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Frontier Health Markets (FHM) Engage

MARKET SIZING REPORT

An Innovative Approach to Diagnosing Market Constraints and Opportunities by Measuring and Visualizing Sub-market Size

September 15, 2023

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Acronyms

ADDOs	Accredited Drug Dispensing Outlets
A2IE	Asset to Income Estimator
CHAI	Clinton Health Access Initiative
CYP	Couple-Years of Protection
DHS	Demographic and Health Surveys
EC	Emergency contraceptives
FP	Family Planning
FPET	Family Planning Estimation Tool
GPS	Geographic position system
INLA	Integrated Nested Laplace Approximation
IUD	Intrauterine device
LARC	Long Acting and Reversible Contraception
LEAP	Landscape and Projection of Reproductive Health Supply Needs
LMICs	Low- and middle-income countries
mCPR	Modern contraceptive prevalence
MICS	Multiple Indicator Cluster Survey
MSI	Marie Stopes International
OCPs	Oral contraceptive pills
RHSC	Reproductive Health Supplies Coalition
SAE	Small area estimation
SHOPS	Strengthening Health Outcomes of Private Sector
TMA	Total Market Approach
VAN	Visibility and Analytics Network
WRA	Women of reproductive age

Background

The Frontier Health Markets (FHM) Engage is a United States International Agency for Development (USAID) project that aims to strengthen health markets to improve health outcomes in mixed health systems. FHM Engage focuses on strengthening local health markets to optimize public and private sector engagement to contribute to sustainable market efficiencies and increased access to family planning, maternal and child health, and other health services, products, and information.

The project has two main result areas: 1) improved market environment for greater private sector participation in the delivery of health products and services, and 2) improved equal access to and uptake of high-quality consumer driven health products, services, and information. Contributing towards the first result area, intermediate result 1.4 (IR1.4) aims to increase effective collection, integration and utilization of private sector data and market intelligence to inform public and private-sector decision making.

Year 1 activities under FHM Engage identified available global and country specific data sources on private sector size and market functions. These activities revealed a lack of reliable information to estimate contraceptive market size, particularly at sub-national levels. Subsequent market descriptions for specific health products in Tanzania further revealed areas in need of improved market intelligence.

In year 2, the FHM Engage team in Tanzania conducted a high-level overview of the family planning (FP) market to identify areas of opportunity in which the private sector may be well positioned to help improve access to and uptake of key services and products to target populations who are currently not well-served. The team noted that unmet need for FP remained unchanged over the last two decades, a factor that remains especially high among young women. While the market description identified regions and demographic groups in which FP uptake has fallen behind, the lack of more detailed subnational market intelligence poses a major obstacle to strengthening private sector engagement in increasing access to and use of modern contraceptive products. Data pertaining to the supply and demand of contraceptive products and services is often unavailable, of poor quality, or too sparse to draw conclusions from. Consequently, this activity aims to apply small area estimation techniques to the FP market in Tanzania to enable market actors to identify geographic areas of opportunity for improving the provision of modern contraceptives by understanding where demand for different contraceptive products and services exist and allow for better targeting of interventions and products. It also provides market actors with a quantification of current and potential private sector contraceptive product volume, and real dollar value, with the intention of spurring interest and action from a commercial perspective.

Existing tools available on market size estimation

Various market size estimation approaches have been used in FP. Several widely utilized estimation methods primarily focus on quantifying proportion or number of users and total volume of products at a national level across numerous countries, including the Clinton Health Access Initiative (CHAI) Family Planning Market Report,[1] the DKT's Contraceptive Social Marketing Statistics,[2] the Family Planning Estimation Tool (FPET),[3] Private Sector Counts,[4] the FP Market Analyzer,[5] and the Landscape and Projection of Reproductive Health Supply Needs (LEAP) / Commodity Gap Analyses.[6] Two existing

tools focus on estimating the size of public sector FP markets. The CHAI Family Planning Market Report quantifies the total public sector FP procurement market in the 83 low- and lower-middle-income countries,[1] and the Global Family Planning Visibility and Analytics Network (FP VAN) serves as a supply chain networking platform where up-to-date information along the supply chain of public sector FP commodities are available.[7]

Other tools also enable exploring patterns of public and private sector contraceptive use. The USAID funded Private Sector Counts uses Demographic and Health Survey (DHS) data to provide proportion of contribution of the public and private sectors to sick child care and FP service delivery.[4] The USAID funded Family Planning Market Analyzer combines data from the DHS and projections of modern contraceptive prevalence (mCPR) from FP2020 to take a total market approach at exploring how changes in public and private actors' market activities might alter mCPR.[5] Besides the Global FP VAN, Reproductive health Supplies Coalition (RHSC) has been conducting the LEAP / Commodity Gap Analyses, which provides estimates of the number of modern contraceptive users by methods and sector source (public vs. private), and the related costs nationally.[6] Their report provides results on all 129 low- and middle-income countries (LMICs), and aggregated information on multiple countries by region or income group. While national level estimates and utilization patterns by key demographics are crucial for understanding the overall market, market actors often need subnational information that is contextualized and geographically relevant to their specific business activities in order to allow for better decision making around how to target interventions and products within a country.

Lessons learned from Tanzania private sector interviews

During visits to private importers, distributors, and contraceptive wholesalers in Tanzania in September 2022 by FHM Engage and M4M, private sector stakeholders disclosed several challenges related to demand estimation. Due in large part to insufficient market intelligence, these private actors reported often struggling to accurately forecast demand, leading to procurement throughout the supply chain often being reactive in nature and resulting in delivery delays and unsatisfied demand. Despite manufacturers', importers', and large distributors' interest in better satisfying future demand as well as in introducing new products into the Tanzania contraceptive market, their difficulties in accurately forecasting demand deterred such decisions.

Small area estimation approaches

Small area estimation (SAE) techniques comprise of a family of statistical methods that are characterized by their focus on estimation of parameters for small domains from larger survey data. Domains may refer to geographical area units – such as regions, counties, or districts – or demographic characteristics that the survey is not powered to measure with adequate precision. These techniques are applied to address the challenge of not having enough sample size to attain a desired precision, due to the sparseness of the data of the sub-populations. Small area estimation techniques have been applied in a wide variety of disciplines, including health, demography, agriculture, and environmental planning. Within health, small area estimation techniques have been applied to estimate HIV prevalence, child mortality, malaria, vaccination coverage, and FP.[8–13]

The approach outlined below advanced upon two previous examples of SAE in FP. Designed to combine available data to track progress by generating annual estimates of contraceptive prevalence, unmet need

for contraception, and demand for family planning satisfied, the Family Planning Estimation Tool (FPET) considered multiple data sources in generating the model estimates[3]. While the tool can also be run at subnational levels,[14] it requires users to manually enter data points for their own country data.

A second important resource was Sustaining Health Outcomes through the Private Sector (SHOPS) Plus's own work into estimating examining contraceptive use patterns at lower geographic levels. Recognizing the need to understand geographic differences within a country, SHOPS Plus developed a set of continuously scaled choropleth maps for Tanzania, Guinea, Kenya, Uganda, and Nepal that visualize key contraceptive use indicators, including public and private sector utilization rates.[15] While visualization of continuous geographical variation of the indicators can be helpful for advocacy purposes, it can be challenging to use results from this method to quantify the number of existing or potential modern method users or relative popularity of different contraceptive methods within a particular administrative unit. For Tanzania in particular, we confirmed that the results were not shared with private sector stakeholders, making it unclear as to whether the information provided served their needs.

These earlier examples of using SAE to estimate modern contraceptive utilization patterns offer valuable information; however, they each struggle to present existing data in a form that appropriately addresses private sector actors' business intelligence needs. In this report, we present 1) an application of a model-based SAE approach that offers indicator values bounded within administrative region boundaries that allows users to estimate the population size of the number of current and potential new users of private sector contraceptive products at a sub-national scale, as well as for several contraceptive methods of interest, and 2) an estimation of the current and potential private market volume and value of several contraceptive methods of interest nationally. Preliminary findings were shared with Tanzania private sector stakeholders, and their feedback is incorporated into model assumptions and estimates. This report offers a new, multi-pronged analytical approach uniquely designed to meet private sector business intelligence needs.

Framework and methodology

Conceptual Framework

Understanding that private sector stakeholders would like highly detailed information of the contraceptive market to facilitate making market entry and expansion decisions, we began the process by considering the different types of market information that would be useful. We applied the 5P's of Marketing[16]: People, Place, Price, Promotion, and Product, as a framework that guides the market information estimation.

To better understand market opportunities, we focused on estimating the following:

- People – estimating the size of the current and potential client base on modern contraceptives.
- Place – users of modern contraceptives obtaining from a private source and density of private facilities.
- Price – users and potential users of modern contraceptives with financial capacity.
- Promotion – proportion of non-private users and non-modern method users who may become private sector users.
- Product – users (subnational), volume, and value (national) of contraceptive products by type.

FIGURE 1: THE 5 P'S MARKETING FRAMEWORK

These estimates, together, resulted in two complimentary sets of analytic outputs: 1) maps visualizing subnational variations in estimates of modern contraceptive users and potential users, and 2) national level contraceptive market volume and value estimates.

Analytic outputs

→ Maps visualizing subnational estimates

→ National level volume and value estimates

Given the limitations in existing data, we consulted with FHM Engage Tanzania staff to identify and understand available data sources that may contain relevant information identified, as well as through conducting search of the available relevant literature.

To ensure usability of the analytic results by the private sector, we presented a description of the methodology and analytic results to a group of private sector stakeholders in Tanzania. Private sector stakeholders included the social marketing organizations T-MARC, DKT Tanzania, and MSI Reproductive Choices, as well as a local private importer and distributor – Jilichem. Discussion with the stakeholders generated feedback and comments to make several adjustments to the methodology that are incorporated in this report to enhance the utilization of the estimations to identify market opportunities for private contraceptive products. Details regarding the final data and analytic approach are described in detail in the following section.

Data

→ Cross-sectional survey data

Survey data comes from Tanzania DHS 2010 and 2015-16.[17,18] DHS are nationally representative household surveys that serve as an important information source to gauge demand for contraceptive products. To conduct district-level estimation, we utilized DHS that contain associated geographic position system (GPS) data to allow accurate assignment of clusters to current administrative boundaries (district) in Tanzania.

For each survey, individual level data describing the use of modern contraceptives, source of modern contraceptives, traditional contraceptive usage, and unmet need were extracted, along with age, wealth quintile and GPS location. We used the revised definition of unmet need for contraception.[19]

→ Global administrative areas (GADM) shapefiles

GADM shapefiles version 4.1 for administrative boundaries one and two were used to enable small area estimation analysis and the resulting illustrations as sub-national maps at district and regional levels.[20]

→ Census

Population size for women of reproductive age (WRA, age 15-49) and young women (age 15-24) was extracted for all districts and regions in Tanzania from the most recent Tanzania Census (2022).[21]

→ Health facility registry

Data on location and ownership of various health facilities were extracted from the Tanzania Health Facility Registration System.[22] Data containing the address of operating pharmacies and Accredited Drug Dispensing Outlets (ADDOs) were obtained from the Pharmacy Council in Tanzania.

TABLE 1: INFORMATION EXTRACTED BY DATA SOURCE

Data source	Information
DHS surveys	Individual level data on: • Contraceptive use, by method • Contraceptive need • Contraceptive source • Demographic information • Wealth quintile • Location information • Age
Asset to Income Estimator	• Median daily household income (3rd wealth quintile) ~ $12.50 (USD)
Census	Population of women of reproductive age (age 15-49) and young women (15-24) by district and region
Health facility registry	• Private health facilities • Pharmacy • ADDOs • Location information

Analysis

Key analytic terms and definitions

We conceptualized women included in these analyses as belonging to one of two groups: 1) current modern contraceptive users or 2) potential modern contraceptive method users. Current modern method users include women who report currently using any modern method of contraception. Potential modern method users include women having an unmet need for family planning (defined as women who do not want to become pregnant, either for ending childbearing or delaying the next pregnancy, and who are not using a contraceptive method) and women who report using traditional contraceptive methods.

We approximated women's ability to pay by their financial capacity. We defined women living in a household in third wealth quintile or above as having financial capacity to potentially obtain contraceptive products from the private sector. In order to contextualize relative wealth, we used M4M's Asset to Income Estimator (A2IE) tool.[23] The A2IE tool uses asset-based wealth rankings from the DHS or Multiple Indicator Cluster Survey (MICS) and national income distribution data[24] to estimate median individual and household incomes by wealth quintile. Using the A2IE tool, these women are estimated to have a median daily household income of at least $12.50 USD. This threshold was validated by the private sector stakeholder group.

Rationale for our definition of financial capacity

We approximated women's ability to pay for their choice of contraceptive methods by considering their household wealth quintile. Women being in a household in the top three wealth quintiles currently using a modern contraceptive method were significantly more likely to have obtained their method from a private sector source (29.5 percent) than those in the lowest two wealth quintiles (12.8 percent). Using the A2IE tool, household daily income in the lowest two wealth quintiles was below USD 10, reflecting limited disposable income.

Among the modern contraceptive users, we then considered where women obtained their contraceptive products. We categorized the source of contraceptive products into two groups: private sector and public sector (see table 2). The definition needed to be binary and comprise all respondents, and consequently, the public sector category included both government supported facilities, as well as those whose source of contraceptives was friend/relative/neighbor (1.24% in DHS 2015-16). All these women have the potential to change their contraceptive source to private sector. For public sector users, we estimated those with financial capacity to illustrate the number of users who can potentially pay for their contraceptive products in the private sector.

TABLE 2: ANALYTIC TERMS AND DEFINITIONS

Terminology	Definition applied
Private sector	Includes for-profit, non-profit, social-marketing, and faith-based organizations, shops/kiosk
Public sector	Government, friend/relative/neighbor
Short-term contraceptive methods	Condoms, oral contraceptive pills, injectables, emergency contraception
Long-acting reversible methods	Intrauterine device, implant
Financial capacity	Women living in a household in third or higher wealth quintile (median daily household income of at least $12.50 USD)

Sub-analyses were also conducted for users of certain short-term and long-acting reversible contraceptive (LARC) methods – specifically, injectables, oral contraceptive pills (OCPs), and implants. For each method, estimates were generated for 1) obtaining from the private sector, and 2) obtaining from the public sector and with financial capacity. Due to the very low proportion of EC users and IUD users from the DHS data, sub-national use estimates were not generated for these methods.

The analytic model to calculate small area estimates was applied for each of these indicators, for both all women of reproductive age, and for young women (age 15-24).

Analytic model for sub-national estimation of indicators

We applied a Bayesian hierarchical model framework by Mercer, Lu, and Proctor,[25] which integrates multiple surveys, survey designs, and levels of uncertainty and allows for a spatiotemporal smoothing of estimates. The model requires data from at least two surveys. The models assume that there is an underlying rate of the indicators and the direct survey estimates are measurements with associated uncertainty. Spatially structured random effects were included to provide geographical smoothing at the subnational area and temporally structured space-time interaction was included to account for subnational temporal trends.

We fit the models using R computing language, adapting the analysis codes from the associated GitHub repository of the Mercer et al. paper.[26] The hierarchical Bayesian space-time model was fit using the Integrated Nested Laplace Approximation (INLA) package in R.[27] We computed the median estimates for each indicator at the specified administrative level mentioned above.

The model returns a proportion, which we converted to a real number of women representing each current and potential use category. To generate the number of women for each indicator (table 3), we multiplied the estimated proportion of the indicators for the most recent survey year to 2022 Tanzania Census population data at the corresponding geographical area. Finally, results were displayed on maps at the district or regional level as appropriate. Maps were generated using R computing language.

As the precision of estimates largely depends on the abundance of data for each indicator, indicators that are more common were estimated at the district level while those that specify the source of modern contraceptives and types of modern contraceptive method were estimated at regional level.

TABLE 3: SUB-NATIONAL ESTIMATION OF CONTRACEPTIVE USERS, POTENTIAL USERS, AND ASSOCIATED INDICATORS

Type of users	Indicator	Level
Current modern method users	WRA using a modern contraceptive method ➢ All ➢ Private source vs. public source with financial capacity ➢ By method type: private source vs. public source with financial capacity	 District Region Region
Potential modern method users	WRA with an unmet need for contraception or using a traditional method ➢ All ➢ Those with financial capacity	 District District

National estimation of volume and value by types of contraceptive product

In addition to estimating the number of current and potential users at district and regional levels, we calculated the current and potential market size, in terms of number of clients and annual revenue, of

the Tanzania private sector market for the four contraceptive products of interest. We applied the national-level population for Tanzanian women aged 15 to 49 from the 2022 Tanzania Mainland and Zanzibar censuses to the proportions reported in the 2015-16 Tanzania DHS (most recent DHS survey data available). From the DHS survey, we estimated:

- → Proportion 1: The proportion of WRA currently using one of the four modern contraceptive methods (methods of interest) last obtained from a private sector source
- → Proportion 2: The proportion of WRA currently using one of the four modern contraceptive methods last obtained from a public sector source
- → Proportion 3: The proportion of WRA defined as having an unmet need for contraception
- → Proportion 4: The proportion of WRA currently using a traditional method of contraception

The first set of estimates focused on the current private sector market size for the four contraceptive methods of interest. These methods include: injectables, OCPs, IUD, and implants. We applied Proportion 1 for each of the four methods to the population of WRA from census to obtain an estimated number of WRA that use each method obtained from the private sector. For the two short-term methods (injectables and OCPs), we then multiplied each method by its respective Couple-Years of Protection (CYP),[28] to determine, on average, the number of product units of each method that could be expected to be sold annually to provide each woman a year's worth of prevention from pregnancy. For the long-acting reversible methods, we assumed the annual unit sales to be the same as the number of users obtained from the private sector for that method. We also calculated private sector market value for each of the four contraceptive products by multiplying the annual units sold of each method by its average retail price, as previously estimated by FHM Engage retail surveys conducted in 2022 (table 4).[29] These analyses resulted in an estimate for the number of current private sector clients of each method, annual unit sales of each method, and annual revenue for each method.

TABLE 4: PRODUCT PRICING APPLIED FOR VALUE ESTIMATION

Topic	Source	TZS per unit	TZS per year	USD per unit	USD per year
Injectables	Retail surveys	TSh 3000	TSh 12000	$1.23	$4.92
OCPs	Retail surveys	TSh 2100	TSh 31484	$0.86	$12.91
EC	Retail surveys	TSh 4333	TSh 86667	$1.78	$35.53
Implants	UNFPA catalog	TSh 20742		$8.50	
IUDs	Retail surveys	TSh 25000		$10.25	

Next, we sought to illustrate the potential increase in market size that might result from policy makers' and/or businesses' actions to create a more enabling environment for private sector engagement in the broader Tanzania market for contraception. We began by considering two groups of potential new private sector clients: Convertible Modern Method Users - women who currently use a modern contraceptive method from a public sector source (Proportion 2) - and Convertible Potential Modern Method Users – women who have an unmet need for contraception and those currently using a traditional method of contraception (Proportion 3 + Proportion 4). Calculation of the population size of these two groups followed a similar process as described for the current private sector client population, in which we multiplied Proportions 2, 3, 4 each by the total population of WRA in Tanzania. To estimate the potential increase in market size, three major assumptions were made:

- → Assumption 1: The proportion of Groups 1 and 2 that have the financial capacity to obtain contraceptive methods from a private sector source
- → Assumption 2: The number of Convertible Modern Method Users that could conceivably become private sector clients under the right circumstances
- → Assumption 3: The number of Convertible Potential Modern Method Users that could be convinced to adopt a method and to obtain that method from a private sector source

We consistently defined having financial capacity to obtain contraceptive products from a private sector source as belonging to household in top three wealth quintiles, as noted above. Based on their relatively greater capacity to obtain products from the private sector (Box 1), Assumption 1 refined our universe of potential new clients to those WRA belonging to households in the top three wealth quintiles.

For Assumption 2, to determine the proportion of Convertible Modern Method Users who could be expected to seek products from the private sector, we considered private sector utilization rates of peer countries to Tanzania. Upon discussion with technical staff from FHM Engage in Tanzania, we determined that Kenya could serve as an aspirational example for Tanzania due to its more enabling market environment that has resulted in great private sector utilization for contraceptive products. Based on analyses of the 2021-2022 Kenya DHS,[30] private sector utilization among women in a household in the top three wealth quintile using the four contraceptive methods of interest was 39.5%. If Tanzania had comparable private sector utilization for the four contraceptive methods of interest as that found in Kenya, 8.75% of current public sector Tanzania clients could be expected to seek their method from the private sector.

A different proportion of private sector extension was required for Assumption 3 than used for Assumption 2. This is because additional considerations must be made when estimating the proportion of current non-users who might adopt a modern contraceptive method. We searched the existing literature to identify examples of interventions that the private sector might be able to implement to increase client uptake. The most useful evidence came from a recent randomized trial in Burkina Faso which found that an intensive evidence-based family planning campaign delivered through radio increased mCPR by 5.9 percentage points.[31] As not all of these new modern contraceptive adopters would seek products from the private sector, we applied the private sector utilization proportion in Kenya for the four methods of interest (39.5%) to come to the conclusion that under similar circumstances 2.3% of current non-users in Tanzania (women with an unmet need or traditional method users, with financial capacity) could be expected to become private sector modern method users.

EC volume and value estimation

Besides the four methods identified above, EC was also a method of interest for the private sector. However, key challenges have been identified in the accurate measurement and monitoring of EC use.[32,33] Unlike other modern contraceptive methods, EC is used to help women prevent pregnancy after sexual intercourse, often in instances of contraceptive non-use, contraceptive failure, incorrect use, or forced sex. While EC is included as an option in the DHS as a response to current contraceptive method use, women may not report using EC currently because it is not used regularly or during intercourse. Previous research has shown the conventional approach (used in DHS) to measure EC use largely underestimates EC use in the past 12 months.[32]

Recognizing the shortcoming of using DHS to estimate EC use, we presented the estimation of EC volume and value using the same methodology as other contraceptive methods to the private sector stakeholders, who also confirmed that the EC volume was substantially underestimated.

Due to existing EC measurement challenges and a lack of alternative market data for EC use in Tanzania, we chose to collect sales data from known EC distributors to provide an aggregate estimate of the private sector market volume and value of EC as an alternative approach. The volume of EC distributed by social marketing organizations was extracted from DKT's Contraceptive Social Marketing Statistics report,[2] while the volume of EC distributed by other private sector actors was obtained by in-country FHM technical staff through direct inquiry to businesses licensed to import and distribute EC in Tanzania in August 2023. Information on EC distribution was obtained from the social marketing organizations MSI Reproductive Choices, T-MARC Tanzania, and DKT. For-profit distributors contributing data included Jilichem Tanzania Ltd, Salama Pharmaceuticals, Holley Pharm, and Abacus Pharma.

Results

Sub-national estimation of indicators

It is important to note that as of the date of submission of this report, Tanzania DHS 2022 individual data has not yet been made available. As such, results presented here are illustrative. This section includes estimations for WRA (age 15-49). Estimations for young women (age 15-24), as well as tables of estimated numbers at subnational level that populate each map are included in the Annex.

→ Current modern contraceptive users

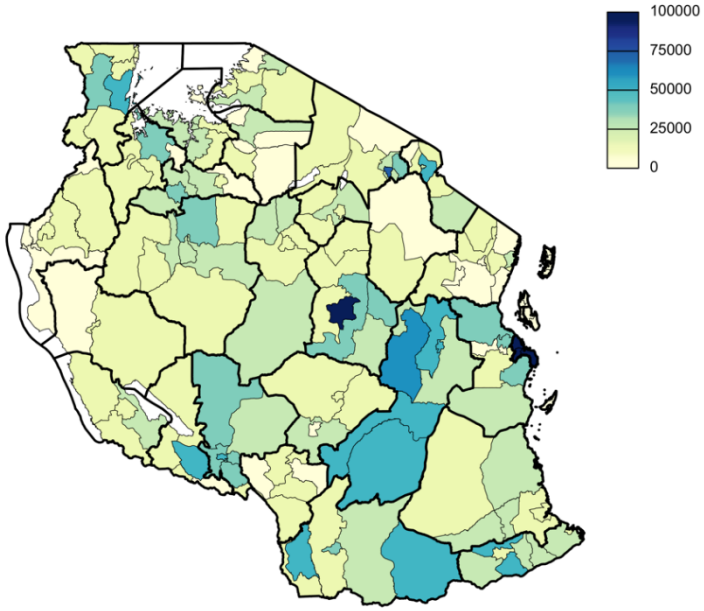


FIGURE 2: NUMBER OF WRA USING A MODERN CONTRACEPTIVE METHOD BY DISTRICT

Figure 2 illustrates the number of women using a modern contraceptive method at a district level. The map shows the uneven distribution of modern contraceptive users across the country. While some highly populated districts contain the highest number of women using a modern contraceptive method, other high population districts (e.g., Geita and Kasulu) have much lower number of modern contraceptive users.

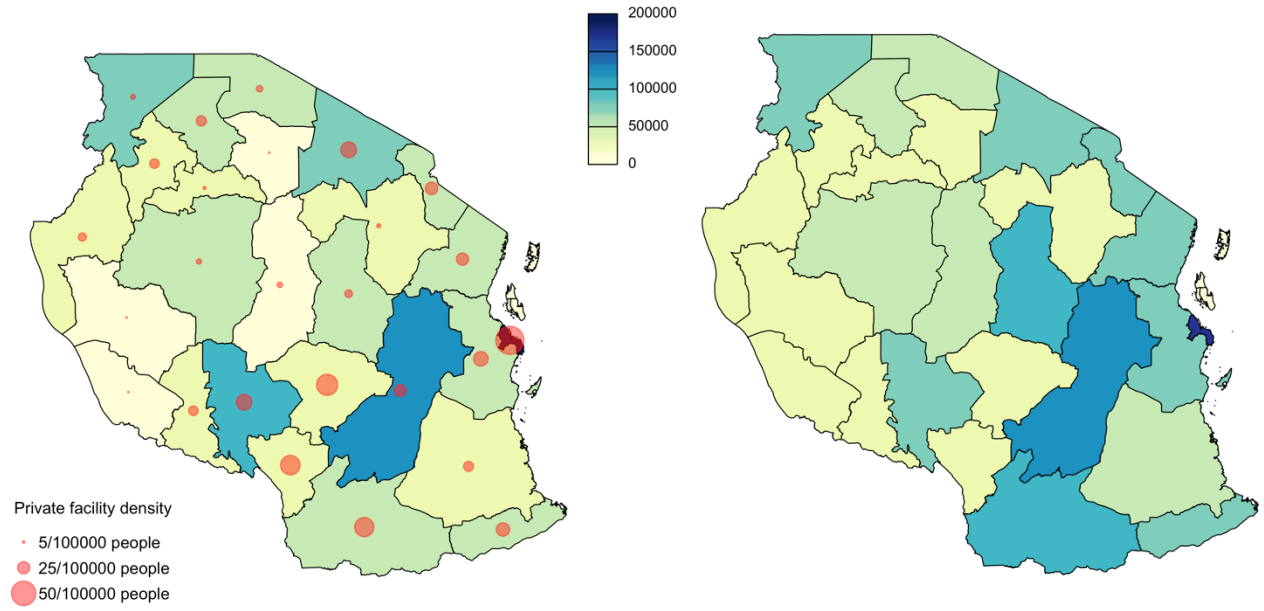
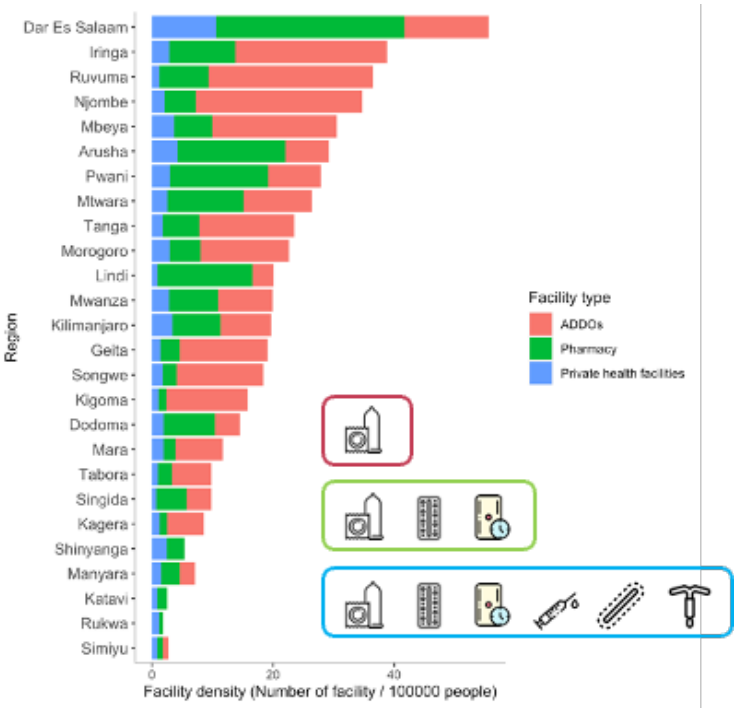


FIGURE 3: NUMBER OF WRA USING A MODERN CONTRACEPTIVE METHOD A) FROM A PRIVATE SECTOR SOURCE OVERLAYED WITH PRIVATE SECTOR FACILITY DENSITY (LEFT), B) FROM A PUBLIC SECTOR SOURCE WITH FINANCIAL CAPACITY BY REGION (RIGHT).

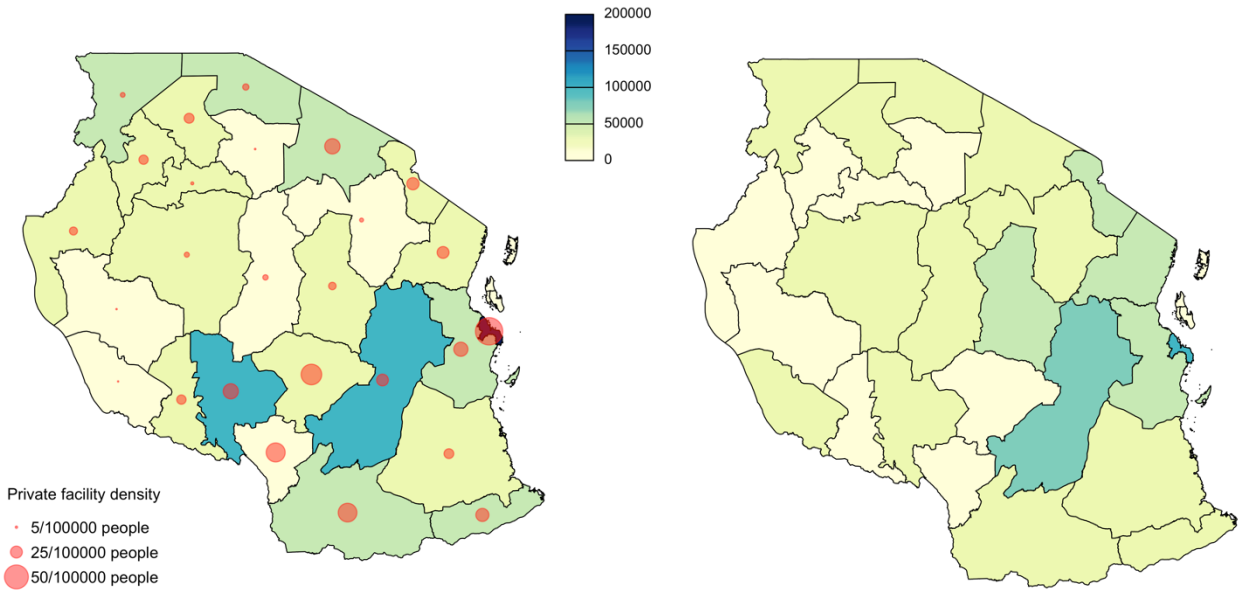


Figures 3a and 3b illustrate by region the source of women's contraceptive method. Figure 3a shows the number of women using a modern contraceptive method obtained from a private sector source, while figure 3b shows the number of women using a modern contraceptive method obtained from a public sector source with financial capacity. Comparison of the two maps indicates some regions have higher numbers of women currently using a modern contraceptive method last obtained from a public source who may have the ability to pay for the product in the private sector.

FIGURE 4: PRIVATE FACILITY COMPOSITION AND DENSITY BY REGION.

The red circles on figure 3a indicate the density of private facility for each region, including ADDOs, pharmacies, and health facilities. Figure 4 illustrates the composition of the private facility density by type of facility in each region.

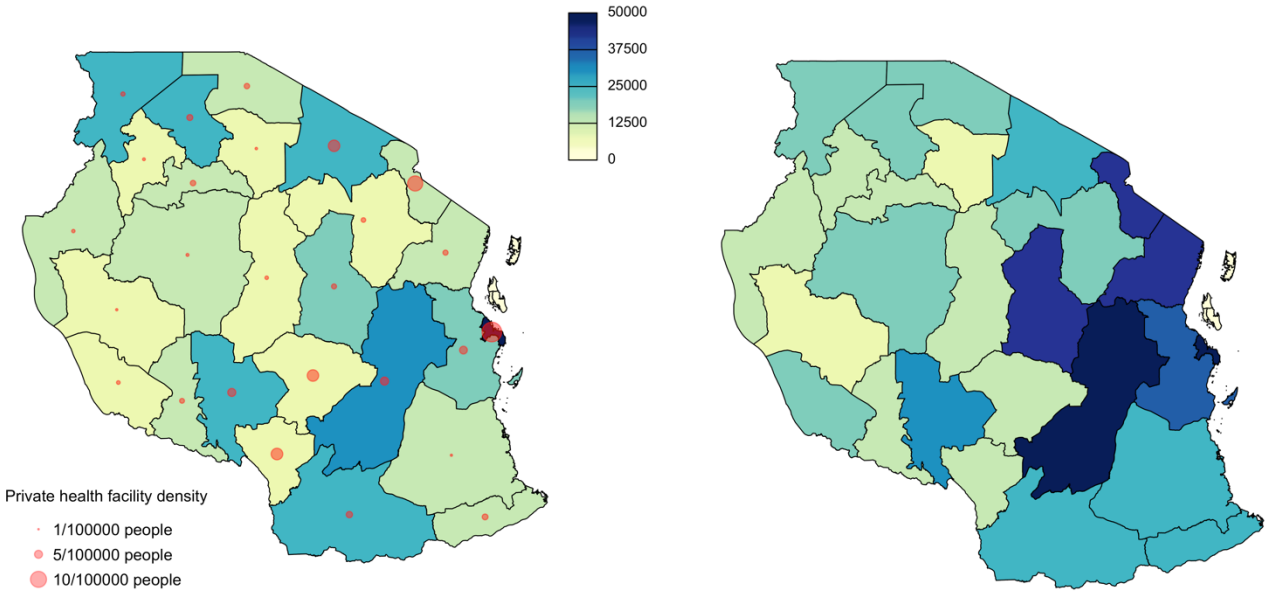
→ Current modern contraceptive users – Short-term methods



FIGURES 5: NUMBER OF WRA USING SHORT-TERM CONTRACEPTIVE METHODS A) FROM A PRIVATE SECTOR SOURCE OVERLAYED WITH PRIVATE SECTOR FACILITY DENSITY (LEFT), B) FROM A PUBLIC SECTOR SOURCE WITH FINANCIAL CAPACITY (RIGHT).

Similarly, figures 5a and 5b show the sector where women obtained their short-term contraceptive products. The red circles on figure 5a include density of all private facilities. Figure 5b shows the number of women who obtained their short-term contraceptive products from a public sector source that are considered as having the financial capacity to obtain them from a private source.

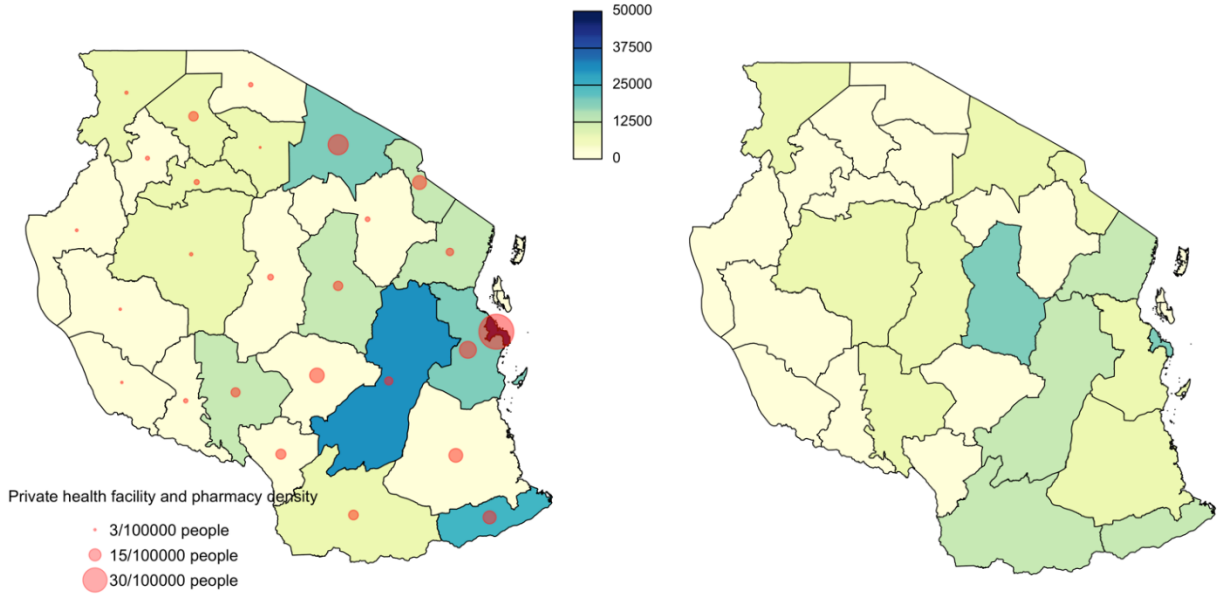
→ Current modern contraceptive users – Injectable contraceptives



FIGURES 6: NUMBER OF WRA USING INJECTABLE CONTRACEPTIVES A) FROM A PRIVATE SECTOR SOURCE OVERLAYED WITH PRIVATE SECTOR FACILITY DENSITY, B) FROM A PUBLIC SECTOR SOURCE WITH FINANCIAL CAPACITY (RIGHT).

Figures 6a and 6b follow the same design while focusing on the number of women using injectable contraceptives. As injectable contraceptives can only be distributed at private health facilities, the red circles on figure 6a include density of private health facilities only.

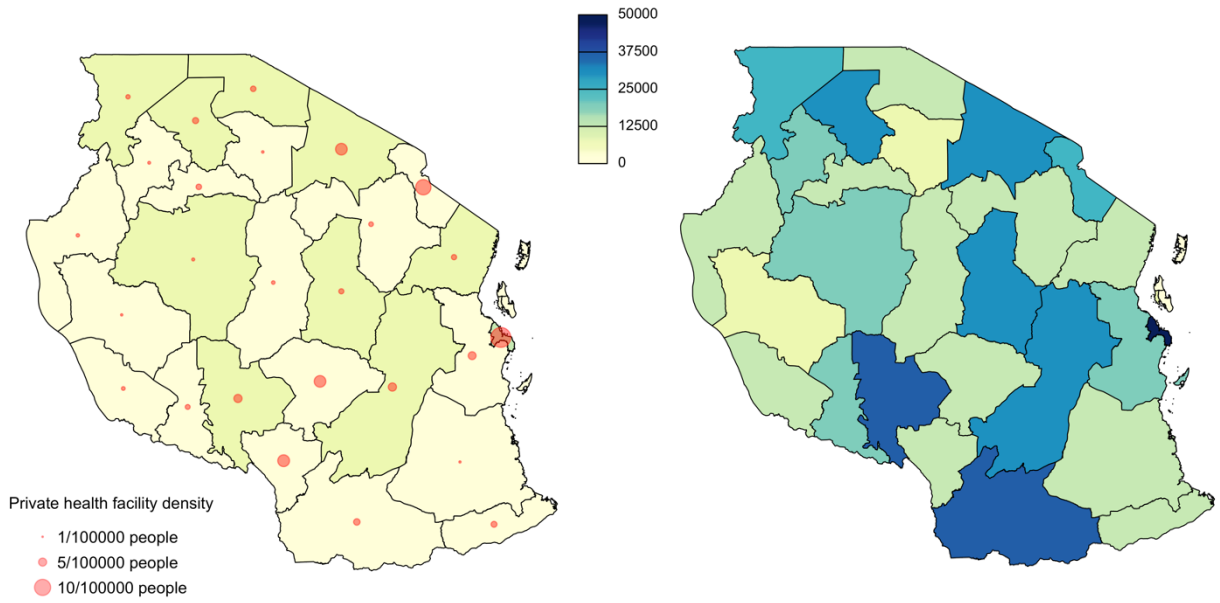
→ Current contraceptive users – Oral contraceptive pills



FIGURES 7: NUMBER OF WRA USING ORAL CONTRACEPTIVE PILLS A) FROM A PRIVATE SECTOR SOURCE OVERLAYED WITH PRIVATE HEALTH FACILITY AND PHARMACY DENSITY (LEFT), B) FROM A PUBLIC SECTOR SOURCE WITH FINANCIAL CAPACITY (RIGHT).

Figures 7a and 7b focus on number of women using OCPs. In Tanzania, OCPs can be distributed in pharmacies and health facilities. As such, the red circles represent the density of these two types of private facilities.

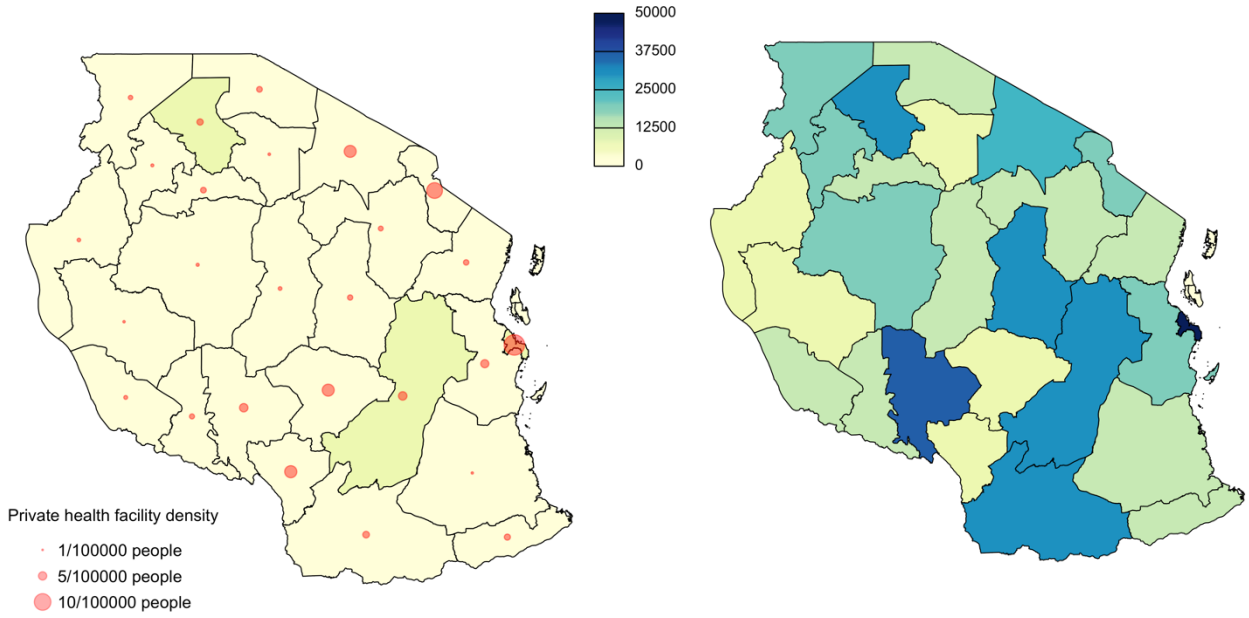
→ Current modern contraceptive users – Long-acting reversible contraceptive methods



FIGURES 8: NUMBER OF WRA USING LARC METHODS A) FROM A PRIVATE SECTOR SOURCE OVERLAYED WITH PRIVATE HEALTH FACILITY DENSITY (LEFT), B) FROM A PUBLIC SECTOR SOURCE WITH FINANCIAL CAPACITY (RIGHT).

Figures 8a and 8b illustrate the estimated number of women using LARC methods by sector source, including intrauterine devices and implants. Comparison of the two maps suggests negligible provision of LARCs in the private sector, despite a significant proportion of LARC users with a financial capacity to pay.

→ Current modern contraceptive users – Implants



FIGURES 9: NUMBER OF WRA USING IMPLANTS A) FROM A PRIVATE SECTOR SOURCE OVERLAYED WITH PRIVATE HEALTH FACILITY DENSITY (LEFT), B) FROM A PUBLIC SECTOR SOURCE WITH FINANCIAL CAPACITY (RIGHT).

Figures 9a and 9b illustrate the estimated number of implant users by sector. In Tanzania, implants are currently not allowed to be directly distributed by the private sector. Only a small proportion of implants were obtained from the public sector be inserted by a provider in the private sector.

→ Potential modern contraceptive users – women with an unmet need for contraception or using a traditional method

Figure 10 illustrates estimated number of women with an unmet need for contraception or women using a traditional contraceptive method at a district level. The map shows that both Dar es Salaam and Geita have highest number of women with a potential to become modern contraceptive users.

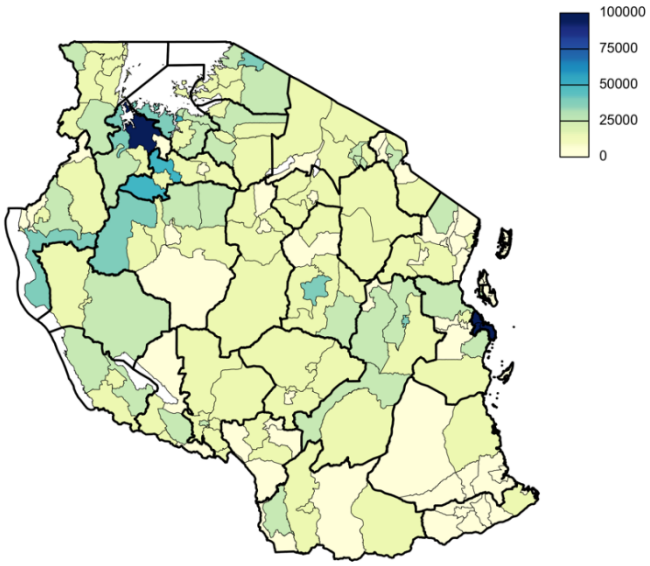


FIGURE 10: NUMBER OF WRA WITH AN UNMET NEED FOR CONTRACEPTION OR USING A TRADITIONAL METHOD BY DISTRICT.

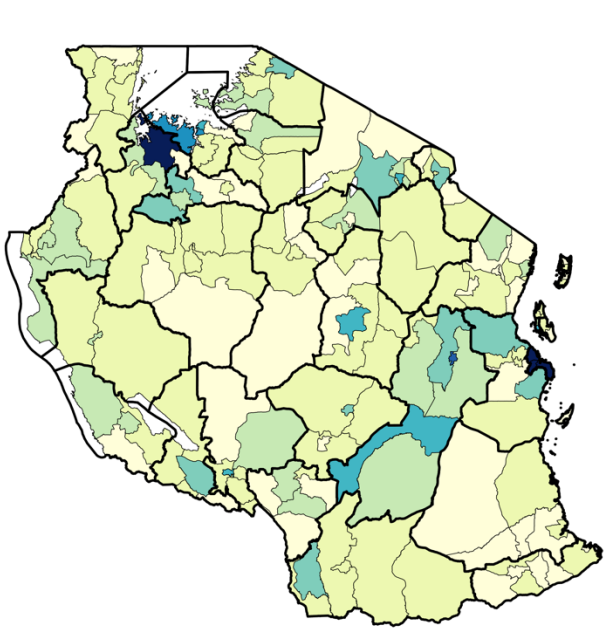


Figure 11 illustrates estimated number of women with an unmet need for contraception or women using a traditional contraceptive method with financial capacity at a district level. Note that the scale was reduced compared to figure 10 in order to reveal the variation by district.

FIGURE 11: NUMBER OF WRA WITH AN UNMET NEED FOR CONTRACEPTION OR USING A TRADITIONAL METHOD WITH FINANCIAL CAPACITY BY DISTRICT.

National estimation of volume and value by types of contraceptive product

Current Market Value

Estimates of the current private sector market size for the four contraceptive methods that could be estimated from Tanzania DHS data can be found in table 5. We estimate that the current retail value of the Tanzania private market for injectables contraceptives, OCPs, implants, and IUDs to be $7,167,000.

TABLE 5: ESTIMATED CURRENT TANZANIA PRIVATE SECTOR CONTRACEPTIVE MARKET VOLUME AND VALUE OF FOUR PRIORITY PRODUCTS.

Contraceptive Product	Estimated current private sector client volume	Estimated annual private sector product volume	Estimated annual private sector product value
Short-term methods			
Injectable methods	481,252	1,925,008	$2,368,000
Oral contraceptive pills	286,352	4,293,000	$3,696,000
Long-term methods			
Implants	89,954	89,954	$765,000

IUDs	32,983	32,983	$338,000
Total			**$7,167,000**

Emergency Contraception Private Sector Market Value

Due to the uncertain validity of DHS data for EC estimation described above, the EC private sector market value was estimated using sales data. We estimate the current Tanzania private market retail value for EC to be $3,232,000. As table 6 indicates, distribution is shared between social marketing organizations and for-profit enterprises.

TABLE 6: ESTIMATED CURRENT TANZANIA PRIVATE SECTOR MARKET VOLUME AND VALUE OF EMERGENCY CONTRACEPTION

Sector	Annual doses	Annual Revenue
Social Marketers	753,000	$1,340,000
For-Profit Distributors	1,063,000	$1,892,000
Total		**$3,232,000**

Potential Market Value Increase

Table 7 illustrates that the estimated Tanzania private market for these contraceptive products would be $1,400,000 larger if the country had a private sector utilization rate similar to that of Kenya. This increase is the result of more public sector contraceptive users deciding to obtain their products from a private sector source and from current modern contraceptive non-users - both those with an unmet need and those using a traditional method - choosing to adopt a modern contraceptive method and to obtain it from a private source.

TABLE 7: ESTIMATED POTENTIAL INCREASE IN TANZANIA PRIVATE SECTOR CONTRACEPTIVE MARKET VOLUME AND VALUE.

Contraceptive Product	Estimated potential private sector client volume increase	Estimated potential annual private sector product volume increase	Estimated potential annual private sector product value increase
Short-term methods			
Injectable methods	89,331	357,324	$439,000
Oral contraceptive pills	59,308	889,620	$765,000
Long-term methods			
Implants	15,336	15,336	$130,000
IUDs	6,429	6,429	$66,000

Total	**$1,400,000**

Estimated Alternative Total Market Value

The alternative Tanzania total private sector market value for the four contraceptive methods of interest was calculated by adding the current market values with those potential new revenues from a more enabling environment. Table 8 shows the new estimated market value under these alternative circumstances.

TABLE 8: ESTIMATED TOTAL PRIVATE SECTOR MARKET VALUE UNDER ALTERNATIVE SCENARIO.

Contraceptive Product	Estimated current annual private sector product value	Estimated potential annual private sector value increase	Estimated total private sector annual value
Short-term methods			
Injectable methods	$2,368,000	$439,000	$2,807,000
Oral contraceptive pills	$3,696,000	$765,000	$4,461,000
Long-term methods			
Implants	$765,000	$130,000	$895,000
IUDs	$338,000	$66,000	$404,000
Total			**$8,567,000**

Discussion

Utility of the approach – feedback from private sector stakeholders

The interactive approach of a workshop discussion allowed robust conversation with private sector stakeholders, who may not be familiar with the methodological approach used in this study. Through a presentation of the study's methods and preliminary results and a facilitated discussion by the FHM Engage team in Tanzania, private sector stakeholders in Tanzania reported understanding the significance of the results and provided overall positive feedback on the utility of the approach. One participant commented that the subnational estimates were "very informative", as they currently rely on primarily national data and some basic subnational data in making business decisions. Additionally, stakeholders noted that having a better understanding of the density of different types of private facilities at the region or district level was particularly helpful in identifying areas to leverage product sales in relation to the types of facilities able to distribute them.

Stakeholders also emphasized that having subnational information on current and potential private sector users by product type was particularly helpful, as private sector actors often focus on specific contraceptive products. While we produced estimates on previously identified priority products, stakeholders requested additional product specific maps to be included, such as OCPs and EC. Due to the challenges described in earlier section regarding EC user estimation, we only incorporated the subnational estimation of OCP users and potential users in this report.

> **"Looking at this information and everything, it will help us to elevate other products and which product to go for, particularly, and which area to focus."**
>
> Private sector stakeholder, Tanzania

Other uses for the subnational maps, as described by a non-profit organization, are to identify underserved populations at the district level. As their mandate was to provide contraceptive services to hard-to-reach populations, having the district level population of women with unmet need or using traditional methods can enable targeting their efforts to reach these women.

Knowing market size alone cannot increase private sector participation. Stakeholders described barriers in the enabling environment to improve marketing and increase awareness of contraceptive products in Tanzania. Such issues underline the need for a more comprehensive understanding of the various enabling and constraining market forces. Through ongoing discussions with key market actors, including regulators, implementing partners, and civil society organizations, FHM Engage can continue to help the private sector for contraception achieve its potential market size.

Other potential uses of the approach

While feedback from private sector stakeholders suggests the estimation of the current and potential market size at subnational and national levels for different contraceptive methods can enhance strategic decision-making and targeting, the approach can be a similarly useful resource for actors outside the private sector.

The methodology can be adopted and applied to meet various stakeholders' diverse purposes and information needs. Given the availability of DHS and census in multiple countries, small area estimation can be applied to additional FP indicators tailored for other audiences, including local policy makers who must plan, monitor, and evaluate local level activities and implementing organizations who need to be able to identify underserved geographical areas to improve programming and advocacy. FP indicators may also be combined with socio-demographic data to better estimate the size of underserved populations sub-nationally. In addition to FP, the methodology can also be applied to understand other aspects of child, adolescent, and maternal health commonly measured in national household surveys, including malaria, malnutrition, immunization, teenage pregnancies, stillbirths, and antenatal care.[34–36]

Although the methodology relies on household surveys and population data, other routine data sources such as stock, retail audit, or service data may also be incorporated to increase precision.[3] Furthermore,

as national surveys are periodic, consistent routine data from both the private and public sector can provide an early indication of trends in product and service use.

Amid its varying uses, these analytic outputs require local contextualization to ensure appropriate customization for the specific purpose and audience. For instance, the rationale for estimating the number of contraceptive users obtaining from the public sector with financial capacity was designed to approximate potential capability to pay for contraceptive products in private sector. Its utility was then verified with private sector stakeholders. Results were also discussed with the audience to ensure correct interpretation. Application of the methodological approach in other settings will require discussions with local stakeholders to determine if the indicators and associated assumptions are applicable and if additional contextualization is needed.

Limitations

Our approach has several limitations. First, the findings presented should be considered illustrative since 2022 Tanzania DHS individual data is not available as of the submission of this report. Second, as the SAE methodology requires associated GPS locations to estimate indicators at district level, only the two Tanzania DHS with available GPS coordinates were included to produce subnational estimates. Third, there is limited evidence available to inform the assumption of the proportion of modern method users currently obtaining their source from the public sector that might become private sector clients, as well as the contextual factors that would facilitate such change. As such, we applied private sector utilization rates from Kenya as an aspirational example. Fourth, due to measurement challenges around EC, we were unable to provide an alternative scenario estimation for this method. Lastly, the market value estimations produced were based on retail surveys conducted in predominantly Dar es Salaam, which are not necessarily representative of national retail prices of the various brands of contraceptive products in Tanzania.

Conclusion and next steps

We can conclude that methodological approach to estimating subnational distribution and national market size for key contraceptive products, followed by feedback and revision phase in collaboration with local private sector stakeholders resulted in a relevant and useful new source of business intelligence for the intended audience. However, additional efforts are essential to improve the interactivity of the map data. We share an interactive web application to host the subnational findings from this report as a proof-of-concept of a more widely accessible dissemination approach. Additional user interaction and feedback will be critical to enhance the utility and interaction with the findings. Additionally, the challenges identified in estimating EC market size call for the need to have additional research on this topic to enable development of accurate estimation of current and potential market size.

Private sector market actors need and want additional market intelligence to make business decisions, leading to their potentially increased participation in a national FP market. Most LMIC markets do not have access to commercially produced market intelligence, as, perversely, these markets are considered too small to be profitable for the data production firms such as IQVIA, Optum or Medidata. Local data producers do not appear to have filled the gap, a situation which is true for Tanzania. In this milieu, building a demand for timely, actionable, and valid data has the potential to grow the market intelligence ecosystem, in addition to improving the health of private sector health commodity markets.

References

1. Mogojwe H. Reproductive Health Supplies Coalition and CHAI release the 2022 Family Planning Market Report. Clinton Health Access Initiative. Published December 9, 2022. Accessed August 28, 2023. https://www.clintonhealthaccess.org/report/reproductive-health-supplies-coalition-and-chai-release-the-2022-family-planning-market-report/

2. Contraceptive Social Marketing Statistics. DKT International. Accessed September 1, 2023. https://www.dktinternational.org/contraceptive-social-marketing-statistics/

3. New, JR, Alkema, L. Family Planning Estimation Tool (FPET). Accessed September 8, 2023. http://fpet.track20.org/

4. Private Sector Counts | SHOPS. Accessed September 13, 2023. https://www.privatesectorcounts.org/

5. Family Planning Market Analyzer. FP Market. Accessed November 11, 2022. https://fpmarketanalyzer.org/

6. Reproductive Health Supplies Coalition. LEAP | Landscape & Projection of RH Supply Needs. Accessed November 11, 2022. https://leap.rhsupplies.org/#/custom/contraception

7. The Global Family Planning Visibility and Analytics Network (GFPVAN). Accessed August 28, 2023. https://www.rhsupplies.org/microsites/gfpvan/

8. Mweemba C, Hangoma P, Fwemba I, Mutale W, Masiye F. Estimating district HIV prevalence in Zambia using small-area estimation methods (SAE). *Popul Health Metr*. 2022;20(1):8. doi:10.1186/s12963-022-00286-3

9. Li Z, Hsiao Y, Godwin J, et al. Changes in the spatial distribution of the under-five mortality rate: Small-area analysis of 122 DHS surveys in 262 subregions of 35 countries in Africa. *PLOS ONE*. 2019;14(1):e0210645. doi:10.1371/journal.pone.0210645

10. Tewara MA, Mbah-Fongkimeh PN, Dayimu A, Kang F, Xue F. Small-area spatial statistical analysis of malaria clusters and hotspots in Cameroon;2000-2015. *BMC Infect Dis*. 2018;18(1):636. doi:10.1186/s12879-018-3534-6

11. Qi Dong T, Wakefield J. Modeling and presentation of vaccination coverage estimates using data from household surveys. *Vaccine*. 2021;39(18):2584-2594. doi:10.1016/j.vaccine.2021.03.007

12. Wakefield J, Okonek T, Pedersen J. Small Area Estimation for Disease Prevalence Mapping. *Int Stat Rev*. 2020;88(2):398-418. doi:10.1111/insr.12400

13. Li Q, Louis TA, Liu L, Wang C, Tsui AO. Subnational estimation of modern contraceptive prevalence in five sub-Saharan African countries: a Bayesian hierarchical approach. *BMC Public Health*. 2019;19:216. doi:10.1186/s12889-019-6545-3

14. New JR, Cahill N, Stover J, Gupta YP, Alkema L. Levels and trends in contraceptive prevalence, unmet need, and demand for family planning for 29 states and union territories in India: a modelling study using the Family Planning Estimation Tool. *The Lancet Global Health*. 2017;5(3):e350-e358. doi:10.1016/S2214-109X(17)30033-5

15. Reidy M, Weinberger M. Exploring Geospatial Patterns of Private Sector FP Use: Nepal. SHOPS Plus. Accessed August 11, 2022. https://www.shopsplusproject.org/resource-center/exploring-geospatial-patterns-private-sector-fp-use-nepal

16. 5 P's of Marketing. Corporate Finance Institute. Accessed September 11, 2023. https://corporatefinanceinstitute.com/resources/management/5-ps-marketing/

17. The DHS Program - Tanzania: Standard DHS, 2010. Accessed September 13, 2023. https://dhsprogram.com/methodology/survey/survey-display-345.cfm

18. The DHS Program - Tanzania: Standard DHS, 2015-16. Accessed September 13, 2023. https://dhsprogram.com/methodology/survey/survey-display-485.cfm

19. Bradley SEK, Croft TN, Fishel JD, Westoff CF. Revising unmet need for family planning. Published online January 1, 2012. Accessed September 8, 2023. https://dhsprogram.com/publications/publication-as25-analytical-studies.cfm

20. GADM. Accessed September 13, 2023. https://gadm.org/download_country.html

21. Ministry of Finance and Planning, Tanzania National Bureau of Statistics and President's, Office - Finance and Planning. *The 2022 Population and Housing Census: Age and Sex Distribution Report. Tanzania Zanzibar*.; 2022. https://sensa.nbs.go.tz/

22. Health Facility Registration System (HFR). Accessed August 29, 2023. https://hfrs.moh.go.tz/web/index.php?r=site%2Flogin&active_tab=Welcome-Details-tab

23. Metrics For Management. Asset to Income Estimator | M4MGMT. Accessed November 11, 2022. https://m4mgmt.org/asset-to-income-estimator/

24. Harttgen K, Vollmer S. Using an asset index to simulate household income. *Economics Letters*. 2013;121(2):257-262. doi:10.1016/j.econlet.2013.08.014

25. Mercer LD, Lu F, Proctor JL. Sub-national levels and trends in contraceptive prevalence, unmet need, and demand for family planning in Nigeria with survey uncertainty. *BMC Public Health*. 2019;19(1):1752. doi:10.1186/s12889-019-8043-z

26. InstituteforDiseaseModeling/Nigeria-Family-Planning-Paper. Published online February 6, 2020. Accessed August 30, 2023. https://github.com/InstituteforDiseaseModeling/Nigeria-Family-Planning-Paper

27. Lindgren F, Rue H. Bayesian Spatial Modelling with R-INLA. *Journal of Statistical Software*. 2015;63:1-25. doi:10.18637/jss.v063.i19

28. Couple-Years of Protection (CYP) | Global Health | Health Areas | Family Planning and Reproductive Health. U.S. Agency for International Development. Published December 4, 2023. Accessed September 1, 2023. https://www.usaid.gov/global-health/health-areas/family-planning/couple-years-protection-cyp

29. Sarah Alphs, Farhan Yusuf. Tanzania FP Market Description. Published online February 2023.

30. The DHS Program - Kenya: Standard DHS, 2021. Accessed September 13, 2023. https://dhsprogram.com/methodology/survey/survey-display-566.cfm

31. Glennerster R, Bulens PC, Deschênes S, et al. The Media or the Message? Experimental Evidence on Mass Media and Modern Contraception Uptake in Burkina Faso1. In: ; 2021. Accessed September 1, 2023. https://www.semanticscholar.org/paper/The-Media-or-the-Message-Experimental-Evidence-on-Glennerster-Bulens/faa79737a9ac7eaf1f1f760ff775a224fde523ea

32. Larson E, Morzenti A, Guiella G, Gichangi P, Makumbi F, Choi Y. Reconceptualizing Measurement of Emergency Contraceptive Use: Comparison of Approaches to Estimate the Use of Emergency Contraception. *Studies in Family Planning*. 2020;51(1):87-102. doi:10.1111/sifp.12111

33. Henry EG, Agula C, Agyei-Asabere C, et al. Dynamics of Emergency Contraceptive Use in Accra, Ghana. *Studies in Family Planning*. 2021;52(2):105-123. doi:10.1111/sifp.12154

34. Ferreira LZ, Blumenberg C, Utazi CE, et al. Geospatial estimation of reproductive, maternal, newborn and child health indicators: a systematic review of methodological aspects of studies based on household surveys. *Int J Health Geogr*. 2020;19(1):41. doi:10.1186/s12942-020-00239-9

35. Rajpal S, Kim J, Joe W, Kim R, Subramanian SV. Small area variation in child undernutrition across 640 districts and 543 parliamentary constituencies in India. *Sci Rep*. 2021;11(1):4558. doi:10.1038/s41598-021-83992-6

36. Pezzulo C, Tejedor-Garavito N, Chan HMT, et al. A subnational reproductive, maternal, newborn, child, and adolescent health and development atlas of India. *Sci Data*. 2023;10(1):86. doi:10.1038/s41597-023-01961-2

Annex 1. Subnational maps of indicators for young women aged 15 to 24

→ Current modern contraceptive users

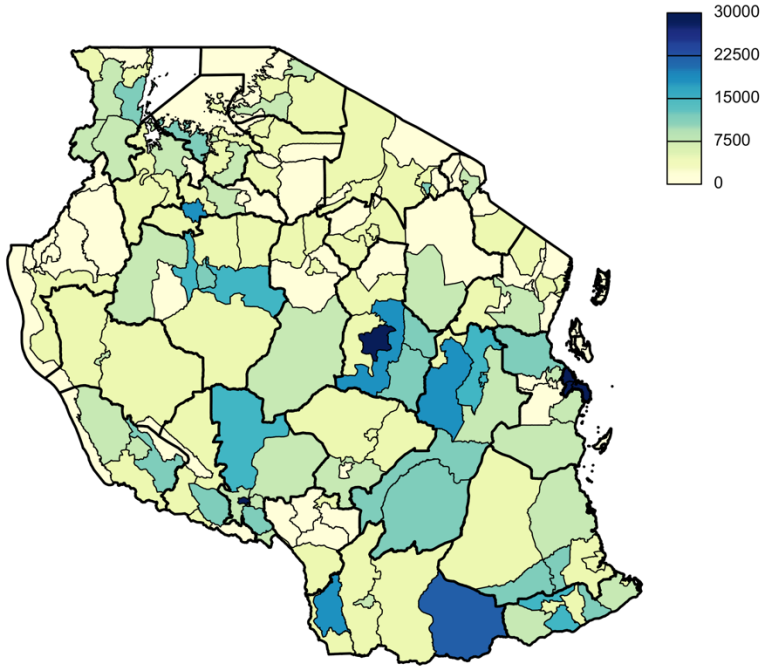


FIGURE 12: NUMBER OF YOUNG WOMEN USING A MODERN CONTRACEPTIVE METHOD BY DISTRICT.

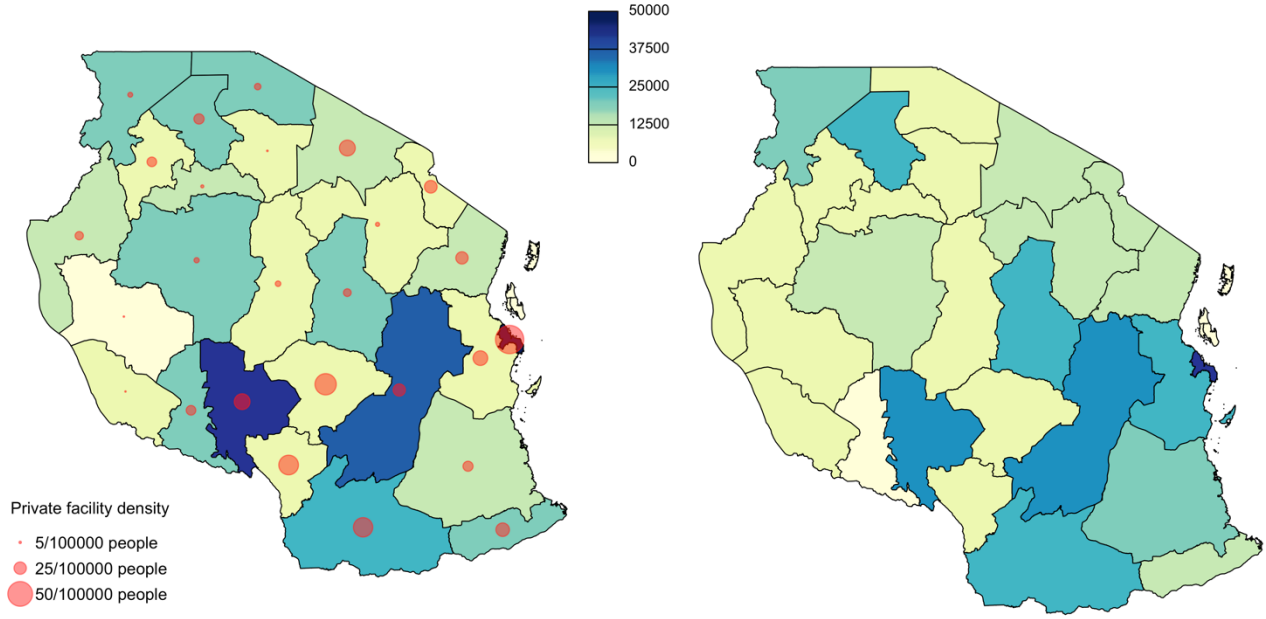


FIGURE 13: NUMBER OF YOUNG WOMEN USING A MODERN CONTRACEPTIVE METHOD A) FROM A PRIVATE SECTOR SOURCE OVERLAYED WITH PRIVATE SECTOR FACILITY DENSITY (LEFT), B) FROM A PUBLIC SECTOR SOURCE WITH FINANCIAL CAPACITY BY REGION (RIGHT).

→ Current modern contraceptive users – Short-term methods

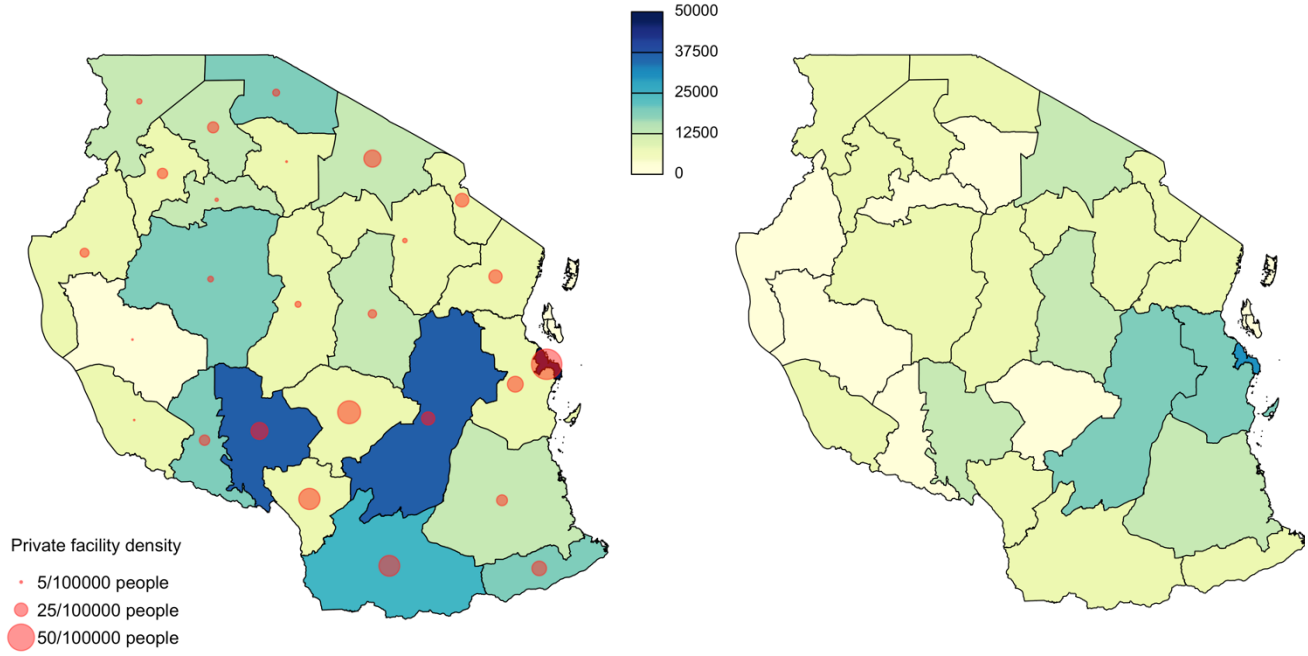


FIGURE 14: NUMBER OF YOUNG WOMEN USING SHORT-TERM CONTRACEPTIVE METHODS A) FROM A PRIVATE SECTOR SOURCE OVERLAYED WITH PRIVATE SECTOR FACILITY DENSITY (LEFT), B) FROM A PUBLIC SECTOR SOURCE WITH FINANCIAL CAPACITY BY REGION (RIGHT).

→ Current modern contraceptive users – Injectable contraceptives

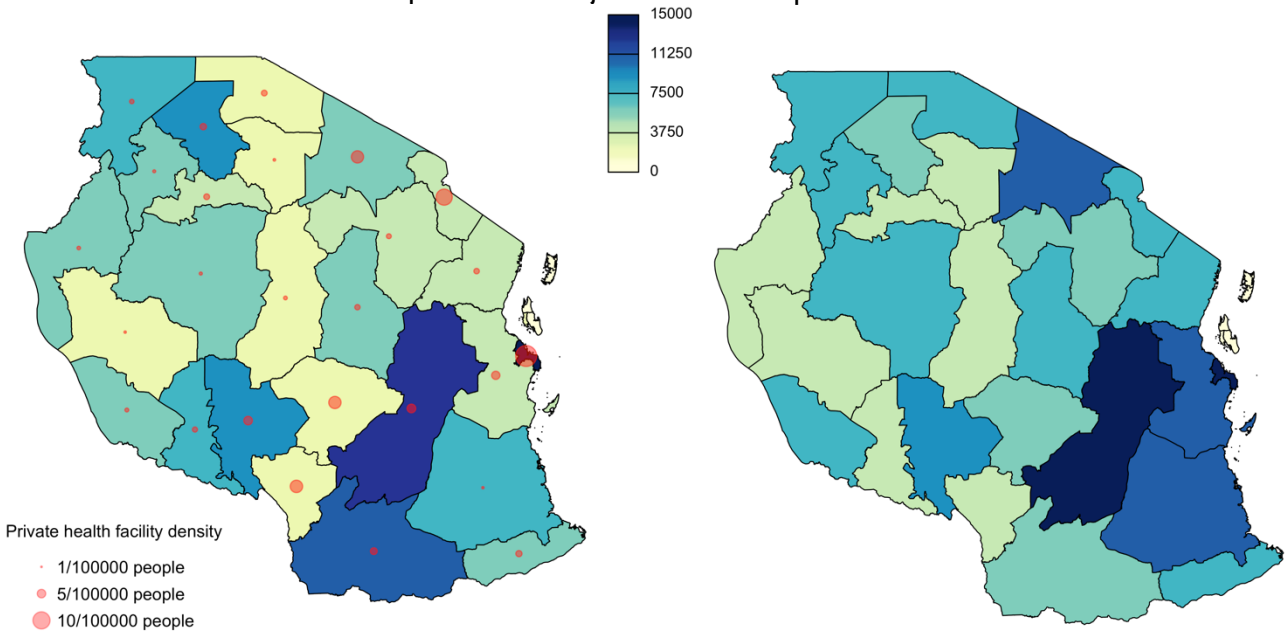


FIGURE 15: NUMBER OF YOUNG WOMEN USING INJECTABLE CONTRACEPTIVES A) FROM A PRIVATE SECTOR SOURCE OVERLAYED WITH PRIVATE HEALTH FACILITY DENSITY (LEFT), B) FROM A PUBLIC SECTOR SOURCE WITH FINANCIAL CAPACITY BY REGION (RIGHT).

→ Current contraceptive method users – Oral contraceptive pills

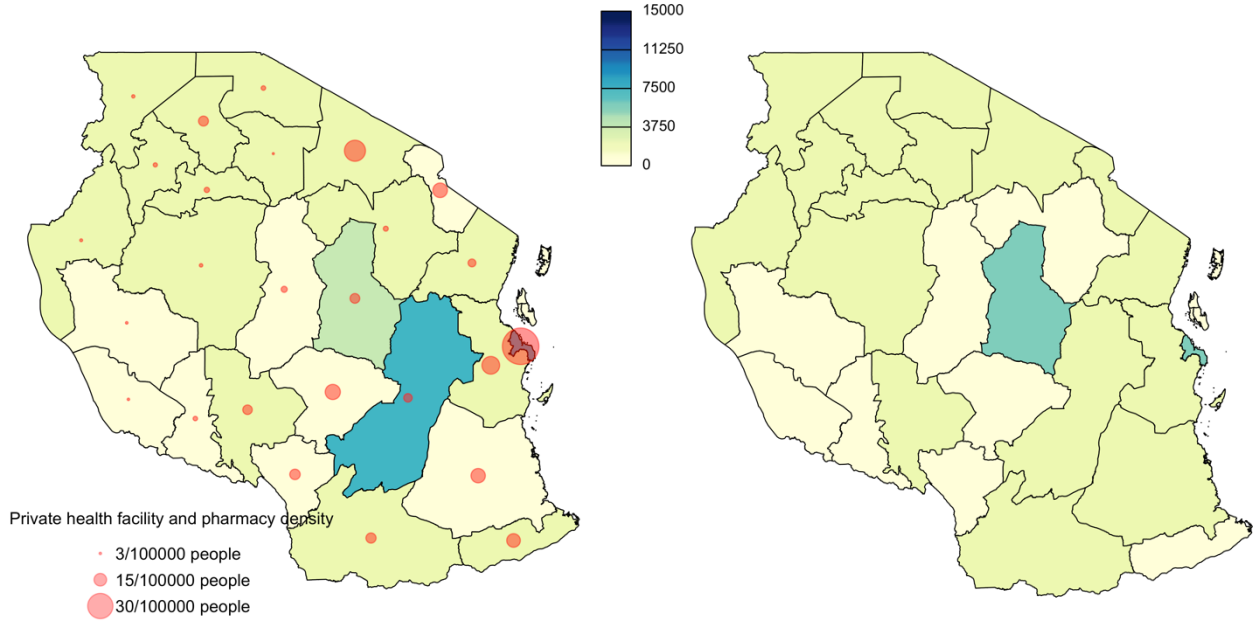


FIGURE 16: NUMBER OF YOUNG WOMEN USING ORAL CONTRACEPTIVE PILLS A) FROM A PRIVATE SECTOR SOURCE OVERLAYED WITH PRIVATE HEALTH FACILITY AND PHARMACY DENSITY (LEFT), B) FROM A PUBLIC SECTOR SOURCE WITH FINANCIAL CAPACITY BY REGION (RIGHT).

→ Current contraceptive method users – Long-acting reversible contraceptives

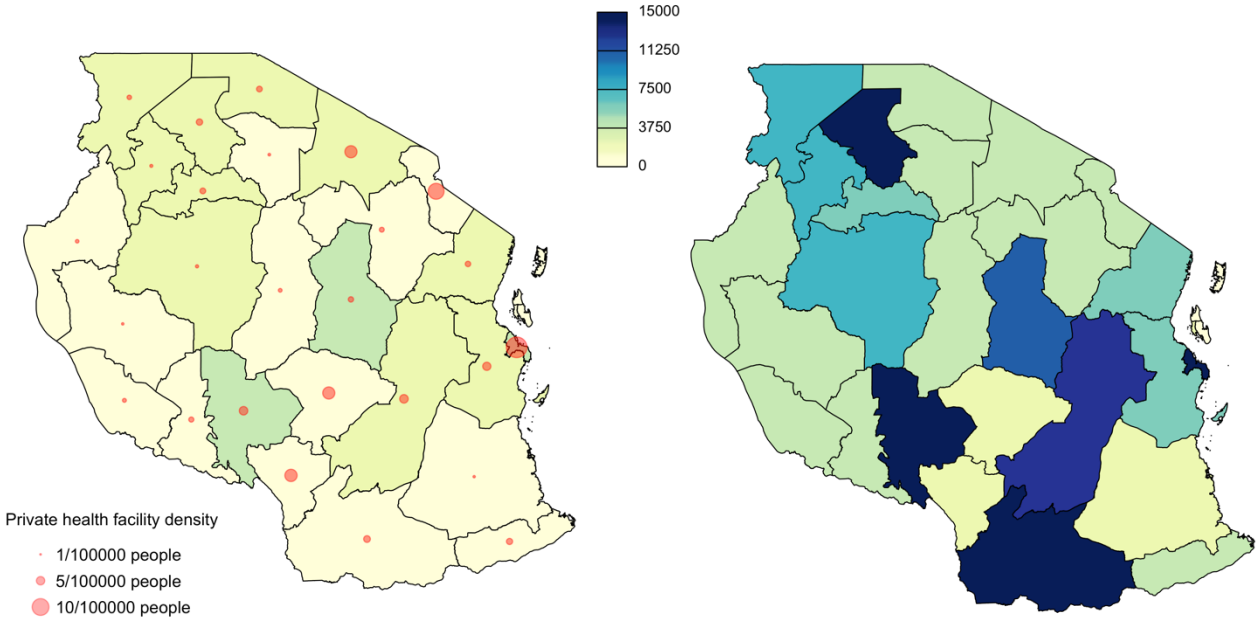


FIGURE 17: NUMBER OF YOUNG WOMEN USING LARCS A) FROM A PRIVATE SECTOR SOURCE OVERLAYED WITH PRIVATE HEALTH FACILITY DENSITY (LEFT), B) FROM A PUBLIC SECTOR SOURCE WITH FINANCIAL CAPACITY BY REGION (RIGHT).

→ Current contraceptive method users – implants

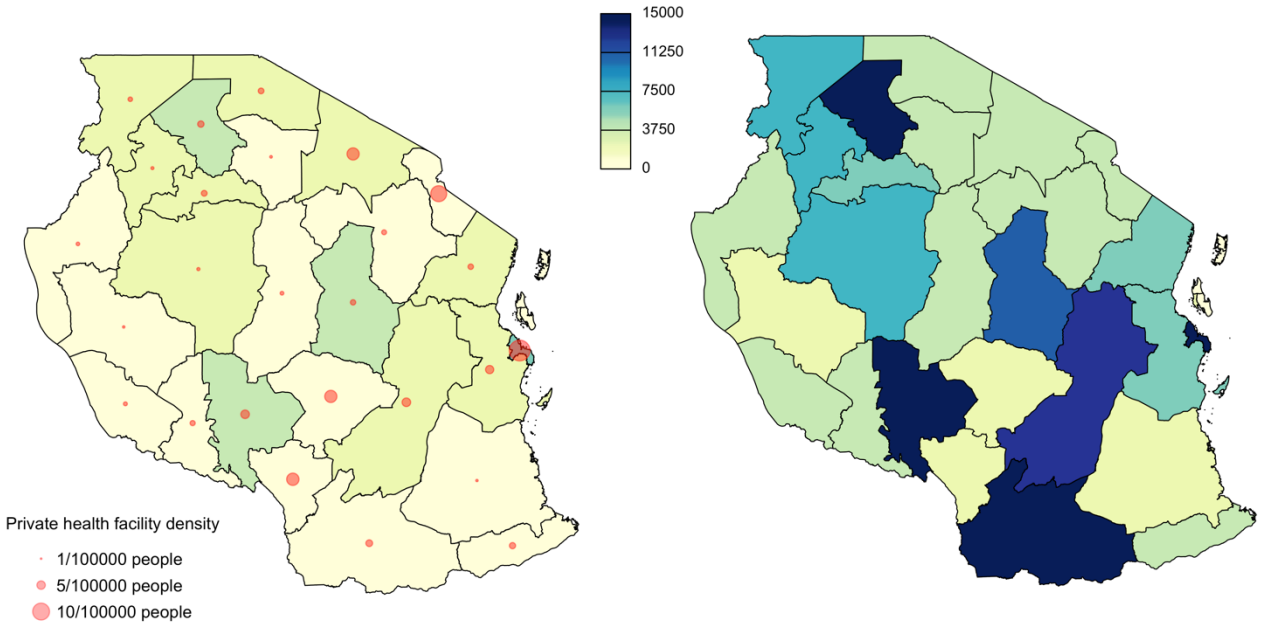


FIGURE 18: NUMBER OF YOUNG WOMEN USING IMPLANTS A) FROM A PRIVATE SECTOR SOURCE OVERLAYED WITH PRIVATE HEALTH FACILITY DENSITY (LEFT), B) FROM A PUBLIC SECTOR SOURCE WITH FINANCIAL CAPACITY BY REGION (RIGHT).

→ Potential modern contraceptive users – young women with an unmet need for contraception or using a traditional method

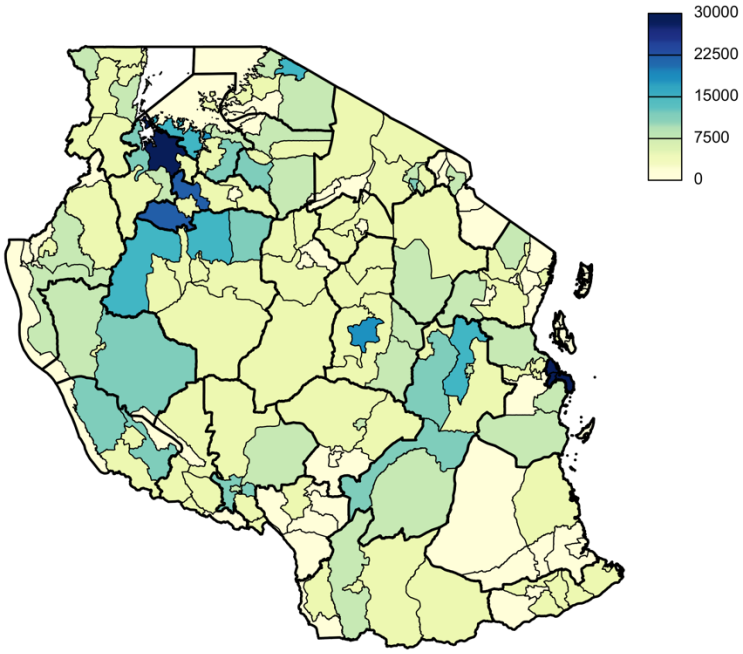


FIGURE 19: NUMBER OF YOUNG WOMEN WITH AN UNMET NEED FOR CONTRACEPTION OR USING A TRADITIONAL METHOD BY DISTRICT.

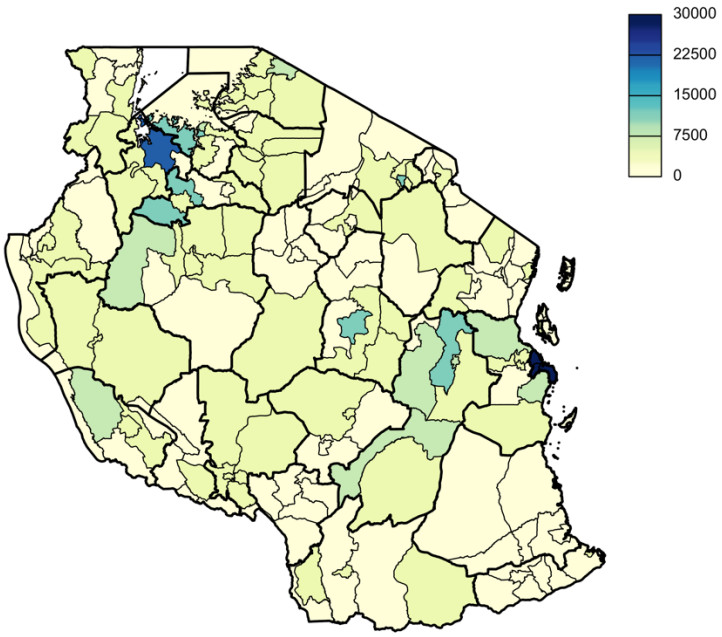


FIGURE 20: NUMBER OF YOUNG WOMEN WITH AN UNMET NEED FOR CONTRACEPTION OR USING A TRADITIONAL METHOD WITH FINANCIAL CAPACITY BY DISTRICT.

Annex 2. Private market volume and value estimates for young women aged 15 to 24

TABLE 9: ESTIMATED CURRENT TANZANIA PRIVATE SECTOR CONTRACEPTIVE MARKET VOLUME AND VALUE AMONG YOUNG WOMEN.

Contraceptive Product	Estimated current private sector client volume	Estimated annual private sector product volume	Estimated annual private sector product value
Short-term methods			
Injectable methods	148,583	594,000	$731,000
Oral contraceptive pills	52,623	789,000	$679,000
Long-term methods			
Implants	29,717	29,717	$253,000
IUDs	3,095	3,095	$32,000
Total			**$1,695,000**

TABLE 10: ESTIMATED POTENTIAL INCREASE IN TANZANIA PRIVATE SECTOR CONTRACEPTIVE MARKET VOLUME AND VALUE AMONG YOUNG WOMEN.

Contraceptive Product	Estimated potential private sector client volume increase	Estimated potential annual private sector product volume increase	Estimated potential annual private sector product value increase
Short-term methods			
Injectable methods	19,343	77,372	$95,000
Oral contraceptive pills	6,766	101,490	$87,000
Long-term methods			
Implants	3,720	3,720	$32,000
IUDs	209	209	$2,000
Total			**$216,000**

TABLE 11: ESTIMATED TOTAL TANZANIA PRIVATE SECTOR CONTRACEPTIVE MARKET VOLUME AND VALUE AMONG YOUNG WOMEN UNDER ALTERNATIVE SCENARIO.

Contraceptive Product	Estimated current annual private sector product value	Estimated potential annual private sector value increase	Estimated total private sector annual value
Short-term methods			
Injectable methods	$731,000	$95,000	$856,000
Oral contraceptive pills	$679,000	$87,000	$766,000
Long-term methods			
Implants	$253,000	$32,000	$285,000
IUDs	$32,000	$2,000	$34,000
Total			**$1,941,000**

About FHM Engage

Frontier Health Markets (FHM) Engage is a five-year cooperative agreement (7200AA21CA00027) funded by the United States Agency for International Development. We work to improve the market environment for greater private sector participation in the delivery of health products and services and to improve equal access to and uptake of high-quality consumer driven health products, services, and information. Chemonics International implements FHM Engage in collaboration with Core Partners: Results for Development (co-technical lead), Pathfinder and Zenysis. FHM Engage Network Implementation Partners include ACCESS Health India, Africa Christian Health Association Platform, Africa Healthcare Federation, Amref Health Africa, Ariadne Labs, CERRHUD, Insight Health Advisors, Makerere University School of Public Health, Metrics for Management, Solina Group, Strategic Purchasing Africa Resource Center, Scope Impact, Stage Six, Strathmore University, Total Family Health Organization, and Ubora Institute.

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