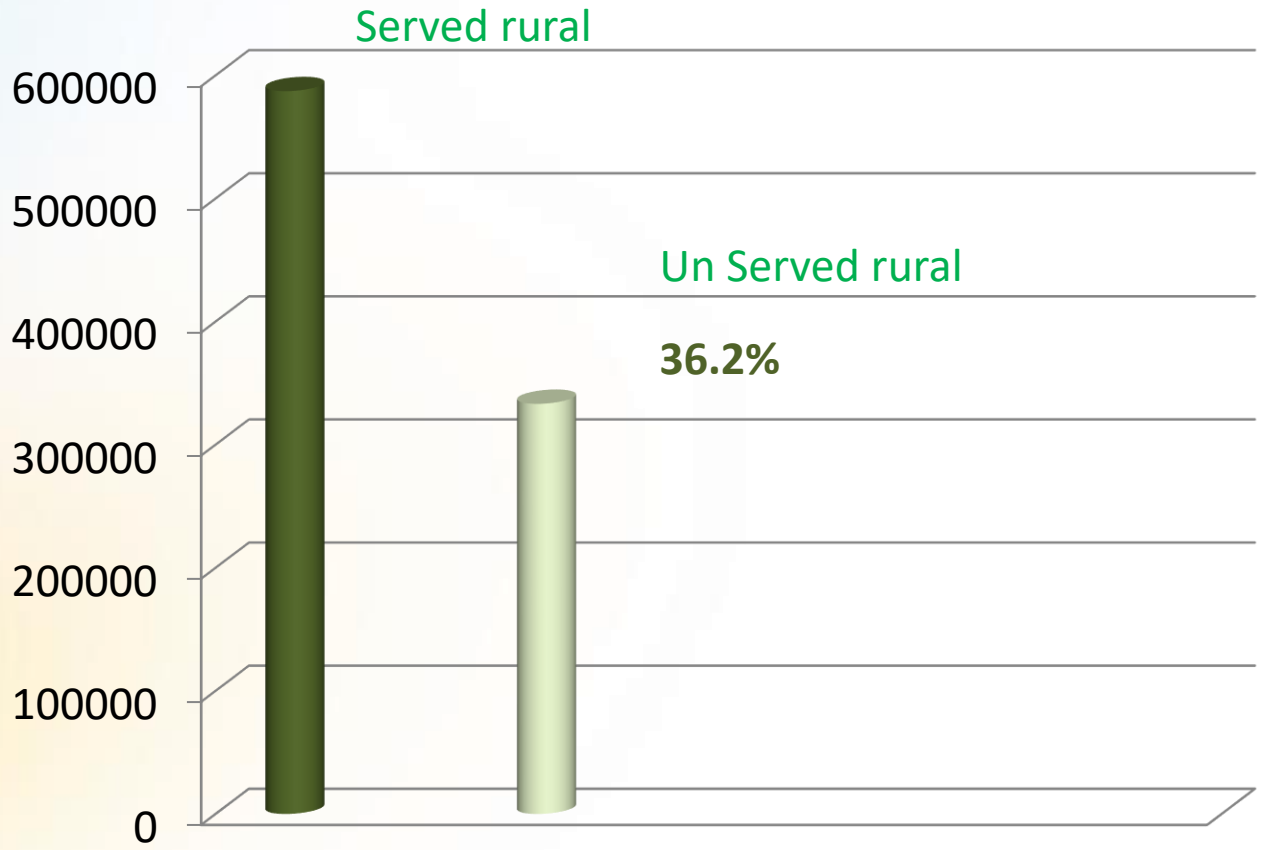


The shaded area represents the 2 km area around the street that includes the serviced areas. While the un shaded areas represent the un served.

RESULTS RAI :

63.8%





RAI=SERVER RURAL/TOTAL RURAL

Serviced Rural Population	587204	63.8
Un served Rural Population	333185	36.2
Total Rural Population	920389	100.0

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 .
4- New technology's like Data science and Machine learning
5- Open source Data and tools

Next step :

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

Jordan ministry of public works

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Department of Statistics

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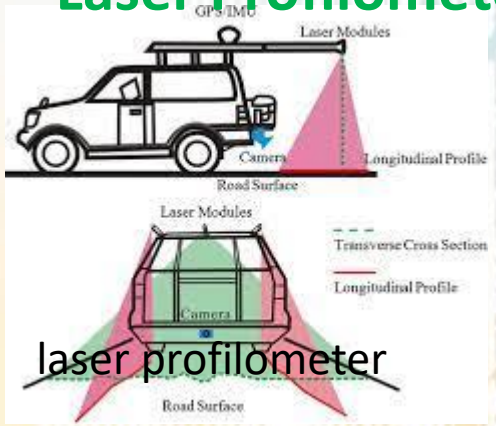
Laser Profilometer



laser profilometer

Road lap Application

Jordan_SDG Indicators 9.1.1(RAI)

Mafraq

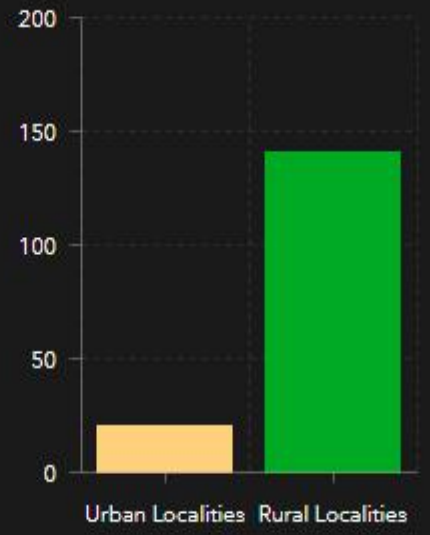
Jordan/RAI
63.8

Population in Jordan/ Census 2015
9,531,712

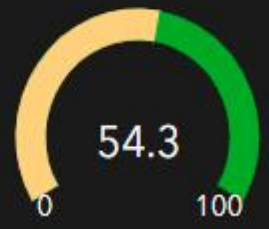
Urban Population /Jordan
8,611,323

Number of Rural Population/Jordan

Number of Urban_Rural Localities

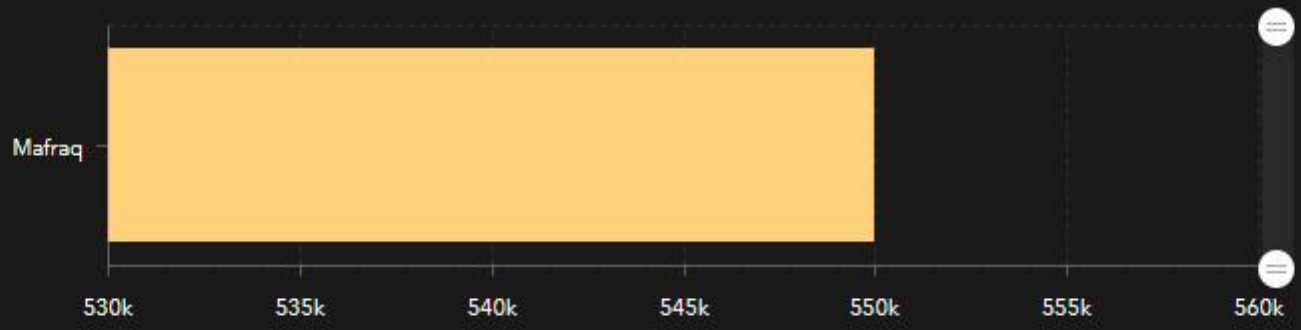


(RAI) by Governorate
Mafraq



Percentage of Serviced and Unserved Population by Governorate

Number Of Population by Governorate



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SUSTAINABLE DEVELOPMENT GOALS

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