



Exploring Geo-Spatial Patterns of Private Sector FP Use: Tanzania

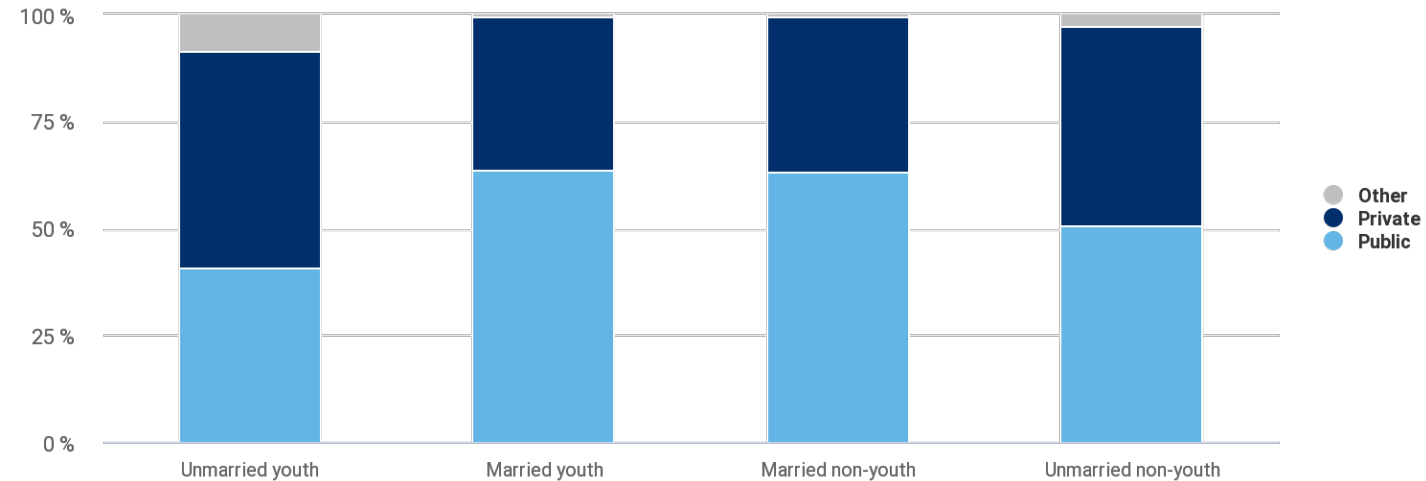
Meghan Reidy & Michelle Weinberger
Avenir Health





Private Sector use patterns often explored by socio-demographics

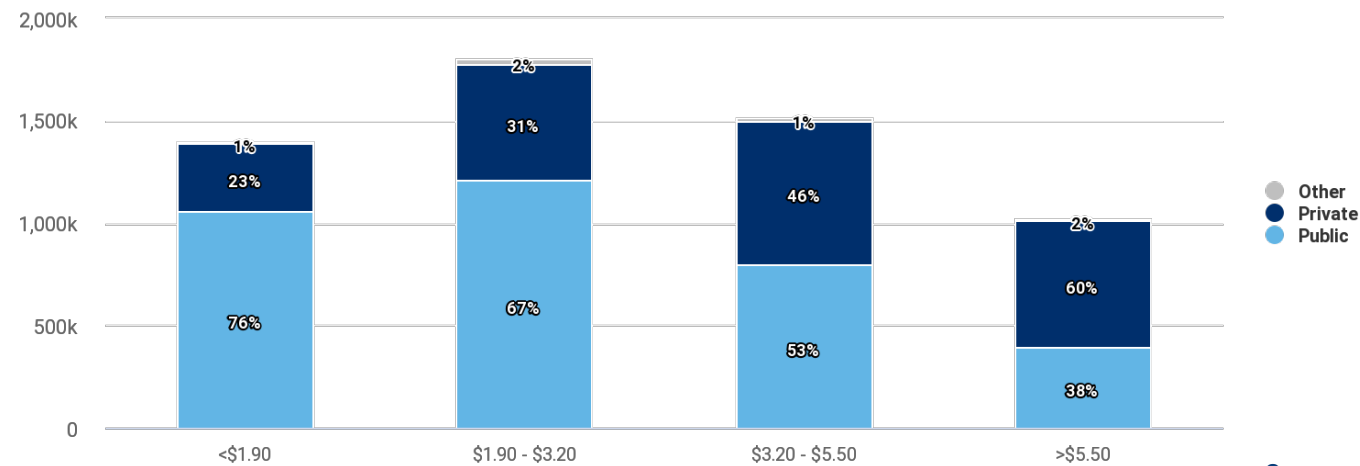
Source mix by age and marital status



Source: FP Market Analyzer (data for Kenya)

But what about geographic patterns of use across a county?

Users by income and source (2020)





Addressing this gap: small area estimation

- Statistical techniques used to estimate the value of parameters over a small geographic area – smaller than sample size would allow using typical survey analysis methods
- Produces a **modeled surface** of spatial distribution of a given parameter
- Estimates here use prevR – package for R developed to estimate HIV prevalence from DHS cluster data
- Utilizes DHS geospatial resources

See Larmarange and Bendaud (2014) for more details on prevR: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4247267/>



Why develop small area estimates?

- Creates visual representation of how concentrated or disperse private sector use is within a country
- Explore variations in patterns across countries
 - Role of private sector in peri-urban areas?
 - Role of private sector in larger vs small cities & towns
- Inform advocacy and planning



Initial scoping

- Exploration of DHS subnational data to determine potential countries for small area estimation
- Considerations for analysis:
 - Recent DHS with GPS dataset available
 - Variation in method sourcing (i.e. not heavily public-sector dominated like Senegal and Rwanda)



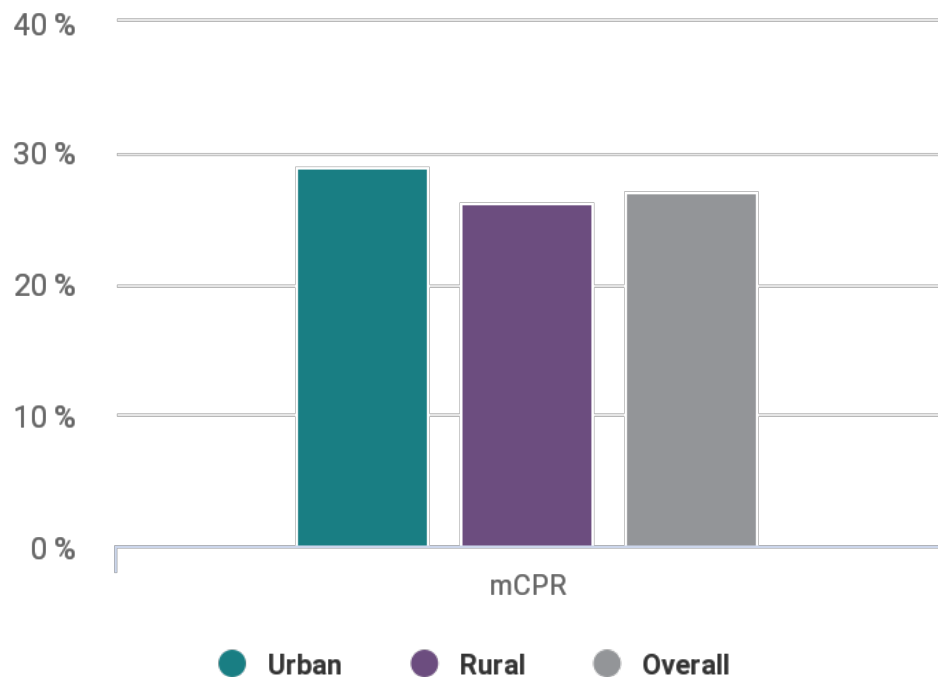
Available maps: Tanzania

- **mCPR** = modern method users / all women
- **Private market share** = modern method users getting method from private sector / modern method users
- **Private prevalence** = modern method users getting method from private sector / all women
- **Public prevalence** = modern method users getting method from public sector / all women
- **Unmet need**
- **Population of WRA**
- **Modern method users**
- **Private users**
- **Public users**
- **Income levels**
 - **Below the poverty line (\$1.90)**
 - **Above \$5.50**

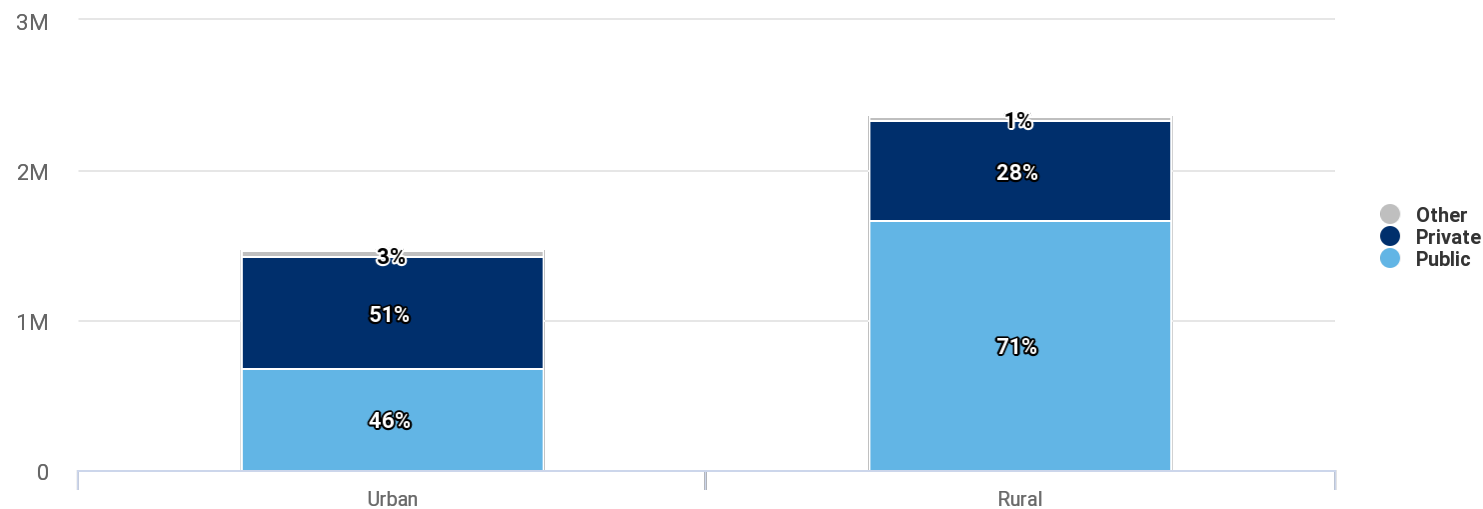


Tanzania: mCPR and sector by residence

mCPR by residence (latest DHS)



Source mix of users by residence (2020)



Source: DHS 2015-16, FP Market Analyzer



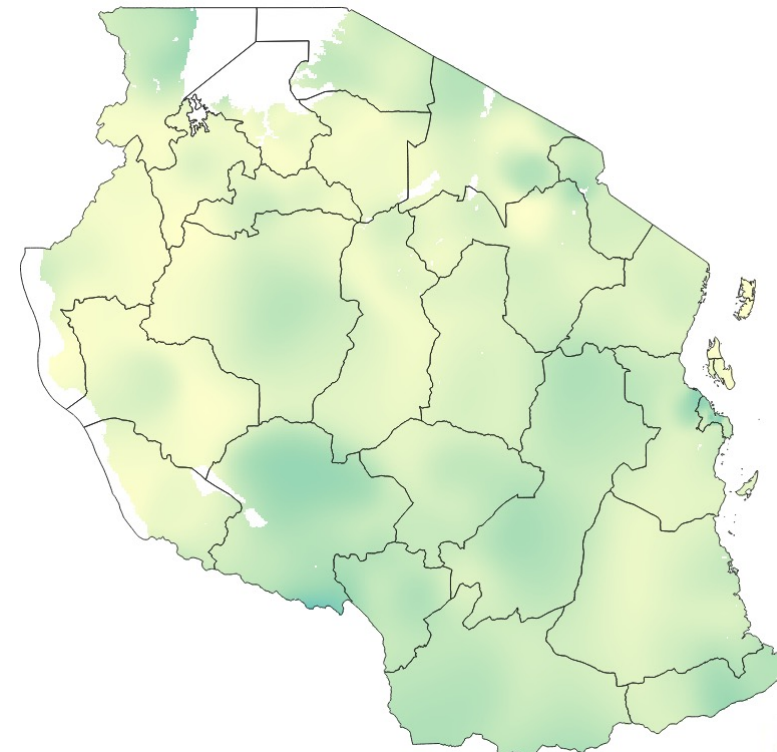
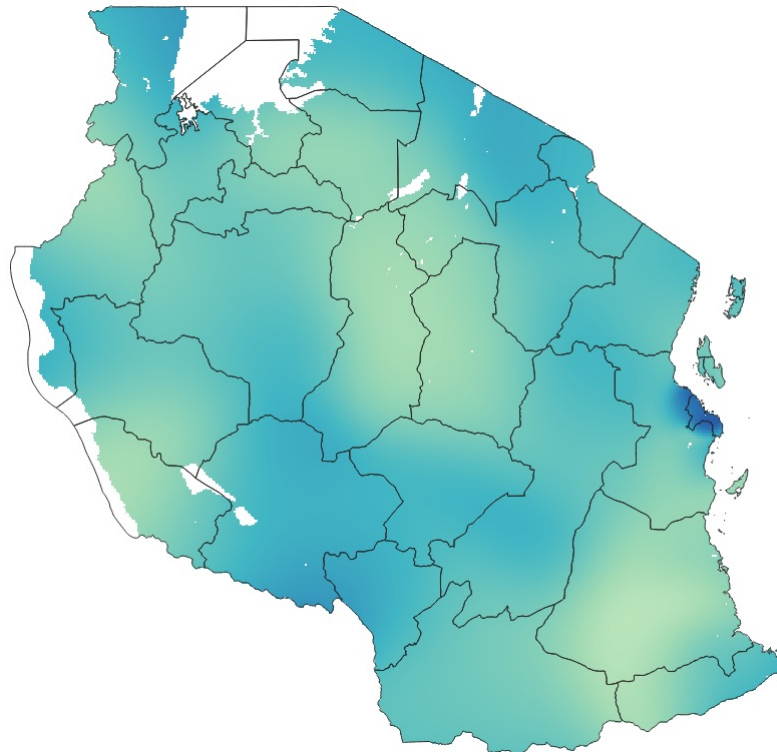
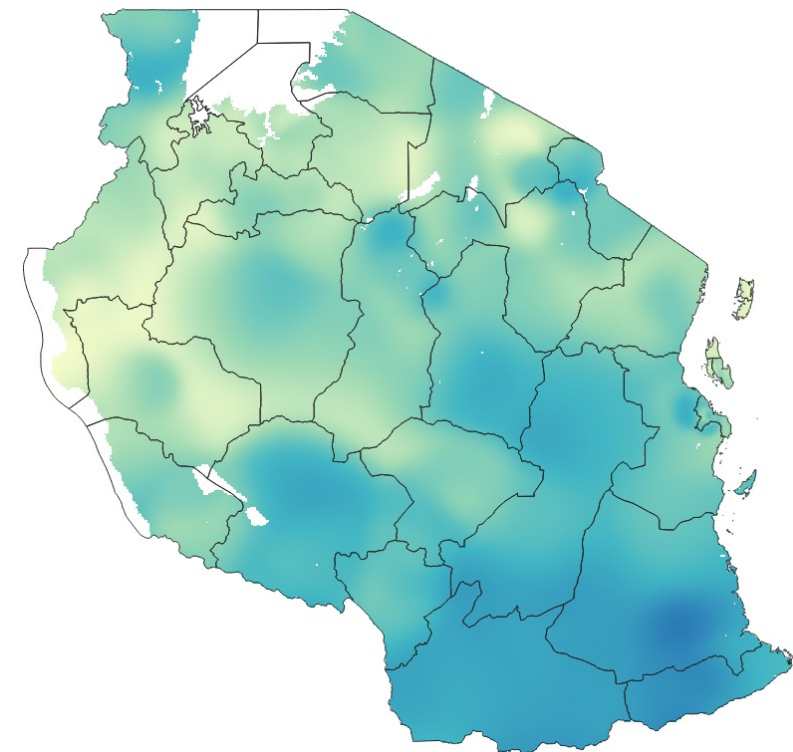
Tanzania: mCPR and private sector use

Private sector market share does not account for levels of mCPR; could have low mCPR but high private use or vice versa. Combining with mCPR gives a better sense of utilization of private services.

mCPR

Private market share

Private prevalence



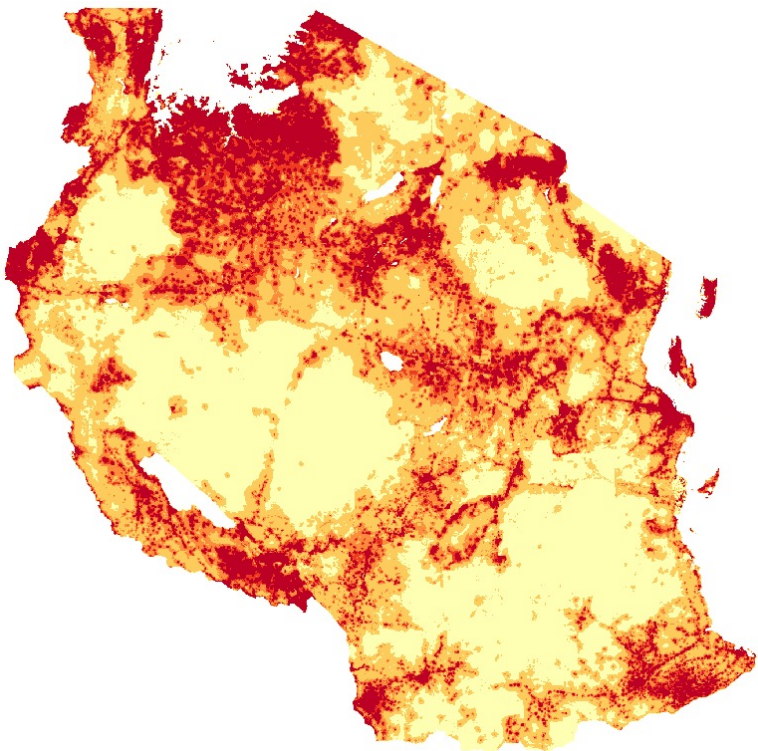
Source: DHS 2015-16



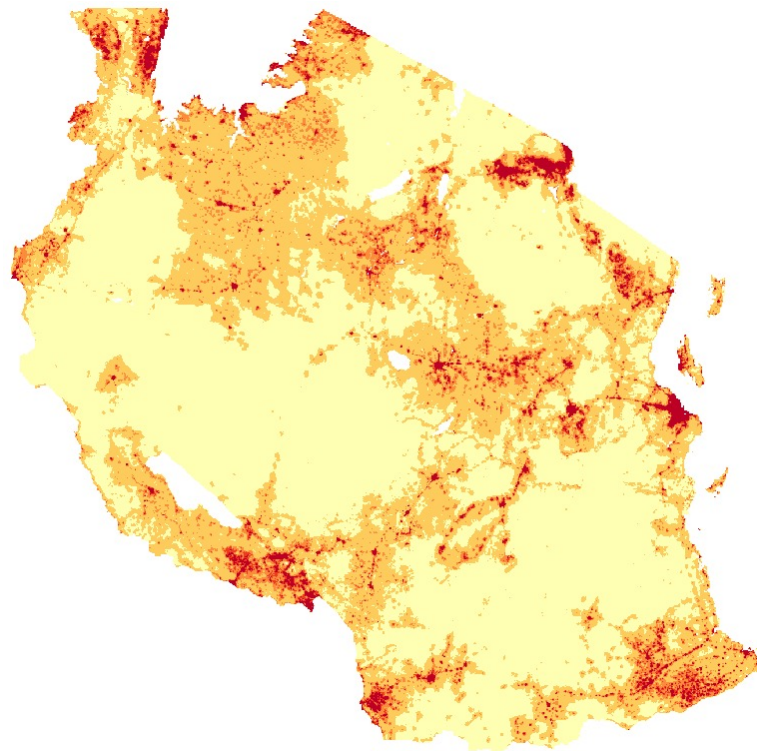
Tanzania: women, users and private users

Absolute numbers useful to think about how to focus services and distribution of commodities

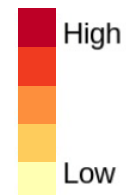
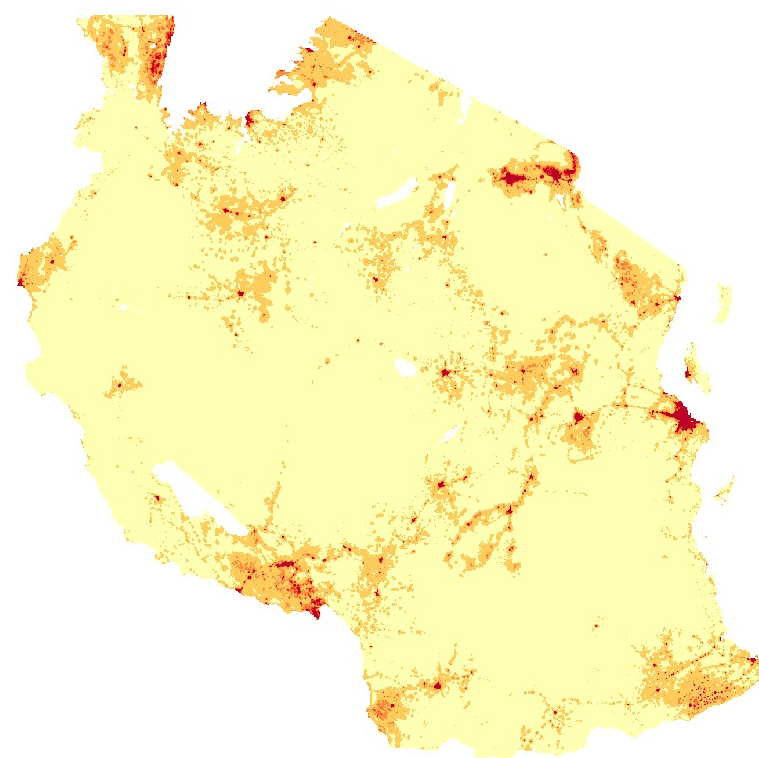
Population of women 15 - 49



Modern method users



Private users

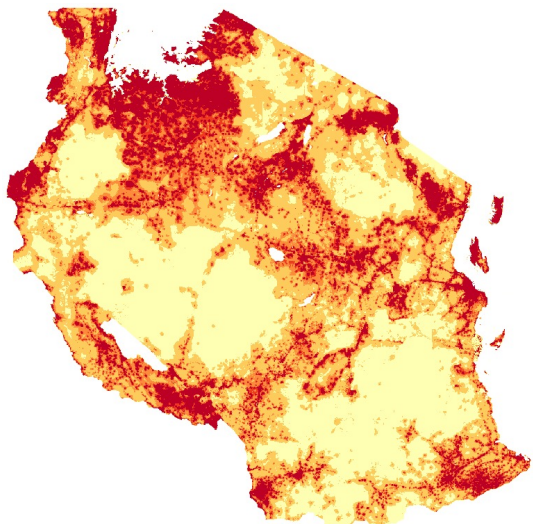


Source: DHS 2015-16, WorldPop

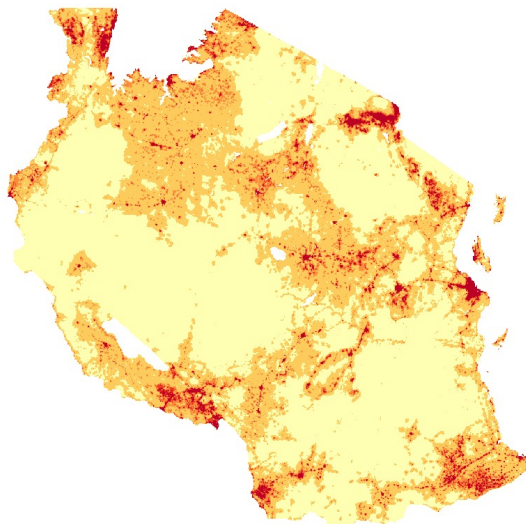


Tanzania: women, users, unmet need, and public/private users

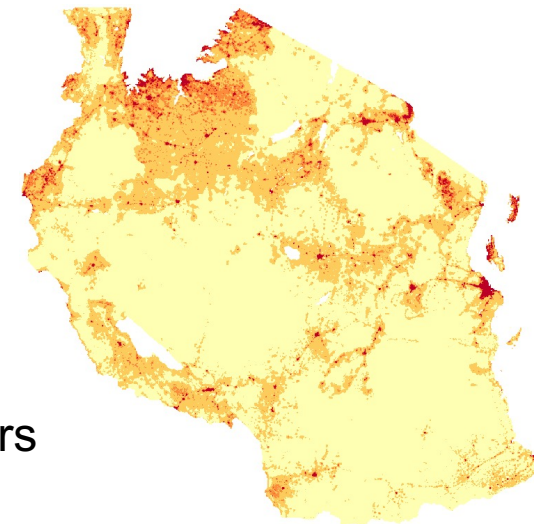
Population of women 15 - 49



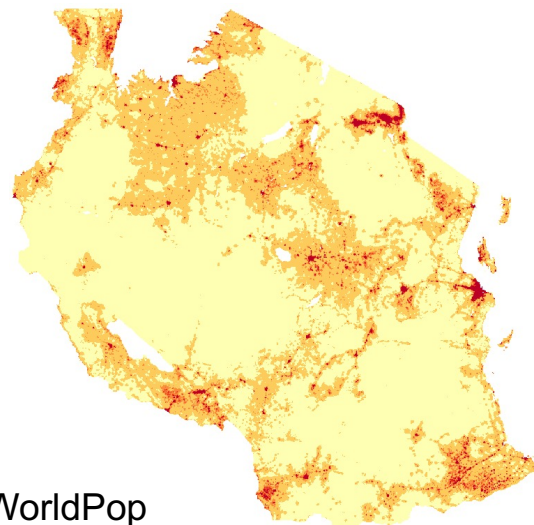
Modern method users



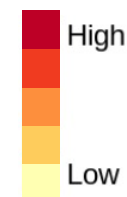
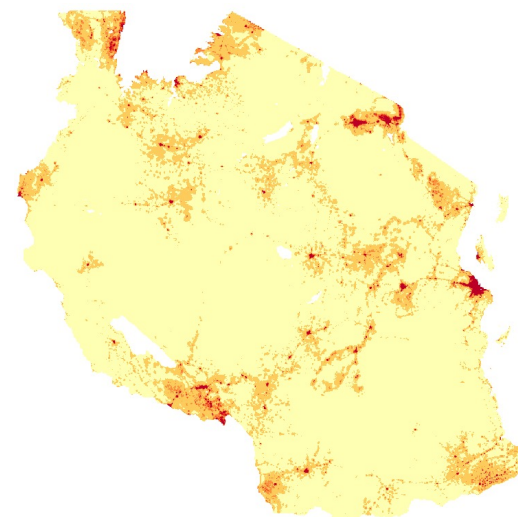
Unmet need



Public users



Private users

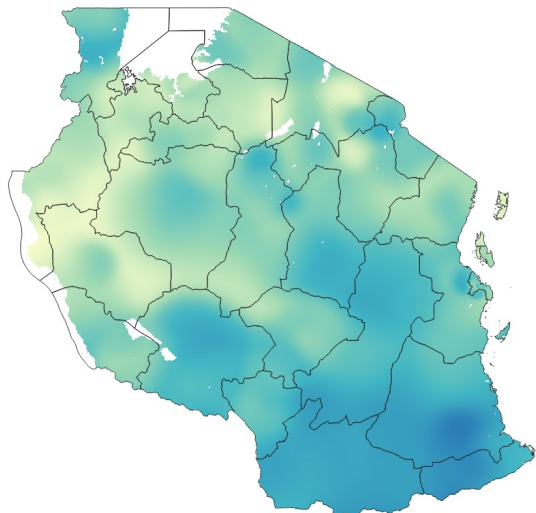


Source: DHS 2015-16, WorldPop

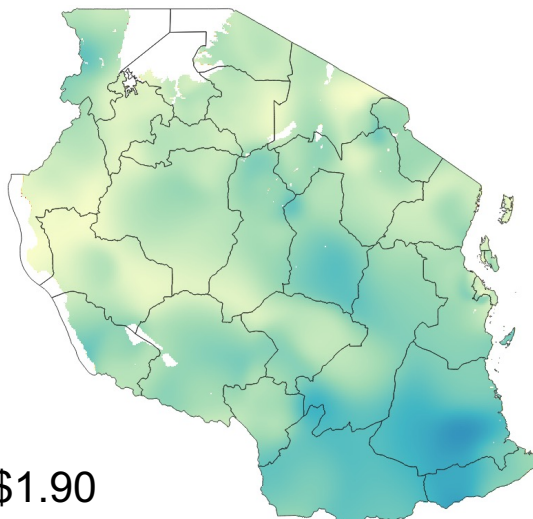


Tanzania: mCPR, private and public sector use, and income levels

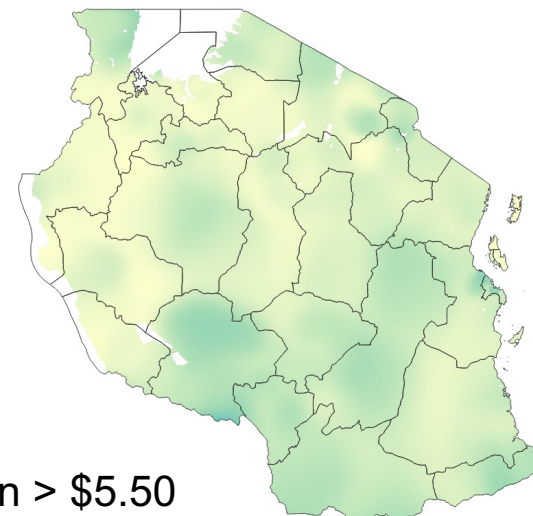
mCPR



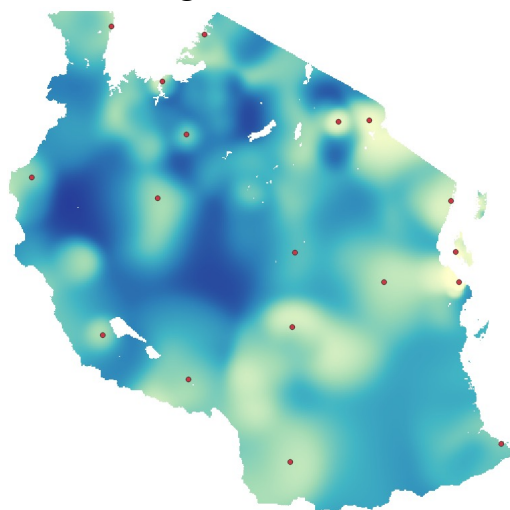
Public prevalence



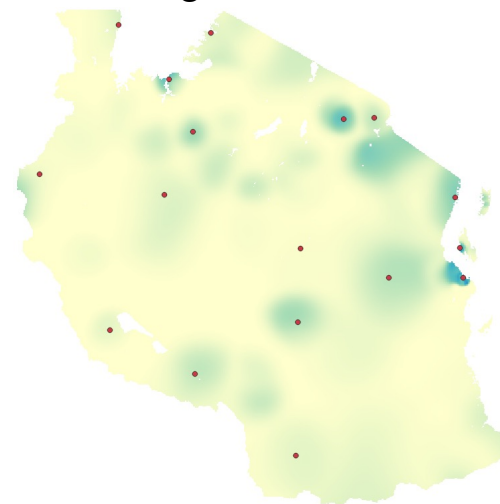
Private prevalence



% living on < \$1.90



% living on > \$5.50



Source: DHS 2015-16



Tanzania: cities and roads with private market share

