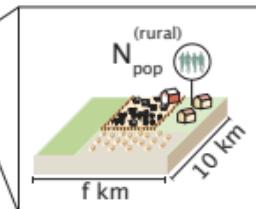
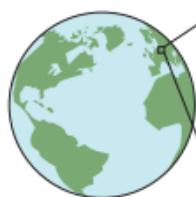


## (A) RURAL POPULATION DENSITY ESTIMATE



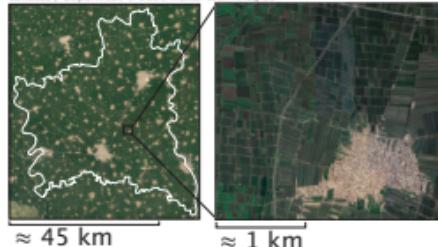
typical population,  $N_{\text{pop}}^{(\text{rural})} \approx f \times 10^3$

typical area,  $A \approx f \times 10 \text{ km}^2$

→ typical density,  $\rho_{(\text{rural})} \approx \frac{N_{\text{pop}}^{(\text{rural})}}{A} \approx \frac{f \times 10^3 \text{ people}}{f \times 10 \text{ km}^2} \approx 10^2 \text{ people / km}^2$

### GHBARIA GOVERNORATE, EGYPT

Google Earth  
Landsat / Copernicus © 2020 Maxar technologies



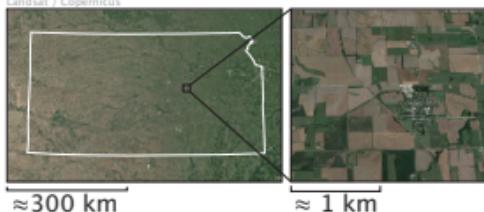
land area,  $A \approx 2 \times 10^3 \text{ km}^2$

rural population,  $N_{\text{pop}}^{(\text{rural})} \approx 3 \times 10^6$

→ density,  $\rho \approx \frac{2000 \text{ people}}{1 \text{ km}^2}$

### KANSAS STATE, USA

Google Earth  
Landsat / Copernicus



land area,  $A \approx 2 \times 10^5 \text{ km}^2$

rural population,  $N_{\text{pop}}^{(\text{rural})} \approx 2 \times 10^6$

→ density,  $\rho \approx \frac{10 \text{ people}}{1 \text{ km}^2}$

## (B) RURAL LAND AREA ESTIMATE

$$\text{total rural land area, } A_{\text{rural}} \approx \frac{N_{\text{rural}}^{(\text{global})}}{\rho} \approx \frac{f \times 10^9 \text{ people}}{10^2 \text{ people/km}^2} \approx f \times 10^7 \text{ km}^2$$