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IDENTIFYING FERTILITY HOTSPOTS IN UGANDA



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IDENTIFYING FERTILITY HOTSPOTS IN UGANDA

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ACRONYMS AND ABBREVIATIONS

APC	Advancing Partners & Communities
CDO	Community Development Officer
CEB	Children ever born
DHT	District Health Team
DHIS	District Health Information System
EA	Enumeration area
FGD	Focus group discussion
FHI 360	Family Health International
FP	Family planning
IDI	In-depth interview
KII	Key informant interview
MCPR	Modern contraceptive prevalence rate
MOH	Ministry of Health
NP&HC	National Population and Housing Census
NGO	Nongovernmental organization
PMA	Performance monitoring and accountability
RH	Reproductive health
TFR	Total fertility rate
UBOS	Uganda Bureau of Statistics
UDHS	Uganda Demographic and Health Survey
UNFPA	United Nations Population Fund
UNHS	Uganda National Household Survey
USAID	United States Agency for International Development
VHTs	Village health teams

GLOSSARY

Adolescents: Boys and girls from ages 10 to 19 years.

Children ever born: The mean number of children born alive to women in a particular age group. The number of children ever born to a particular woman is a measure of her lifetime fertility experience up to the moment at which the data are collected.

Contraceptive prevalence rate: The percentage of women (15-49 years) who are currently using, or whose sexual partner is currently using, at least one method of contraception, regardless of the method used (World Health Organization).

Modern contraceptive prevalence rate (mCPR): The percentage of women (15-49 years) who are currently using, or whose sexual partner is currently using, a modern method of contraception.

Fertility: The natural ability to have a child.

Fertility hotspot: Settings with higher than national average fertility and that have poor adolescent reproductive health (RH) indicators such as unintended pregnancies, and usually have low modern contraceptive use over prolonged periods, with marked differences from adjacent locations.

Gender: The social construction of masculine and feminine identities.

Low-parity women: In this report, this is defined as women ages 35 years or older, with half the national total fertility rate (TFR) (3) or fewer children born alive.

Parity: The number of children born alive to a woman.

Sociocultural barriers: Constructs that originate from the social and cultural norms and values in a society, which affect the process of deciding whether to have a/another child and/or use modern contraception.

Total fertility rate: TFR is the number of live births a woman would have at the end of her reproductive life if she experiences the prevailing age-specific fertility rates.

EXECUTIVE SUMMARY

BACKGROUND

Fertility levels remain high in Uganda driven in part by high adolescent fertility and unintended pregnancy among all women. Key fertility determinants, including median age at sexual debut and age at first marriage, are poor. These key determinants may be geospatially related to underlying sociocultural patterns in various communities. Identifying fertility “hotspots” and pinpointing the multisectoral ecological drivers of high fertility within these hotspots will help to better target family planning (FP) programs and to improve resource allocation as a more effective strategy than use of a “one-size-fits-all” approach.

FINDINGS AND CONCLUSIONS

Identifying hotspots using secondary data

To identify fertility hotspots, we used quantitative data from nationally representative sample surveys—2006 and 2011 Uganda Demographic Health Surveys and PMA2020 (R5) datasets, the 2014 census reports, and the District Health Information System version 2 (DHIS2) for the years 2015–2017. Key indicators used to determine what constituted a fertility hotspot were current use of modern contraceptives; proportion of women ages 15–49 years who married earlier than 18; proportion of adolescents (15–19 years) who had ever had sex and ever given birth; median age at first sex; mean number of children ever born (CEB) by women ages 40–49 years; district-level total fertility rate (TFR); and reported number of FP methods distributed per projected number of females in each subcounty.

A total of 14 sub counties from five districts in three subregions were identified as fertility hotspot communities based on the indicators described above. Triangulation of the fertility indicators from the various secondary data sources proved to be a feasible approach for this exercise. Identification of these communities informed the subsequent qualitative assessment. High fertility and related key determinants were associated with poor/low education and high levels of poverty. However, access to public health facilities was not associated with fertility in the identified districts.

Drivers of fertility and low contraceptive use

The perception of whether a family is considered small or large varies with settings and geographies. In the identified fertility hotspots, most women interviewed defined a small family as one that had up to six children. Children are viewed as a key source of household labor and potential social security as parents age. Also, having a mixture of boys and girls is important because each plays a different role for parents in old age. Early marriage, as a driver of fertility, remains common, exposing girls to a longer period of the risks of pregnancy and childbearing, and higher risk of maternal death. Marriage is also viewed as primarily for procreation, to the extent that women with marital disruption (separations, divorces, or widowhood) are expected to have children with their new relations/spouses even if they had all the children they desired in their first unions. High fertility in these settings continues to be enhanced by community norms and expectations of marriage, children, and childbearing.

The concept of economic affordability in these communities is the ability to have the basics for a family, such as food, water, shelter, and primary school education. Given these relatively low economic expectations, which many families in these communities may afford, there appears to be no major economic barrier to achieving the high fertility desires.

Reports reflecting gender inequality, with women disadvantaged in making sexual and reproductive decisions, were common. Male spouses or significant others (men's relatives or older women) pressure young women to have (more) children. The male spouse's desire for many children and the woman's fear of experiencing the consequences of disagreements about family-size influenced her acceptance to have (more) children than desired.

The low uptake of modern contraceptive methods was mainly limited by the reported side effects and misconceptions across geographies. Misconceptions were also confused for side effects in many cases. The poor management of side effects by health workers—mainly from lower-level health facilities—created a further barrier to the use of modern contraceptives or enhanced discontinuation, which further exposed women to unintended pregnancies.

Drivers for adolescent pregnancies

In all study districts, the key underlying contributor to the very high adolescent pregnancy rates was household poverty levels, which also resulted in adolescents dropping out of school. Some girls were driven into transactional sex in the

search for a livelihood for themselves and their households. This situation was sometimes condoned by parents. The transactional sex exposed girls to the increased risk of unintended pregnancies and sexually transmitted infections.

Gender inequality in sexual relationships limits girls' power to negotiate for contraception and safer sex. Other factors contributing to girls' increased vulnerability to unintended pregnancies were: clandestine early marriages, peer pressure from sexually active and married counterparts, and increased ease of access to mobile phones. Fertility awareness and contraceptive use among girls were limited by their lack of knowledge regarding sexuality and reproductive health. Extreme parenting styles—both lax and stringent—were also blamed for adolescent mischievous sexual behavior.

Myths were reported in the descriptions of causes of adolescent pregnancy. For instance, some communities blamed vaccination (it is common for girls to be vaccinated against HPV and tetanus) for increased sexual desires and early menstruation was believed to symbolize readiness for marriage in some communities in Butaleja.

Potential for transitions to low fertility

In all study sites, young participants exhibited a tendency toward being willing to reduce fertility. Young women reported a desire to have smaller families after witnessing the economic hardships faced by the older generation. Amid the unbalanced couple dynamics related to gender, a few women resisted the inequality and took control of their lives by using contraception stealthily after witnessing the consequences of large unplanned families. Some women managed to convince their partners after long struggles to use contraception. Some women in the later ages of the reproductive cycle (35-plus years) willingly chose low parity, reflecting the possibility for low fertility for young women in communities if interventions are intensified. The role of village health teams (VHTs) seemed to be of great importance in all sites in positively influencing low fertility and contraceptive use.

RECOMMENDATIONS

- Develop health messages that link fertility and the use of contraception with household wealth creation.
- Address the myths and misconceptions about the use of modern contraceptives through enhanced sensitization of women and men at the facility and community level by VHT members.

- Acknowledge side effects of modern FP methods and enhance counseling for women to better manage the expectations associated with using various methods.
- Increase contraceptive commodity choices at lower levels and sustain stocks for consistent use; manage side effects to strengthen uptake of contraceptives.
- Enhance the involvement of VHTs in providing quality contraceptive services.
- Engage satisfied contraceptive users and women of low parity as change agents for adoption of FP methods and desire for family sizes smaller than six.
- Conduct economic empowerment and education programs for women to address unfavorable gender norms that curtail their choices within relationships and across the community; to enhance decision-making; and to increase the use of contraception.

1. INTRODUCTION

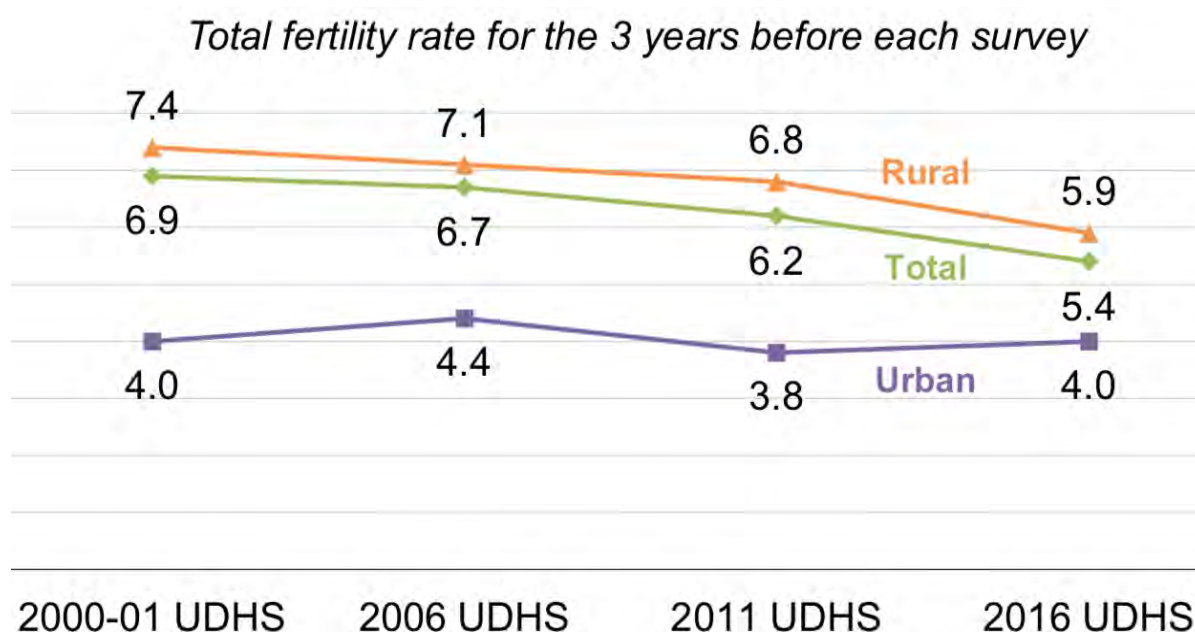
1.1 BACKGROUND

Fertility levels in Uganda have remained high over the past 25 years, with suboptimal declines in the total fertility rate (TFR) of about 27.0 percent; TFR fell from 7.4 in 1988-89 to 6.2 in 2011 to 5.4 in 2016. Declines were largely driven by a reduction in the TFR among urban women. Between 1988-89 and 2011, the TFR decreased by approximately one-third (31.0 percent) among urban women (from 5.8 in 1988-89 to 4.0 in 2016), and by 22.4 percent among rural women (7.6 in 1989 to 5.9 in 2016). Traditionally, FP programs addressing high fertility levels have focused on exploring individual-level determinants of contraceptive use that included knowledge, attitudes, and access to services. However, evidence from individual-level determinants can be insufficient or inadequate to address the public health challenges associated with high fertility. Therefore, ecological epidemiological approaches have been suggested as a way of identifying other population-/community-level indicators that may be the potential drivers of high fertility. Many key fertility determinants that fuel high rates, including median age at sexual debut and age at first marriage, remain unchanged. Although policies and strategies are in place to address some fertility-related issues, such as the national strategy to end child marriage 2014-2020, more needs to be done in context specific settings.

A one-size-fits-all approach continues to predominate FP interventions, ignoring geographical differences in fertility. The 2014 Uganda national population and household census (NP&HC) data also suggest regional and district variations in TFRs. This data further supports adopting geospatial considerations in the FP sector to enable programs to direct interventions where they are needed most, improve resource allocation, and introduce cost efficiencies with a potential to maximize outcomes. Geospatial methods have previously been applied to identify areas of high prevalence of first births, distinct from adjacent districts. In a study (Neal S et al. 2016) these areas were linked with poverty. Similarly, geographical hotspots in malnutrition have been determined (Khan and Mohanty 2018). The purpose of this geoidentification of settings with inequalities of these indicators was to provide program and policy makers a guide for targeting efforts and limited resources to areas of highest need.

To achieve the potential benefits of setting specific and targeted interventions, fertility hotspots needed to be identified at local levels (subcounty) using available census, survey, and routine service data. A qualitative assessment within the hotspots was also needed to understand what sociocultural, economic, and service-related factors influence low contraceptive use, adolescent pregnancies, and high fertility, and how these may vary across geographies.

Figure 5.1: Trend in fertility by residence



Note: In the 2000-01 UDHS, areas making up the districts of Amuru, Nwoya, Bundibugyo, Ntoroko, Gulu, Omoro, Kasese, Kitgum, Lamwo, Agago and Pader were excluded from the sample. These areas contained about 5% of the national Population of Uganda

1.2 STUDY PROBLEM

In the past five years Uganda joined the global movement of FP2020 with a goal of increasing access and uptake of FP services to at least 120 million new users. Uganda set a national goal of 50 percent modern contraceptive use by 2020 in the Family Planning-Costed Implementation Plan (FP-CIP) for 2015-2020. However, only a 12 percent increase in the modern contraceptive prevalence rate (mCPR) has been achieved during the last 10 years, 14 percent in 2001 to 26 percent in 2016 (UBOS, 2012 and UBOS, 2017). The suboptimal declines in TFR over a 25-year period from 7.4 (1988-89) to 5.4 (2016) mean Uganda remains one of the countries with the highest TFR in the East Africa region. Although some Government of Uganda (GOU) social services such as availability of education for

girls through Universal Primary Education (UPE) and Universal Secondary Education (USE) have had an effect on uptake of FP services especially in the rural setting, key determinants of fertility such as median age at sexual debut and age at first marriage remain largely unchanged. Although influences such as social and cultural norms, gender roles, and religion are key to uptake of FP services, they usually are not addressed in FP programs. Identification of hotspots for high fertility and high adolescent pregnancy and exploration of the influences that sustain the high rates may be helpful in refocusing interventions. Therefore, for this study, various secondary data sources were used to identify fertility hot spots and qualitative inquiries were conducted to further understand the underlying community-specific influencers of fertility. The use of this evidence-based approach will generate the design of relevant, targeted, effective, and sustainable local FP services, rather than the one-size-fits-all approach.

1.3 JUSTIFICATION FOR THE STUDY

A one-size-fits-all approach has predominated FP interventions, ignoring geospatial patterns in fertility. Adopting geospatial considerations in the FP sector enables programs to direct interventions where they are needed, improves resource allocation, and introduces cost efficiencies with a potential to maximize outcomes. Multisectoral ecological drivers of high fertility are cultural (family formation, early age marriage, gender inequality, male involvement, women empowerment, and adolescent behavior and expectation in reproductive health matters) and socioeconomic (education, wealth, and employment). Identifying these drivers in the hot spots of fertility and assessing the strength of FP programs in given settings (coverage, quality, and available services) will enable the design of specific innovative FP interventions needed to effectively address reproductive health gaps, especially FP services. These steps are anticipated to improve resource allocation for FP services and programs at scale-up leading to reduced adolescent unintended/unwanted pregnancies and lower fertility rates.

1.4 RESEARCH QUESTIONS

The study explored the following research questions:

1. What are the high fertility and high adolescent pregnancy hotspots in Uganda?
2. What are the sociocultural and health system correlates of high fertility and adolescent pregnancy in hotspot settings?

3. How do the determinants of fertility/adolescent pregnancy differ in the various hotspot districts/subcounties?
4. How can sociocultural and health system correlates be used to inform the design of innovative FP interventions specific to the hotspot settings?

1.5 SPECIFIC OBJECTIVES

To identify regions, districts, and subcounties in selected districts that have high fertility and adolescent pregnancy rates so as to inform the development of FP interventions that are innovative, specific, and relevant to the identified settings.

1. Identify subcounties that are hotspots for high fertility and adolescent unintended pregnancies
2. To explore sociocultural and health system correlates of high and low fertility and prevalence of adolescent pregnancy in select hotspots and subcounties
3. Identify commonalities/differences in determinants of fertility across settings (districts/subcounties) with high adolescent fertility
4. To recommend evidence-based interventions with potential for high impact on fertility that are appropriate for the identified settings

1.6 FACILITATORS/STRENGTHS

This work was made possible by:

1. Availability of public quality data to address the indicators of interest (UDHS, PMA2020, DHIS, NHPC 2014 data sets)
2. Research and program human resource skills from FHI 360 and Makerere University to conduct hotspot mapping

3. METHODOLOGY

2.1 STUDY DESIGN

This study applied a mixed-methods approach, employing quantitative and qualitative methods in a complementary and iterative manner. Analysis of existing data from the following sources was conducted: Uganda Demographic Health Surveys (UDHS) of 2006 and 2011, PMA2020 (2017), 2014 National Population and Housing Census (NP&HC) reports, DHIS2 routine data on FP service for 2015-2017, and subcounty-level population estimates. Key informant interviews (KIIs), focus group discussions (FGDs), and in-depth interviews (IDIs) were used to collect qualitative data at district and subcounty levels.

2.2 METHODS OF DATA COLLECTION AND ANALYSIS

QUANTITATIVE APPROACH

2.2.1 Data Sources

Quantitative data were extracted from the 2006 and 2011 UDHS (hereafter DHS) and PMA2020 (Round 5 [hereafter R5]) datasets. These are nationally representative sample surveys selected through a two-stage stratified cluster sampling design. The DHS 2006, 2011 as well as PMA2020 (R5) included 10 regions. The DHS and PMA2020 data were supplemented with data from the 2014 census reports and the District Health Information System version 2 (DHIS2) 2015-2017.

Table 2.1: Data sources for hotspot mapping

Level	Source of data
<u>Subregional</u>	a. Uganda Demographic and Health Surveys from 2006, 2011, and 2016) b. PMA2020 data, 5 rounds from 2014–2017
<u>District</u>	c. Census data 2014 (district statistics on TFR) d. DHIS2 service data at the district level
<u>Subcounty</u>	e. Qualitative data from leadership of selected districts such as population officers and district health officers to explore within district variations (at subcounties) before selecting subcounties for program intervention f. Qualitative data from within identified hotspots for program intervention (subcounties) to understand factors that may explain the high number of adolescent pregnancies, unintended pregnancies, low contraceptive use, and high fertility among women of reproductive age (WRA). This data will be used by APC, the RHITES projects, and other stakeholders to implement context-specific interventions.

2.2.2 Data Preparation

The demographic and health survey (DHS) is conducted every five years for many African and Asian countries to provide information about socioeconomics and health for national planning. DHS data files contain the same variables across different survey periods with the exception of a few changes that have been introduced over time. The variable nomenclature was more consistent within the most recent survey datasets of 2006 and 2011, which enabled their inclusion in this study. The consistency in variable name allowed the two DHS datasets to be merged using Stata version 15 statistical software. At the time of this study, data from DHS 2016 was not publicly available. A comparable national survey with similar indicators—PMA2020 (R5)—was used in addition to the DHS 2006 and 2011. The variables from the PMA2020 (R5) datasets have the same structure as the DHS. For this exercise, we combined all three datasets (DHS 2006, DHS 2011, and PMA2020 (R5)) on key selected variables. In combining the three datasets, a variable defining the year of the survey was added so as to identify the source of the data to enable trend analysis of key variables for the fertility and reproductive health analysis.

Routine service data from the health facilities in the selected districts were obtained. These data included the number of documented contraceptive

commodities (by type) supplied from each subcounty. Annual DHIS2 data were more reliable for the years 2015-2017, and were therefore used for this analysis. We also obtained subcounty specific population projections for each of the analysis calendar years 2015-2017 from USAID strategic information department.

2.2.3 Data Analysis

Exploratory Analysis

Exploratory analyses were conducted to generate descriptive statistics from the sample of female respondents. Key categorical variables were presented as proportions, while for continuous variables such as age, median and interquartile range was calculated. Data were presented in tables stratified by subregions. Graphs included box plots for median age across the DHS years and scatter plots for trends in outcomes such as contraceptive prevalence.

Selection of study subregions

The DHS 2006, 2011 and PMA2020 (R5) were identified as important data sources to assess key fertility and contraceptive use indicators for both women and adolescents. The use of multiple DHS surveys was meant to generate consistency in the evidence to identify trends in the key indicators, where regions with persistently poor or worsening indicators could be used as criteria to identify poorly performing regions. DHS 2006, 2011 and PMA2020 (R5) datasets were finally used for this analysis because all three have 10 subregions and are five years apart. PMA2020 (R5) replaces DHS 2016 because the DHS 2016 datasets were not yet officially shared at the time of this analysis. Also, DHS 2016 has 15 subregions against the 10 in DHS 2006, 2011 and PMA2020 (R5), which hindered comparability of selected indicators across the years. The difference in the number of subregions in DHS 2016 did not favor appropriate analyses of trends in the same regions over the years. The use of PMA2020 (R5) was further strengthened because the DHS 2016 national level indicators that had already been shared are consistent with the PMA2020 (R5) indicators, thus making the PMA dataset a credible alternative.

The key indicators used in the analysis to identify subregions with poor fertility indicators across the three datasets included (1) current use of modern contraceptives, (2) proportion of women 15-49 years who married earlier than 18 years (while adolescent stage), (3) proportion of adolescents (15-19 years) who have ever had sex, (4) proportion of adolescents (15-19 years) ever given birth, (5) median age at first sex, and (6) mean children ever born (CEB) for women 40-49

years. A comparison of the CEB and TFR rates was conducted to determine if fertility was increasing, decreasing, or stagnant in the specific subregions. Subregions were color coded for each of the key indicators across the three datasets. Subregions were then ranked based on the number of reproductive health indicators with the “worst” color codes (red). The subregion with more red than others was selected first. This was indicative of fertility hotspot or fertility geographical heterogeneity at a subregional level.

Selection of study districts

Once the subregions with poor or declining indicators were identified and selected, the districts within each one were ranked in the increasing order of TFR obtained from the district level TFR data based on the 2014 National Population and Housing Census, where the TFR was 5.8 compared to 5.4 obtained from DHS 2016. Districts with TFR higher than the current national average of 5.4 (DHS 2016) were eligible for selection as candidates for further investigation using DHIS2 data. A comparator district (cold spot) with significantly lower TFR than the hotspot district TFR in one subregion and as similar as possible to the identified study districts in other characteristics was selected.

Selection of study subcounties

After identifying the districts, DHIS2 service data were used to identify subcounties within selected districts with a persistently low percent of recorded supplied number of FP methods per projected number of females in the subcounty at years 2015, 2016, and 2017. Within each selected district, a discussion was held with district officials including DHO, biostatistician, and other district stakeholders to provide insight on the worst-performing subcounties so as to identify the fertility hotspots. A comparison was made between the subcounties identified through FP data as recorded in the DHIS2 with views from the DHT. A final set of three subcounties was determined through a consensus-building process with all subcountry and district stakeholders, which was also informed by the data.

QUALITATIVE APPROACH

2.2.1 Study area and qualitative data collection

Following the selection of the five hotspot districts using TFR from the national census data, three program subcounties (hotspots) in each district were identified partly using a dialogue with the district health offices and other district stakeholders. The primary data collection for the qualitative study was conducted

in 15 subcounties in the five districts of Kyegegwa, Rubirizi, Agago, Butaleja, and Buyende. KIs were also held in Mitooma, the comparator district. The subcounties are indicated in Table 2.2.

Table 2.2: Hot spot subcounties in the five study districts

District	Subcounties		
Kyegegwa	Kakabara	Hapuyo	Kyegegwa TC
Rubirizi	Ryeru	Katanda	Katerera
Agago	Kotomor	Lamiyo	Omot
Butaleja	Busaba	Kachonga	Mazimasa
Buyende	Buyende Rural	Bugaya	Kidera
Mitooma	Bitereko	Kashenshero	Rurehe

In the districts, interviews were held with officials from the DHO offices and population officers. In three subcounties from each of the five districts, interviews were conducted with various categories of people: (1) IDIs with purposely selected women who (a) have high parity of six or more children, (b) adolescent mothers already having two or more children, (c) women who have relatively low parity of three or less children already in their late reproductive years age 35 and above; (2) FGDs with women of reproductive age, both young—below 25 years and old—above 25 years; (3) KIs with community development officers (CDOs) at each subcounty. The data from CDOs were intended to provide explanations from resident experts about high fertility and adolescent pregnancies as well as suggestions of acceptable interventions. The FGDs were meant to discuss women’s community-level views relating to factors that may hinder contraceptive use, drive high adolescent pregnancies, facilitate a high desired number of children, and lead to large family sizes. The IDIs were meant to provide descriptions of women’s experiences navigating the social and cultural norms, gender issues, and service access for contraceptives among others and how these affect them differently. Data from IDIs were triangulated with community-level information from FGDs. All data were key in understanding the context-specific factors that promote and/or curb early pregnancies, early sex, and nonuse of contraception (all of which ultimately impact fertility rates), which could then be used to tailor interventions for different contexts.

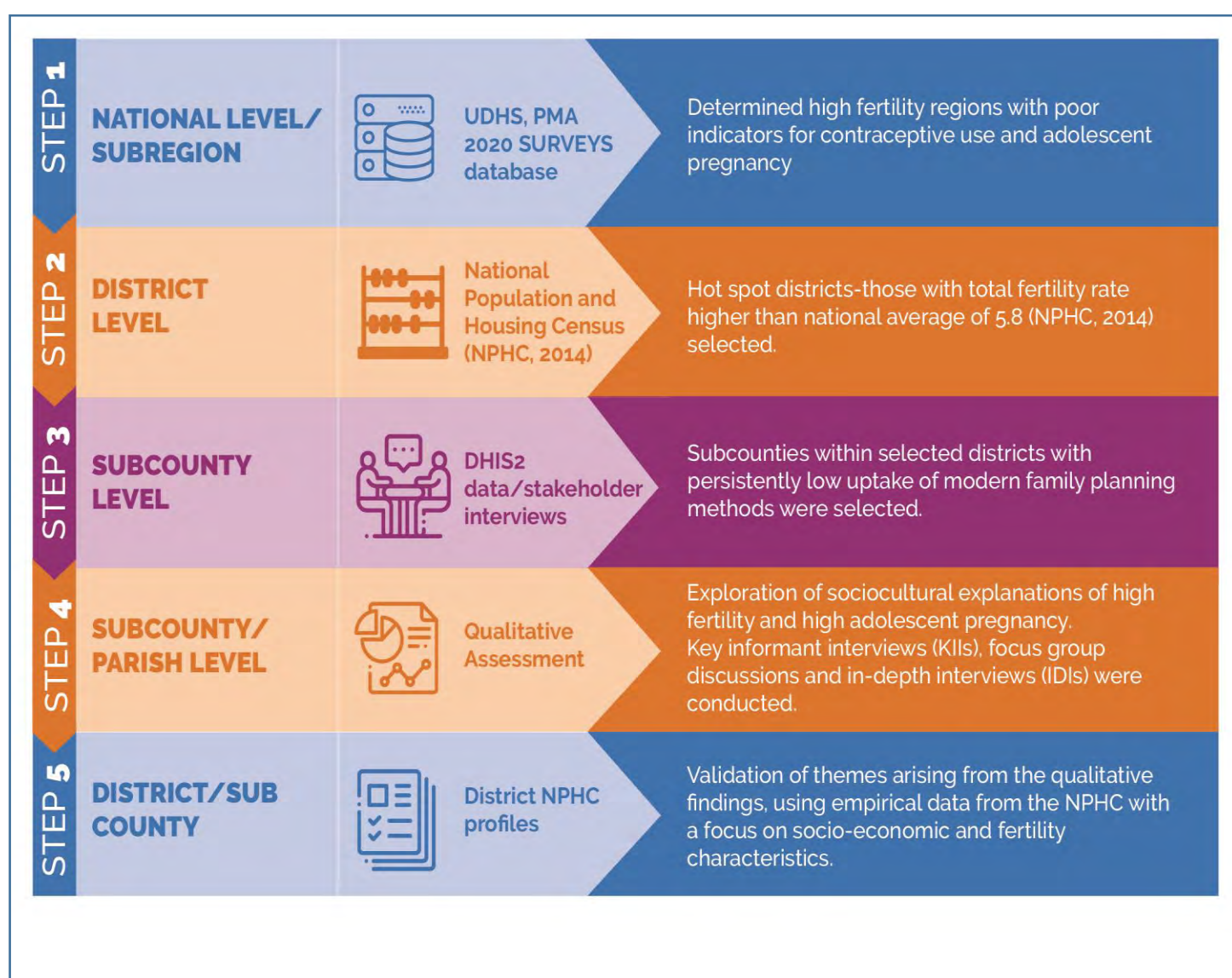
Table 2.3: Number of interviews by method, category of interviewees, and district

Method	Category	Number of interviews by district					TOTAL
		Agago	Butaleja	Buyende	Kyegegwa	Rubirizi	
In-depth Interviews	Women of reproductive age with ≥ 6 children	6	6	6	6	6	30
	Adolescents with ≥ 2 children	6	6	6	6	6	30
	Women age ≥ 35 with ≤ 3 children	5	6	6	6	6	29
Key informant interviews	KIIs at subcounty	3	3	3	3	3	15
	District level KIIs	2	2	4	2	2	12
Focus group discussions	Women of reproductive age in communities	6	6	6	6	6	30
TOTAL		28	29	31	29	29	146

2.2.2 Qualitative data management and analysis

All interviews were audio recorded with consent and transcribed verbatim. Local language interviews were simultaneously translated to English during transcription. Transcripts were uploaded into ATLAS.ti qualitative data

management software for coding and analysis. Codes were developed from reading the initial transcripts and conducting debrief meetings with the research assistants. A draft codebook with categories and themes based on objectives of the study was then entered in Atlas.ti and applied to all transcripts, allowing the emerging of codes and categories. Thematic content analysis was used to structure the data focusing on all aspects of the research questions/objectives. Any similarities in patterns and the magnitude of categories and codes across districts and categories of interviewees were determined using query reports and codes-document tables in Atlas.ti. Findings are presented thematically with use of typical quotations from participant interviews.



3. FINDINGS

FERTILITY INDICATORS AND MODERN FAMILY PLANNING METHODS USE

SELECTION OF SUBREGIONS

This section presents the findings of the first objective for indicators used to identify hotspots at subregional and district levels.

Use of modern contraception

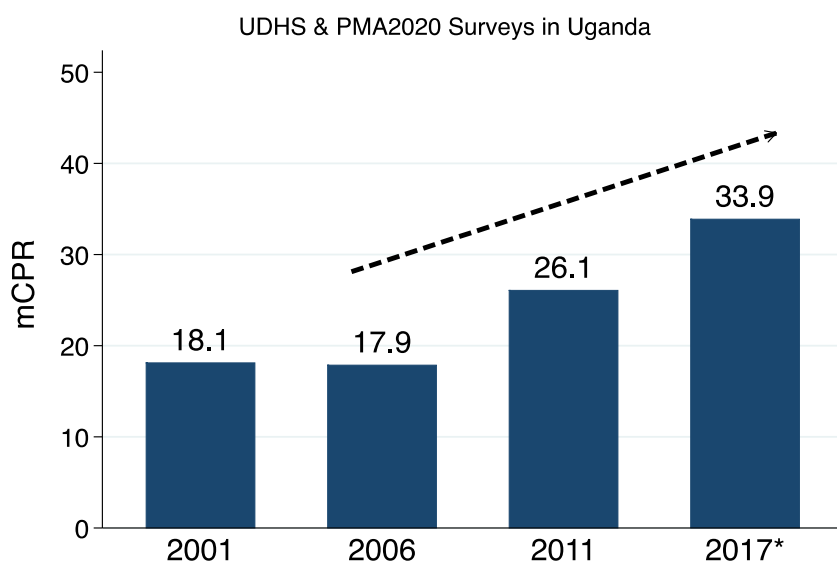
Figures 3.1-3.5 show trends in the key indicators over the three 2006, 2011, and 2017 national surveys. Overall, mCPR has been steadily increasing, nearly doubling, 17.9 percent (2006) to 33.9 percent (2017) among WRA (15-49 years). However, this steady increase was not observed throughout the subregions. Central-2, East-Central, Karamoja, and West-Nile had at least two years with consistent low mCPR among married women or showed very minimal increases. Although Kampala showed no changes, the mCPR was consistently high; subregions with minimal increases or with consistent low mCPR for at least two surveys were coded as red (Figure 3.2).

Table 3.1: Trends in TFR, mCPR, and mean ideal number of children by residence

	TFR		mCPR		Mean ideal number of children*	
DHS year	Urban	Rural	Rural	Urban	Rural	Urban
1988	5.7	7.6	1.5	12.2	-	-
1995	5.0	7.1	5.1	28.1	-	-
2001	4.0	7.4	14.7	41.6	5.1	3.8
2006	4.4	7.1	15.1	36.5	5.2	4.0
2011	3.8	6.8	23.4	39.2	5.0	4.1
2016	4.0	4.9	33.0	40.7	5.0	4.3

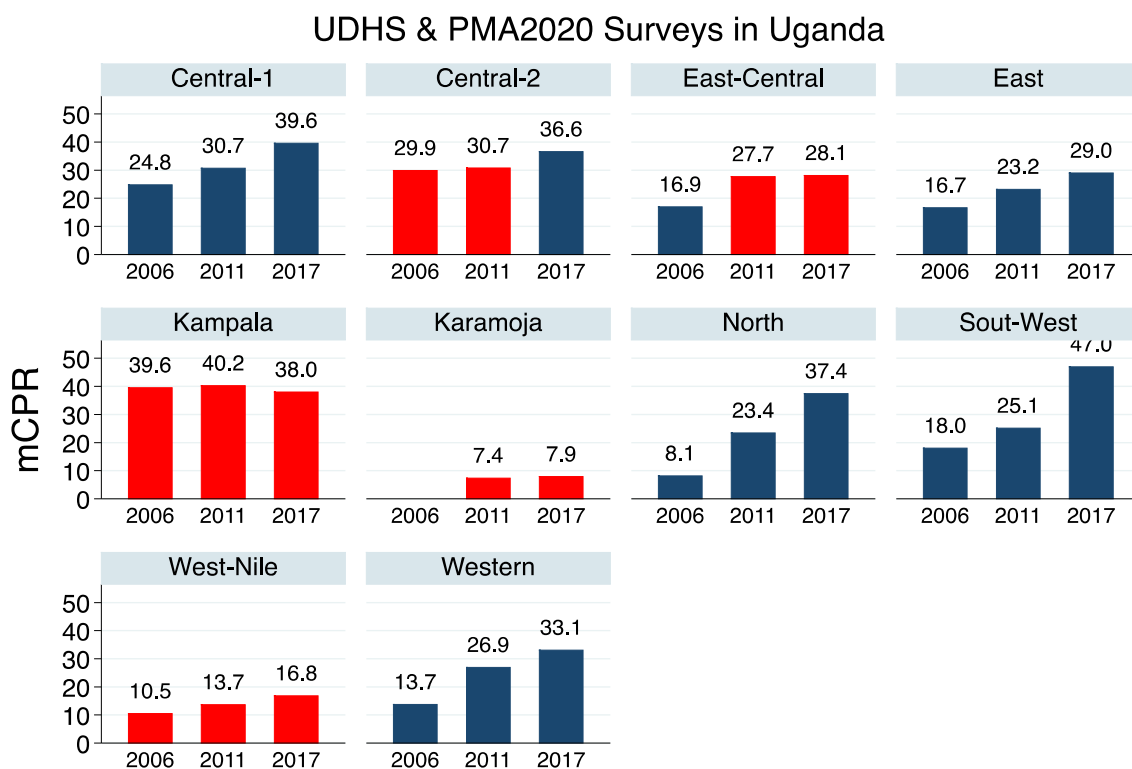
* Data available only for those years.

Figure 3.1: mCPR among married women 15-49



*PMA=Mar/April2017

Figure 3.2: mCPR by region among married women 15-49



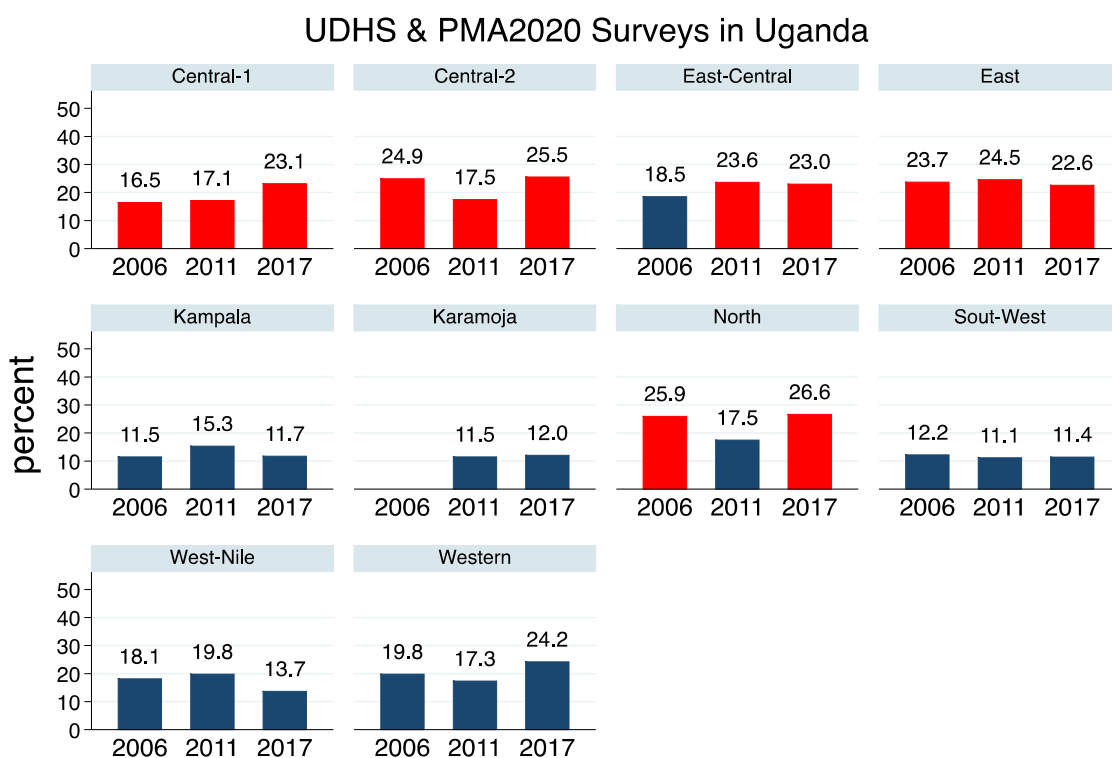
PMA=Mar/April2017

Sexual behaviors

Similarly, subregions with persistently high or increasing percent of adolescents (15-19) ever given birth were identified. These included Central-1, Central-2, East-Central, East, and North (Figure 3.3). The other indicator of poor adolescent reproductive health included percentage of women (15-49) who were married at less than 18 years. The identified subregions under this indicator were Central-1, Central-2, East-Central, East, and North. West-Nile, Western, and Karamoja were excluded because of the improvement in this indicator over time (Figure 3.4).

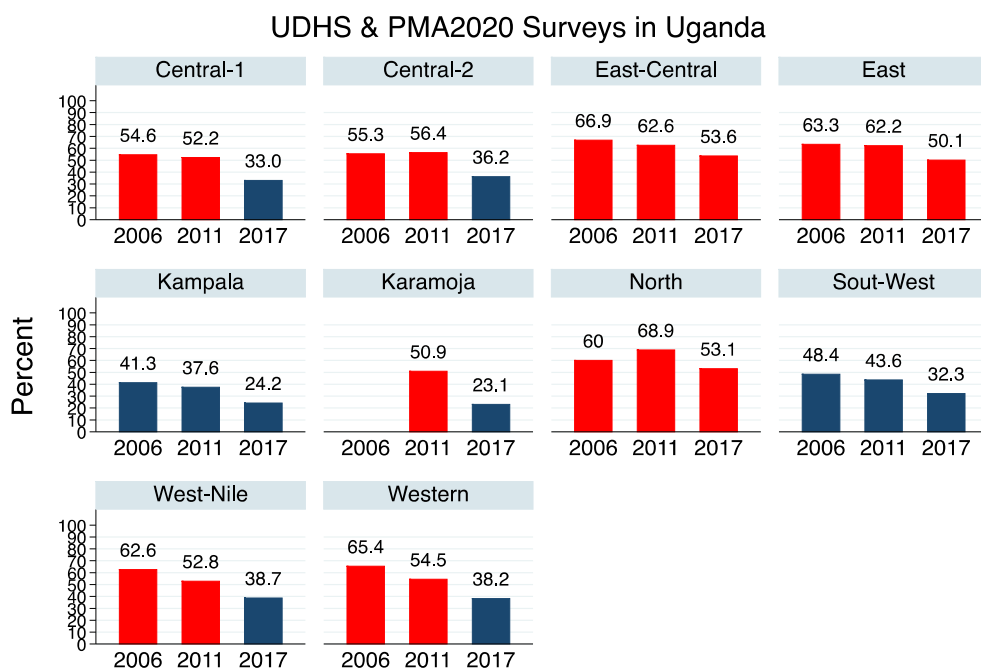
Percent of adolescents (15-19) ever had sex by region has been high and increasing consistently for at least two consecutive years in Central-1, East-Central, North, Kampala, West-Nile, and Western (Figure 3.6). Median age at first sex for women aged 15-24 was low (approximately 16 years) for almost all subregions except South West, Karamoja, and Kampala (Table 3.2). Median age at first marriage for women aged 15-24 was consistently low, about 17 in East-Central, East, Western, and North. However, median age at first marriage in Southwest was consistently high (18 years), as was Central-1 and Kampala (Table 3.3).

Figure 3.3: Percent of adolescents (15-19) ever given birth by region



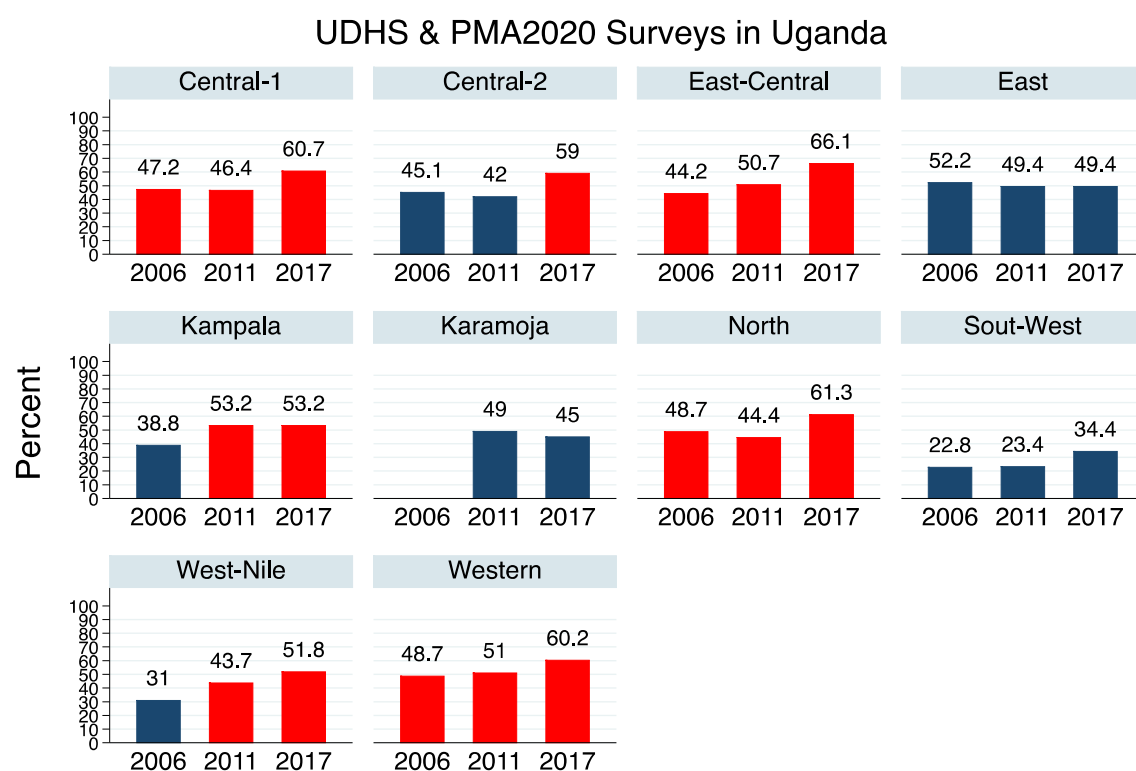
PMA=Mar/April2017

Figure 3.4: Percent of women (15-49) married at less than 18 years by region



PMA=Mar/April2017

Figure 3.5: Percent of adolescents (15-19) ever had sex by region



PMA=Mar/April2017

Table 3.2: Median age at first sex for women (15-24 years) by region

	2006	2011	2017
Total	16	16	16
Central-1	16	16	17
Central-2	16	16	16
East-Central	15	15	16
East	16	16	16
Kampala	16	16	17
Karamoja	-	17	18
North	16	16	16
South-West	17	18	18
West-Nile	16	16	16
Western	16	16	16

Table 3.3: Median age at first marriage for women (15-24 years) by region

	Year		
	2006	2011	2017
Total	17	17	18
Central-1	17	18	19
Central-2	17	17	18
East-Central	17	16	17
East	17	17	17
Kampala	18	18	19
Karamoja	-	17	18
North	16	16	17
South-West	17	18	18
West-Nile	17	17	18
Western	17	17	17

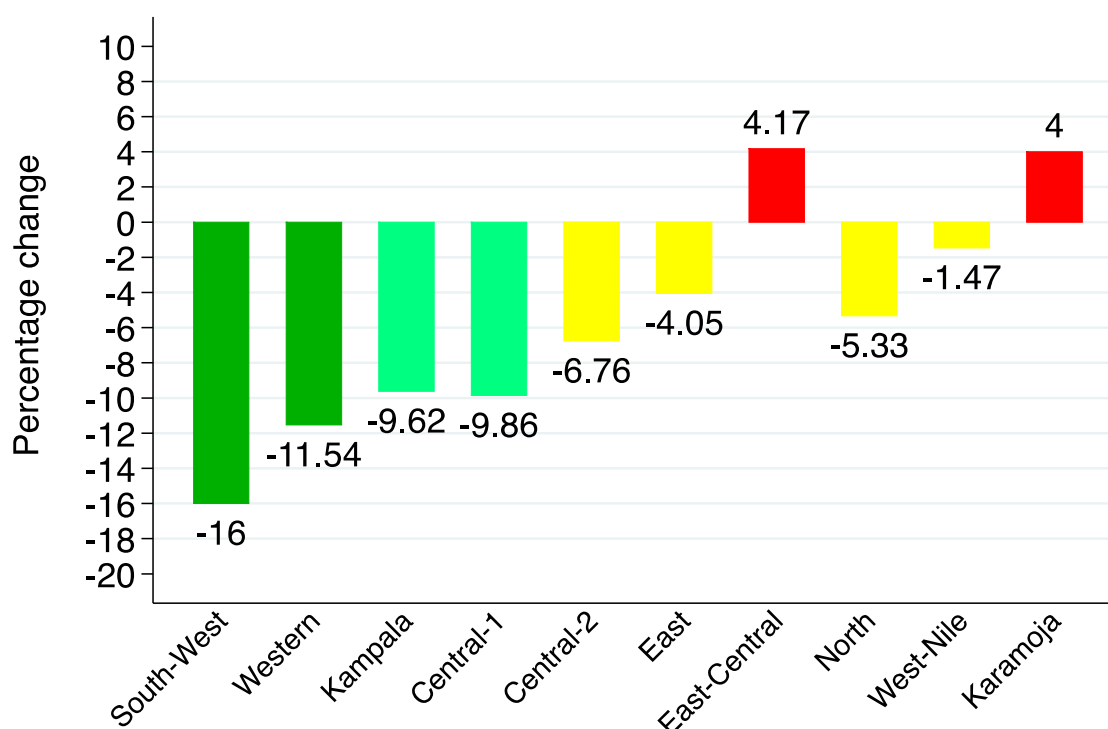
Fertility and sexual behavior

Figure 3.6 combines all fertility, sexual behaviors, and use of modern contraceptive indicators. Subregions with poor indicators as described above have been flagged as red, while those with optimal as yellow and green if the indicator is good (improving or stable). In this assessment, the outlier subregions that clearly had very poor indicators across the board were East-Central, North, and East, while Southwest was the subregion with the best indicators. Figure 3.7 shows subregions with an increase or minimal change and high (above 7) mean number of children ever born (CEB): East-Central (0.3), Karamoja (0.3), West-Nile (-0.1), East (-0.3), and North (-0.4). Only South-West, Western, Kampala, Central-1, and Central-2 had at least 5 percent decline in CEB over a 10-year period.

Figure 3.6: Identification of regions based on all key indicators

Subregions	mCPR	(15-19) ever given birth	(15-49) married at <18	<u>women</u> (15-24) Median age	Mean CEB2006	Mean CEB2016	10 year change in mean CEB
				(15-19) ever sex at 1 st sex			
South-West					7.5	6.3	-1.2
Kampala					5.2	4.7	-0.5
Karamoja*					7.5	7.8	0.3
Central-1					7.1	6.4	-0.7
Western					7.8	6.9	-0.9
Central-2					7.4	6.9	-0.5
East					7.4	7.1	-0.3
West-Nile					6.8	6.7	-0.1
North					7.5	7.1	-0.4
East-Central					7.2	7.5	0.3

Figure 3.7: Estimated percentage change in CEB among females (40-49 years) at UDHS 2006 and 2016



**CEB DHS 2006 and 2016. Women aged 40-49 years.*

SELECTION OF DISTRICTS

Following the analysis of data at subregion levels—sexual behavior, modern contraceptive use, and fertility including mean number of children ever born (CEB)—regions with poor indicators were identified at this level. These included East, East-Central, and North; while Southwest and western subregions had better indicators. Further analyses were therefore conducted to identify districts within the selected subregions.

Selection of a district was based on district level TFR as provided in the 2014 national housing and population census. A district with TFR greater than the national average at census 2014 (5.8) was eligible for inclusion (Figure 3.8). Rubirizi had the highest TFR among districts in the southwestern area, a subregion with good performance on all considered sexual behaviors, fertility, and contraceptive use indicators. The choice for these districts was further informed by APC's prior engagement with key stakeholders in the subregions

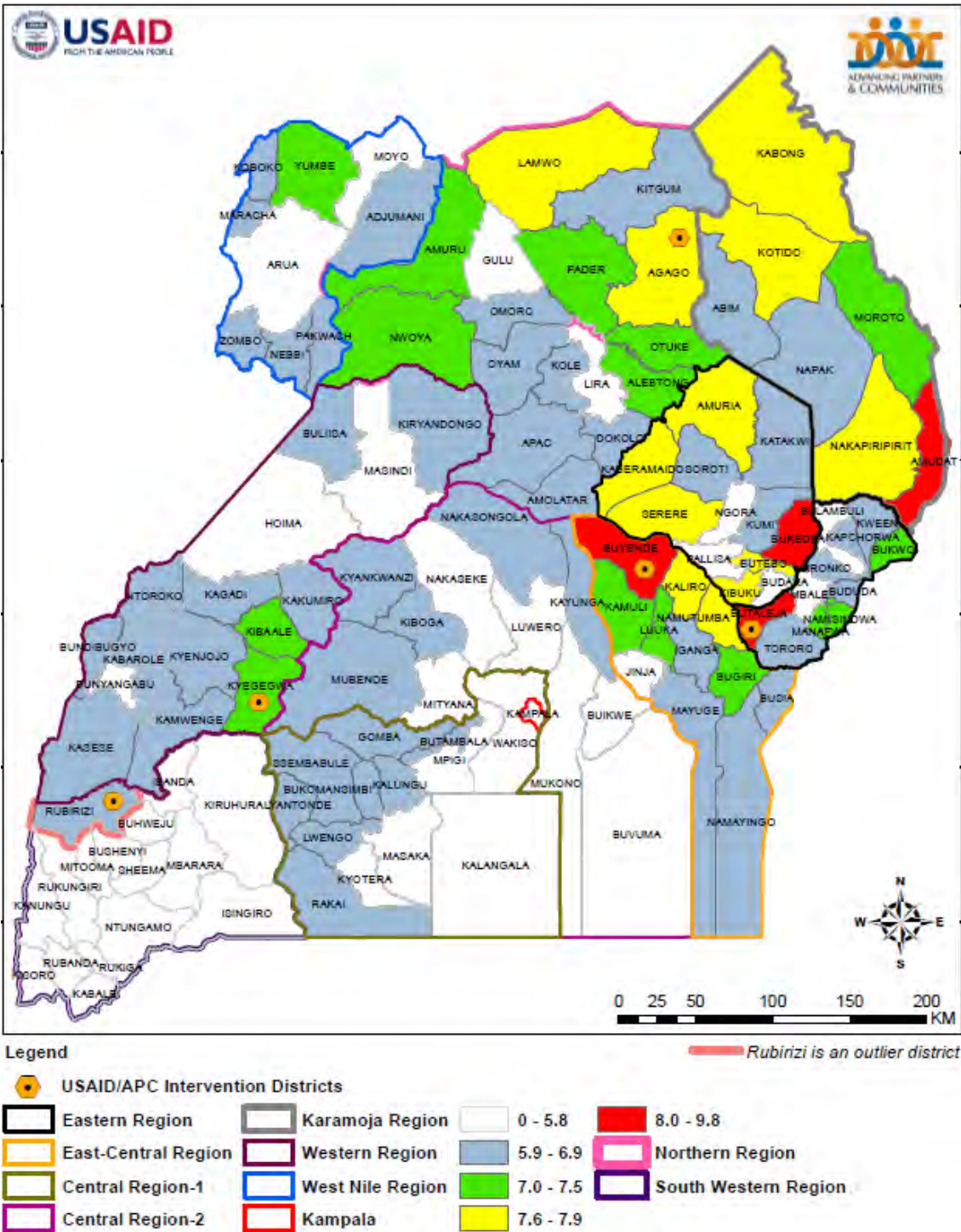
including the USAID RHITES projects. All the selected districts were representative of all districts within the subregion in terms of TFR.

Table 3.4: Total fertility rates (TFRs) of selected districts

Subregion	District	TFR	Range of TFR
E-Central	BUYENDE	8.3	5.4, 8.3
East	BUTALEJA	8	5.2, 8.0
North	AGAGO	7.7	4.9, 7.7
Western	KYEGWEGWA	7.0	4.8, 7.0
S-Western	RUBIRIZI	6.2	4.2, 6.2
S-Western	MITOOMA*	5.2	4.2, 6.2

*Note: *A comparator district, bordering Rubirizi, which had the highest TFR in the subregion.*

Figure 3.8: Fertility hotspot districts in the regions



SELECTION OF SUBCOUNTIES

Routine service data from the DHIS2, together with the estimated subcounty female population for the years 2015, 2016, and 2017 were used to determine use of modern contraceptives within a subcounty.

Figures 3.9-3.14 show all the identified subcounties, which are labeled in red rectangles. Table 3.5 combines all the identified subcounties (shown in column A). Column B shows the final selected subcounties following a consultative discussion with the DHT and other stakeholders at the selected district. Subcounties identified for qualitative assessment were mainly due to the persistently low percentage of female FP users. The decision to include a subcounty in the final qualitative assessment phase was informed by use of routine data from DHIS2 and engagement from DHT members. This approach was important because districts officially receive information from the VHT and other community members that may not be captured in the routine system.

Figure 3.9: Estimated percentage of female FP users in Rubirizi district

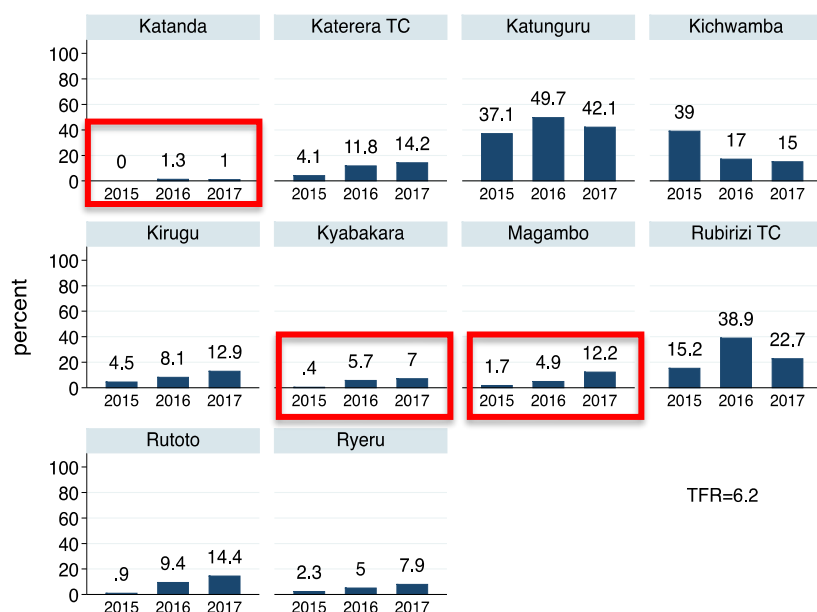


Figure 3.10: Estimated percentage of female FP users in Kyegegwa district

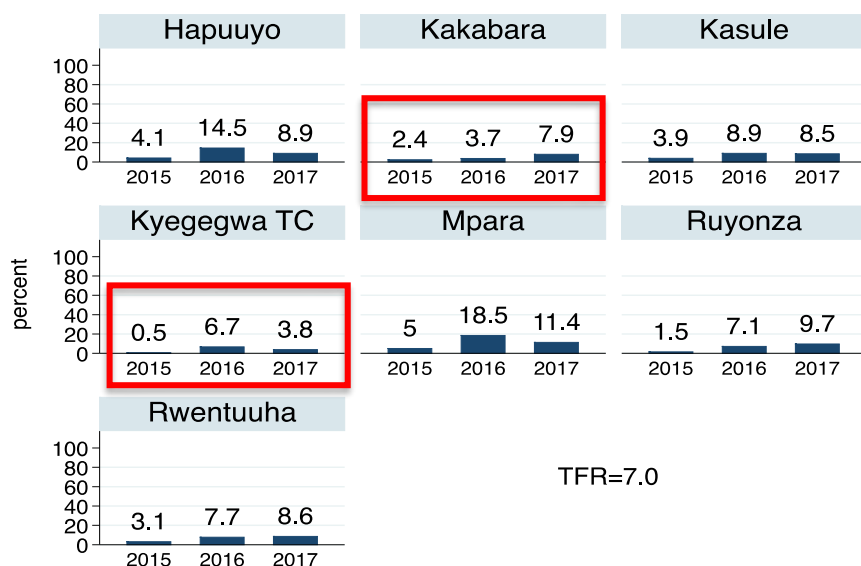


Figure 3.11: Estimated percentage of female FP users in Buyende district

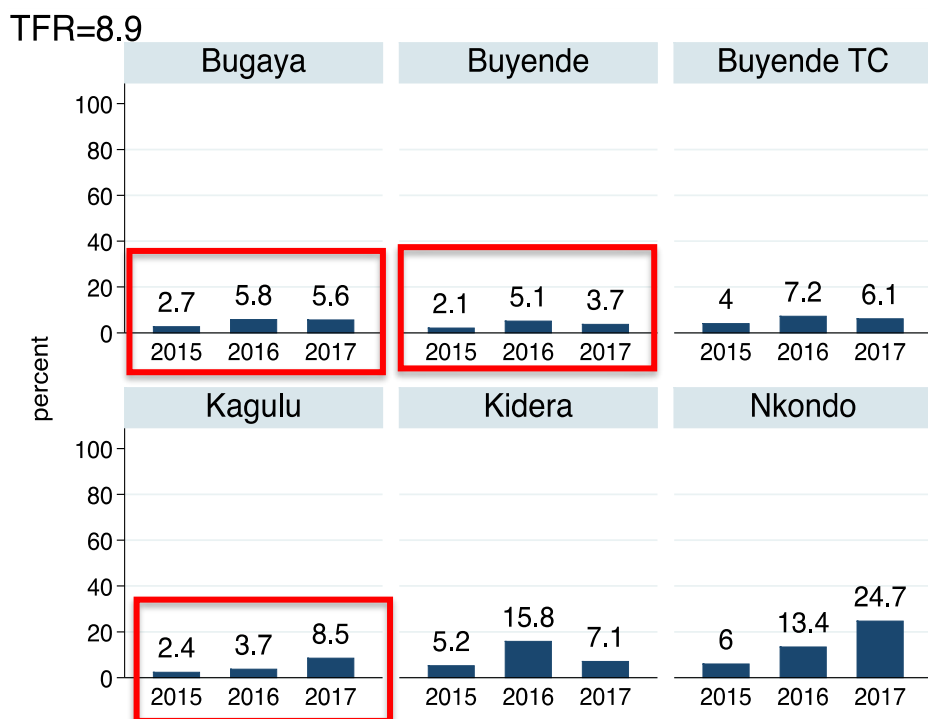


Figure 3.12: Estimated percentage of female FP users in Butaleja district

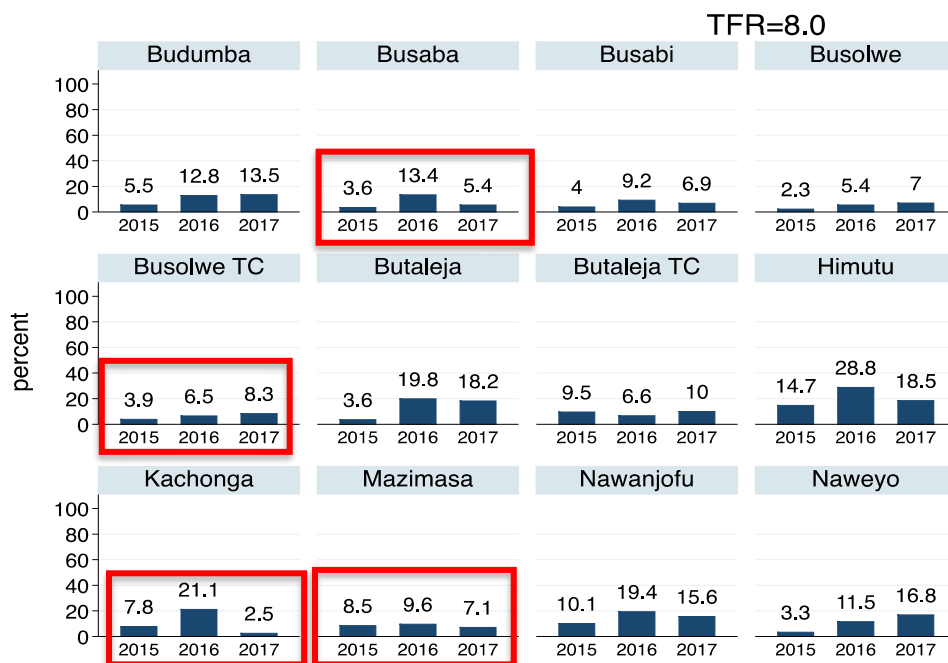


Figure 3.13: Estimated percentage of female FP users in Agago district

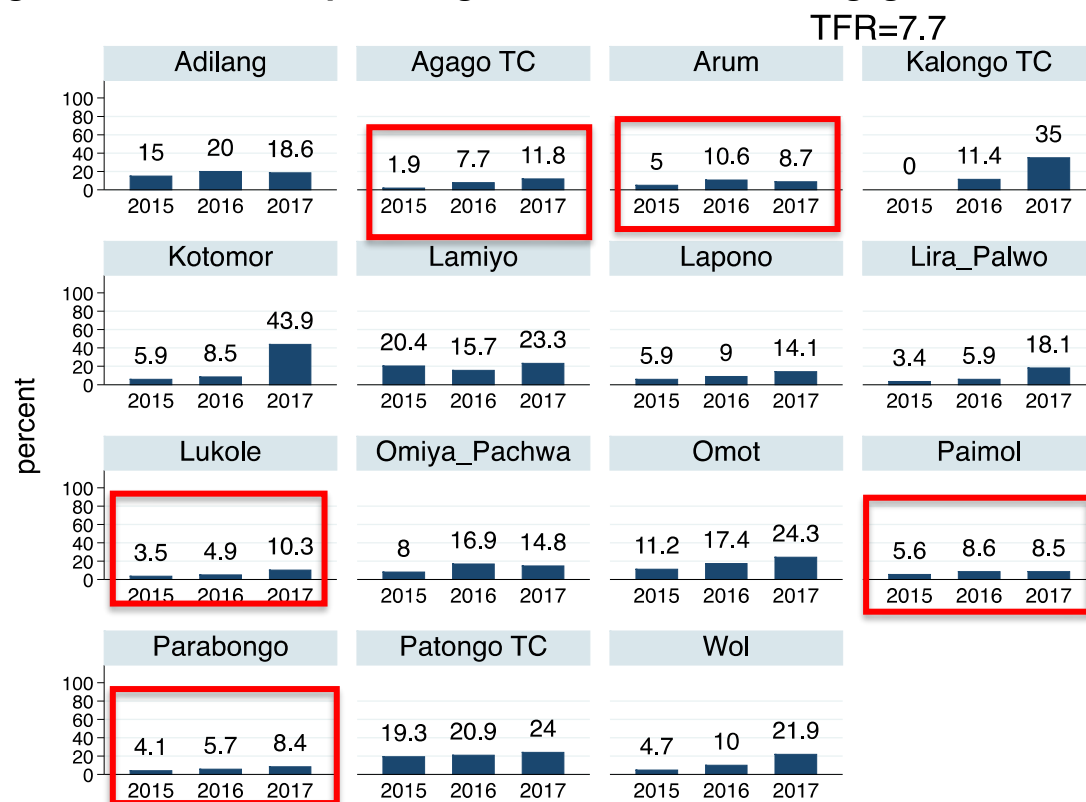


Figure 3.14: Estimated percentage of female FP users in Mitooma district

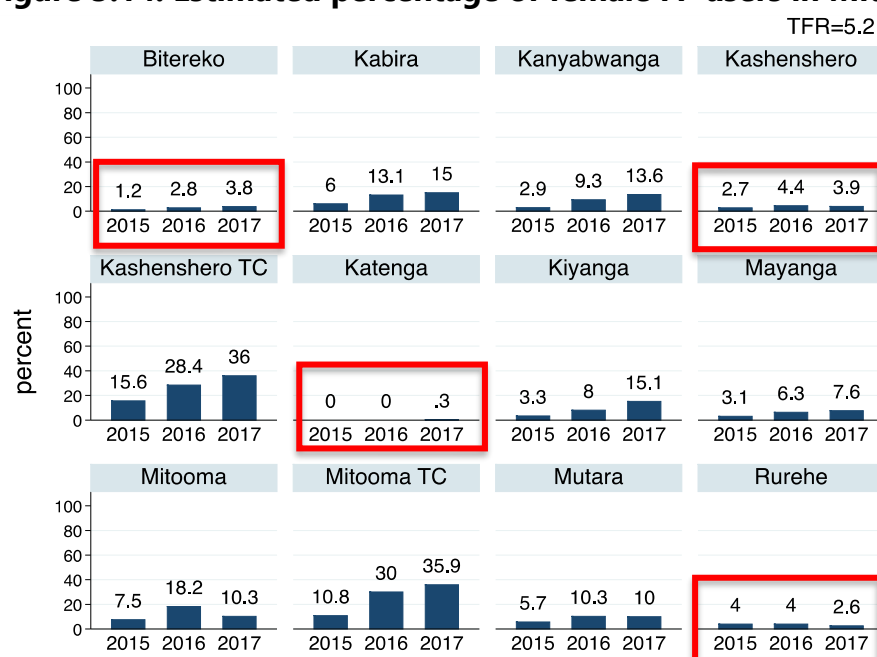


Table 3.5: Selected subcounties in the five program districts

Districts	DHIS2 identified subcounties	Final subcounties selected
Kyegegwa	Kakabara, Kyegegwa TC	Kakabara, Kyegegwa TC, and Hapuyo SC
Rubirizi	Katanda, Kyabakara, Magambo	Katerera SC , Ryeru SC, Katanda SC
Buyende	Bugaya, Buyende, Kagulu	Bugaya SC, Buyende rural, Kidera SC
Butaleja	Mazimasa SC, Kachonga SC, Busabi, Busolwe, Busolwe TC, Butaleja TC	Mazimasa SC, Busaba SC, Kachonga SC,
Agago	Lukole, Arum, Paimol, Parabongo, Agago TC	Kotomor SC, Omot SC, and Lamiyo SC
Mitooma (comparator)	Bitereko, Kashenshero, Rurehe	Bitereko, Kashenshero, Rurehe (for social norms exploration)

SOCIOECONOMIC AND CULTURAL CORRELATES OF FERTILITY AND ADOLESCENT PREGNANCY IN THE HOTSPOT DISTRICTS

From the qualitative study, several factors were investigated to explain the high fertility in general, low use of contraception, and high adolescent pregnancies both in the community interviews and the KIs across the selected subcounties in the five districts.

Community explanations for high fertility and low contraceptive use

Summary factors driving fertility and low contraceptive use

- Definition of small family size depicts a high fertility desire
- Perceiving children as a source of economic security
- Uncertainty about who will survive to adulthood to support parents
- Low economic expectations and standards of living for children
- Gender inequality, with men likely to influence decisions
- Early marriages
- Marriages are meant for procreation
- Pressure from 'significant other' influencers
- Higher fertility desires for men than women drive women to have more children
- Norms about mixed sex of the children
- Side effects of contraception and challenges with their management
- Myths about modern contraception
- Limited contraceptive choices
- Religious beliefs

Across all the five districts, women in the FGDs defined small family sizes as those where couples have up to six children, whereas large families were defined as eight children or more. The community perception of small families, which is above the national TFR speak to a high desired number of children and does offer some explanation of the observed high fertility in these districts.

Children were reported to still be perceived as a key source of household/family labor and as potential social security/protection when parents age. The girls were also viewed as a source of wealth when they marry off. Although this was the most prominent explanation provided as a driver of high fertility in all the

districts, it was more strongly pronounced in Buyende and Butaleja. Such views may also be related to culture and household poverty.

Many people are illiterate, and they look at children as a source of labor to work in the family gardens, while the girls are a source of wealth when married off. They also have many assuming some will die. –KII, district official, Buyende

The long-term expectations from children and yet uncertainty about their survival to adulthood also further influenced high numbers of births; just in case some did not survive to play these pivotal roles.

My mother used to tell us that it's better to have many children. You may have only three and they all die, or what if you have few and none of them helps you? But when you have many, one among them may help you in old age or one might be bright. If you have few, they may all be girls who will be married off to another family. This is what I based on to have many. –IDI, woman, Busaba Butaleja

A couple, but especially the man's ability to economically afford a basic lifestyle for a family, influenced the desired and ultimate number of children. This ability however was based on relatively lower socioeconomic goals, which many people meet, resulting in having many children. For example, economic stability was mainly defined as the ability to fend for the family in terms of immediate and short-term needs for food and basic education materials as well as basic health care. With basic needs such as education and basic health freely available, this further eases the economic pressure.

Issues reflecting gender inequality were rampantly reported, with very low levels of women empowerment manifesting in the couple dynamics, evidenced by childbearing decisions largely being in the hands of men. Women reported having very little say in matters of their own reproductive health (childbearing) including when to have sex. Even where some discussions were reported to have occurred with the couple, the ultimate decision seemed to lie in the man's hands as reported by women in the IDIs. Women also reported enormous pressure from husbands/partners when there was a discordance about childbearing. Several women reported that this was because men do not experience the burden of caring for children, as women do. The responsibility for child care being on the women's shoulders was reported often across all geographies.

There were minor reports of some women being able to resist the pressure to have more children, using contraception stealthily. However, this was with enormous fear of being discovered by their partners. Women used varied strategies including feigning their own sickness or lying about their children's health to be able to access health facilities and have a chance to use contraception. Those who could afford private nearby clinics would obtain injections in their husband's absence.

When my first child was three years old, I told him [my husband] that I wanted to start using family planning, but he refused. I have a child almost every year and right now that this child is eleven months.... I tell him that I want to take family planning methods so that I can rest and my uterus can recover because paying school fees has also become a challenge. He says he cannot accept because he brought a woman to produce children. I have decided to use family planning on my own now. He is not aware. –IDI, woman, Kotomor_Agago

Men do not want to stop having children. Even if you (woman) try to stop, he will tell you blatantly 'if you stop, I will go on and bring babies from outside the marriage', and when you stop, you carry children of your co-wives. Those are the problems we are facing. –FGD, woman, Kidera_Buyende

Early marriages were reported in all the sites as a major explanation for high fertility. Marrying at early ages for women meant early childbearing and a longer period of exposure to pregnancy even if they used contraception to space the pregnancies.

In Katerera, girls start getting into marriages sometimes as early as 13, 14, 15, to 20 years. If they clock 20 years before marriage, people say "ohangire" (you have over delayed to get married). So you realize that if someone starts producing at around 17, to 20, then it gives her the potential of producing many children if they continue up 40 years and more. You can't compare her to someone who got married at 25, 28, or 29 years.—KII, subcounty official, Rubiriizi

Across all geographies, marriages/marital unions were perceived to be primarily for procreation. This crosscutting norm means that the first expectation of any marriage is children soon after the union. When women do not have children whether by choice or otherwise, they are judged by the family and community as

unsuccessful in their unions. This drives them to have children to protect the union's stability and meet social expectations.

People here believe that when a woman does not produce children for their spouse, then that means their relationship is in danger of failure. So, in most cases they produce primarily to keep in the relationship. That is a cultural norm, and those who are customarily married believe they married to produce children. --**KII, subcounty official, Kyegegwa**

Significant others who are influencers of decision-making in couples, especially the relatives of the man and older women in the communities, were also reported as putting pressure on the women to have (more) children. This was mainly echoed in Agago, Buyende, and Butaleja districts.

Sometimes they put pressure on you to give birth to more children claiming they have already paid bride-price for you. So, you must produce many children or else they influence their son (husband) to bring another woman. --**FGD, woman, Omot_Agago**

Further, with procreation being key in unions, when marital separations, divorces, or widowhood occur, women end up in new relationships and are expected to have children with their new spouses. This expectation is irrespective of whether they have had several with their ex-partners. These would not have been planned children if the initial unions had not ended.

If you had been married before and gave birth to some children with one man. When you re-marry and tell your new husband "because I already have children I want to have only one or two more." He tells you "those children were for the other man, now you want to produce only one or two children for me?" You end up accepting to have more. **FGD, woman, Kidera-Buyende**

Many women in marriages/relationships reported living in fear from the consequences of disagreements over the number of children and use of contraception. When the men's fertility desires surpassed those of their partners, there were likelihoods of domestic conflicts, sometimes resulting in violence. Some men threatened neglecting the children they already had in case their partners refused to have more, finding other sexual partners to have children with, separation, divorce, or even physical violence. In such circumstances the women often succumbed to the pressure to have children that they did not intend to have initially.

*I told him (husband) that I wanted four children because I had a vision that I should have only four. I even told my mother in law about this. But he instead told me that if I wanted four children, I should leave his house. **IDI, adolescent mother, town council, Kyegegwa***

Couples are still expected to have children of mixed sex, but especially boys. This drives fertility in case the first few children are all one sex. This pressure arises from cultural expectations of men having a customary heir, and the expected gender roles of girls and boys from which parents expect to benefit. For example, participants reported that the boy child is expected to provide material support for parents in old age, while the girl would bring in bride wealth. This pressure often results in violence among couples, with the blame of failure to have the other sex of children placed on the woman.

*Women bring cases to me regarding domestic violence because of being accused of giving birth to only one sex of children. The man says, "let me bring another woman to give birth to the missing sex." This is common. **KII, subcounty official, Agago***

The side effects of modern contraceptive methods were reported as a main limiting factor to uptake and as contributing to discontinuation among users. Side effects reported included heavy bleeding during menstruation, inability to do strenuous work when on hormonal methods, missed periods, abdominal pain, and vaginal dryness. The sharing of these effects with others discourages uptake. For example, some women vowed never to use contraception because of side effects, while others were uncertain although they had an unmet need and continued to have unintended pregnancies. In Agago, younger women in FGDs reported that when they confided in colleagues about heavy bleeding due to contraception, they were often branded as having had abortions, which is illegal and stigmatizing.

*As you know, people in our village say negative things about using family planning methods... I did not want to continue giving birth. I wanted to use family planning, but I used to hear people saying that family planning is not good for you. So, I just gave up. **IDI, adolescent mother, Bugaya_Buyende***

Misconceptions relating to contraceptive use were also rife across geographies. These included, among others, contraception being responsible for rising cancer diagnoses, infertility among women, burning the ova, and causing birth defects. These are sometimes confused by nonusers to be real side effects. This confusion

makes it complicated for people in communities to differentiate between actual and false side effects, thus impacting uptake.

*They say this thing causes infertility; it can kill. We try to sensitize them that these are not true. But the problem is some of the side effects are real and if a man sees a neighbor's wife experiencing bad side effects like bleeding, he will not allow his wife/wives to go for family planning. **KII, subcounty official, Agago***

Women noted that the management of side effects at health facilities is a big challenge to their use of modern contraception. They reported not getting needed support and were at times referred to higher level facilities by the health centers, which comes with financial challenges. These challenges, which are related to the costs of management, were also partly blamed for men's hesitance to accept contraception for their partners.

*Sometimes you go back to the health center and they will refer you to Kalongo hospital and yet they are the ones who inserted it (implant). So your man will be afraid of losing (selling) a cow to get you treated (side effects). That is the reason we do not like it. How I wish they could first test your blood to get what works best for you but here they just put it anyhow and this will disturb you a lot. **FGD, women, Omot_ Agago***

In Rubirizi and Kyegegwa, religious beliefs were reported as contributing to low contraceptive use. Key informants and women mentioned a specific religion in which members are not expected to use FP methods. While some may not follow these beliefs, many women and men who are devout may be influenced by their leaders.

*Some of our religions like Bisaka religion do not allow us to use family planning here. **-IDI, adolescent mother, Katerera, Rubirizi***

Drivers of adolescent pregnancies

Summary explanations for high adolescent pregnancies

- Poverty leading to poor crowded housing, school dropouts, and cross-generational transactional sex
- Gender inequality in sexual relationships
- Ignorance in matters of sexuality and reproduction
- Extreme parenting styles
- Peer pressure from the sexually active and married adolescents
- Early marriage happening clandestinely in communities
- Increasing access to cell phones
- Beliefs relating menstruation to marriage
- Misconceptions about causes of pregnancy, which masks the problem

In all districts, the outstanding underlying contributor to the very high adolescent pregnancy rates was poverty at the household level. Various immediate factors related to household poverty were discussed as well. Crowded housing exposes children to sex from parents at an early age, but also makes the children vulnerable to defilement by relatives living in the same crowded dwellings. These issues were mainly reported in eastern Uganda, in Buyende and Butaleja.

We are producing many children and yet the houses we are raising them are small. We are sleeping together with the children, and they are hearing whatever happens at night. In most cases the men don't care whether children hear or not. When they go to the boreholes they discuss with friends what they heard at night and in the end, they will also want to practice.

FGD, women, Kidera, Buyende

Poverty also leads to early school dropouts when parents cannot afford the basics of schooling. Preference for education was reported to be given to boys in cases of economic strain. Women in community FGDs said they, like many others, could not purchase basic items for their daughters, such as pads, which are crucial for keeping them in school. In the end the daughters drop out or find support from men who, at times, end up luring them into sex.

Most girls in this area who get pregnancies are the uneducated ones. Those who are in villages and their parents have failed to pay school fees. Girls start looking for means of survival like working in bars. Because they lack SRH knowledge, they don't even think of using contraception. So, when the

*man offers her money, she sleeps with him with no protection. **FGD, women, Katerera, Rubirizi***

Due to poverty in which parents and caretakers fail to adequately provide for children, both in and out of school, some girls become involved in transactional sex searching for livelihoods for themselves and their households. In Buyende District, for example, there were disturbing reports in FGDs of parents that actively encouraged this vice in the quest to have a household livelihood from men that could afford to offer the girls material things. These areas also had fisher folks who lure girls easily with money fish sales. Provision of other requirements like sanitary pads and inner wear (nickers) were frequently reported to be used by men to lure girls into sex.

*The poverty levels are very high in Buyende. The fishermen now take advantage of young girls at age 14 or 15. The fishermen only get one thousand shillings to buy buns for them in the exchange of sex. The result will be pregnancy. **KII, district official, Buyende***

*At times I think it is because we are giving birth to many children (hard to care for them). The girls start to admire their friends. They also want to dress up like their peers and this makes them get involved with men at an early age and before they know it, they are already pregnant. **FGD, women, Lamiyo, Agago***

Gender inequality in sexual relationships that is biased against girls was also prominently discussed. Most participants agreed that girls are less likely to have control over condom use in sexual relations, and yet these relationships are most likely to be cross-generational where power levels are tilted in favor of the man. Even when relationships are with partners in the same age group, entrenched biased gender norms in relations disadvantages the females, making it hard to control condom use decisions.

*The largest number of men have resorted to going for the young girls who can easily give in to sex especially for material gain and this has contributed greatly to early pregnancies of our young girls. **FGD, women, Town Council, Kyegegwa***

Early marriages were reported to be happening clandestinely and largely not openly condemned in communities in all geographies. When adolescents have

early pregnancies, they are likely to be married off as a solution to avoid single young mothers or having babies while still living with parents. Early marriages increase the risk of repeat pregnancies, since soon after marriage women are expected to bear children based on the cultural norm of perceiving marriage as primarily for procreation. In some geographies, such as Butaleja, girls who start their menses were reported to be ripe for marriage.

Peer pressure, especially from married adolescents and those already sexually active, was rife. Friends of the peers are tempted into sexual activity often due to admiring the few material things that the peers have acquired from their sexual relations or marriage in the short term. In the eyes of the other adolescents, the newly married young women also appear to have freedom from school pressure and parental control. In communities where household poverty was reported very high, such attractions easily lure other girls into sex with older men/young adults without contraception.

Another related belief arising from peer pressure is the use of sexual intercourse to cement relationships, and further, using childbirth as a "sure" avenue to build an unbreakable bond with a sexual partner. These further propel adolescent pregnancies.

*...I saw that my friends had given birth. I also had to give birth and create a lasting relationship with my partner. **IDI, adolescent mother, Busaba, Butaleja***

*My peers would often ask me if I wanted to die before I had children. They told me to have at least one child so that when I die I am not buried with omutumba [banana stem]. **IDI, adolescent mother, Hapuyo, Kyegegwa***

Although phone ownership is still low among women, it is on the rise.

Participants reported that the increased ease of access to phones is a source of vulnerability for the girls. They noted that it makes it easier for men to communicate with the girls and lure them into sex without much knowledge to guide them. They reported that even if a girl did not own a phone, she could access one through peers. The few adolescents (male and female) with access to smartphones were reported to access pornographic materials easily and watch with their friends, further driving the urge to experiment with sex.

The lack of knowledge regarding sexual and reproductive health (SRH) among young people was also blamed for the high number of adolescent pregnancies. Several key informants and women in FGDs noted that many adolescents, young people, and even adults in the communities are not aware of the fertility cycle. With minimal use of contraception during sex and the fact that adolescents may be most likely to have sex when hormones are high during the fertility period, many girls find themselves pregnant. In the IDIs, several women confirmed this finding. Many had no information about fertility awareness when they got pregnant with their first child during adolescence. Some key informants reported that with minimal sexuality education for girls and boys out of school and, even those in school, this problem is not well addressed and needs attention.

Most of the time when the girls are still of school age, they do not know when they can conceive. It is worse in urban centers when parents are poor, and girls have needs. That is the main issue. When a girl goes has sex for the first time with no protection, she conceives. May be as early as age 14._ KII, subcounty official, Butaleja

I never thought about pregnancy at all. It just happened to me. I was working as house help, and my boss impregnated me after many times of having sex, we had a child. I came back to my parents' home where I had the baby. When I later decided to take back the baby to the father, we had sex. I got pregnant again. IDI, woman, Hapuyo, Kyegegwa

Parenting style was also blamed as causing what were referred to by older women as unruly adolescents. Participants reported extremes in parenting styles whether too strict or too lax. Female adolescents without close attention from their parents are easily accessible and lured into sex by men, while those in very strict families may also be lured by the "love" showered on them by the men in the communities that may be lacking at home. The breakdown of social support systems for sexually related guidance was also highlighted as an underlying cause for the high number of unplanned adolescent pregnancies. Many parents have not taken on the advisory role in matters relating to SRH for their children as expected, leaving a protuberant gap. Parents in FGDs also reported that unlike in the past many adolescents do not listen to their parents, and often get into trouble with unscrupulous men. Domestic violence was reported as a key factor increasing vulnerability to defilement. Violent parents are likely to neglect

children but also to abuse them, leading adolescents to seek solace from elsewhere and ultimately getting lured into sexual relationships by their “helpers.”

*The conflicts in homes between fathers and mothers in the family sometime force the children (girls) to go and look for a new life. When a girl goes to look for a job and gets a man who gives her money, she takes that money but with consequences, they end up getting pregnant. **FGD, women, Katanda, Rubirizi***

In some geographies, beliefs relating menstruating and marriage led to some of the pregnancies and early marriages among girls. In Butaleja, both community participants and key informants reported there are families that believe once girls start menses, they are ripe for marriage and are at times married off. Another related belief reported was that a girl should not experience menses while still living under the same roof with her parents.

*The other aspect is religion. For example, some of our Muslim colleagues in this district, feel that when a girl reaches the point of menstruation, that child has now grown up and can be given out for marriage. There are a few who still have that kind of thinking. **KII, subcounty official, Butaleja***

Other myths were reported that explain the persistent high adolescent pregnancies. In Agago, Butaleja, and Kyegegwa, blame was placed on the view that menstruation is beginning at a much earlier age than in the past, as well earlier interest in sex among adolescents. In Butaleja and Kyegegwa, they blamed early menses on vaccines that the girls in schools and communities received. Such myths may disguise the problem, making it hard to identify lasting community-led solutions.

It is that tetanus injection, it is believed that it quickens menses at a tender age, thus exposing the girls to early pregnancies. Some of us had menses at 13 years, but nowadays we see girls menstruating at 9 years.

FGD, woman, Town Council, Kyegegwa

Potential for change toward low fertility in the hotspots

This study inquired about the potential for change in norms and other influences on high fertility over time. In all sites, participants noted a change in the way people viewed children. There seems to be a tendency toward a reduction in fertility.

Young women in the study reported a desire to have smaller families after witnessing economic hardships faced by the older generation, a probable indicator of the possible trend in the communities toward low fertility. Even adolescents who already had children expressed a desire to have fewer children. In fact, many of these said they had witnessed firsthand some of the economic hardships already, including the loss of opportunities that comes with early childbearing. Other FGD participants reported a marked reduction in number of children now.

*Many want many children, but in the end, they run away from the family responsibilities (frowns) because where there are many children, even the man will never get enough food.... Several men here with many children usually leave the burden of caring to the woman. They are often drinking alcohol. Their children cannot even be well clothed. **FGD, young woman, Omot,_Agago***

Even in the unbalanced couple dynamics related to gender, some women have managed to use contraception stealthily. While they may be living in danger of intimate partner violence, they have resisted gender inequalities and taken control of their lives after witnessing the consequences of large unplanned families.

In unions with discordance about number of children, there were also some examples of women who managed to convince their partners after long struggles to use contraception. Although this step may be late, after having many children, it is still beneficial to avoid more unplanned pregnancies. This factor may speak to a potential change in gender dynamics with increased women empowerment.

*I have many children but it's very difficult to take care of them. I don't have capacity. My husband has finally accepted to use family planning. Having many children is good but resources to take care of them is what makes it complex. We want to take them all to school but we do not have enough money. **FGD, older woman, Busaba,_Butaleja***

Low parity women at the later age of the reproductive cycle were within all the communities. Some did not wish to have fewer children but were forced to by circumstances, while others consciously made the decision. The latter resisted the pressure to subscribe to the norms facilitating high fertility. Such women can be

used as change agents, especially if they are portrayed as successful women in the eyes of the communities and not merely seen as “rebels” against the norms. From evidence in the interviews, some of these women had a history of growing up in poverty in large families, while others had witnessed what went wrong with people who had many children. However, such women/couples who have made the decision to have fewer children below society’s expectations may need support to withstand community pressure. In all sites, reports of direct and indirect pressures from the community, first to have children and then to have more, were extensive. At times such pressure led to women/couples regretting their decisions to have fewer children. The ability to resist the pressure needs to be boosted through further education and providing support with information.

When I had my first child, I remembered the poverty we grew up in because my parents had many children. Even food was scarce for us. So, I made up my mind that I wouldn’t make the same mistake... My in-laws say that my children are very few, that I intentionally don’t want to expand their clan and that I probably intend to leave my husband in future. They say that I should produce more children if I want to cement my marriage. –IDI, low-parity woman, Lamiyo, Agago

Community leaders involvement in advocating for smaller manageable numbers of children to some extent was reported, especially in Kyegegwa and Buyende districts. Such leadership when supported by the program can spread their influence further in the communities. Some religious leaders were also reported to be involved in promoting FP. They communicated this support in different ways with specific emphasis on couples having the number of children that they can manage to care for in all aspects.

Women across all sites also listed VHTs as key positive influencers who are listened to more than other people. Since VHTs are included in contraceptive service provision now, they need to be used to further influence guided change for contraceptive use.

Reported barriers to accessing contraceptives

One of the main determinants of fertility is the use of contraception. Access to methods and a wide range of choice is expected to enhance use. From the view of the users/potential users, the study explored access issues related to methods within the communities, revealing several barriers limiting contraceptive use that need to be addressed in the program districts.

In some subcounties where higher-level facilities are distant, access to choice of contraceptive was reported as difficult. Many women cannot afford to buy contraceptives in the private sector such as drug shops and clinics in the small trading centers and cannot afford transport to the distant facilities. Outreach services play a key role in bringing a wider range of methods to hard-to-reach sites. But participants from these communities reported irregularity in such services.

*Look at Kakabara subcounty, for example; it has only one health center, and yet it has a very high population. Many people cannot access the health center for family planning counseling and advice. They end up getting unwanted pregnancies. **KII, district official, Kyegegwa***

*The major challenge for us here is the long distance to health center. For example, here at Kabuki they bring to us family planning services once a month and at times they do not. So it becomes expensive to move to Esunga where the services are available. **FGD, women, Hapuyo, Kyegegwa***

Participants reported limited methods and stock-outs at government health facilities, making it hard for them to access their choice. In addition, lower-level government facilities have selective stocks. The absence of an entire range of methods means women are only given what is available, instead of what they want. Such access challenges also mean clients try to find alternative sources where possible in the private sector, which may not be affordable to every woman. Stock and choice challenges were reported most in Agago and Butaleja as indicated in the typical quotes below.

*But the problem now is the shortage of those commodities. The government is not supplying all the commodities people want. For example, the Sayana Press which people are interested in is not being supplied here. The ones available for people are those that some people are a little reluctant to use, like the pills. **KII, district official, Agago***

*The projects come here (for outreach), but they come once in three months. By the time they come, sometimes you are already pregnant. **FGD, women, Mazimasa, Butaleja***

Husband opposition to use was also reported to be common everywhere. Women reported that their partners often need to be convinced. Those who

cannot afford to use contraception stealthily and fail to convince their partners have an unmet need for FP and often face unplanned pregnancies. Husband opposition also caused access challenges even among those who can use contraception stealthily, limiting the choice of methods and facilities or providers from which they can seek services.

*It is complicated if you are married to a man and you need to consult him about using family planning. Then when you do it on your own, for example, using a coil, and he finds out, he beats you up. The only remaining solution is to yield to his demands. **FGD, women, Hapuyo, Kyegegwa***

Validation of findings from the qualitative interviews using the national census district profiles

Socioeconomic and fertility characteristics in the selected districts

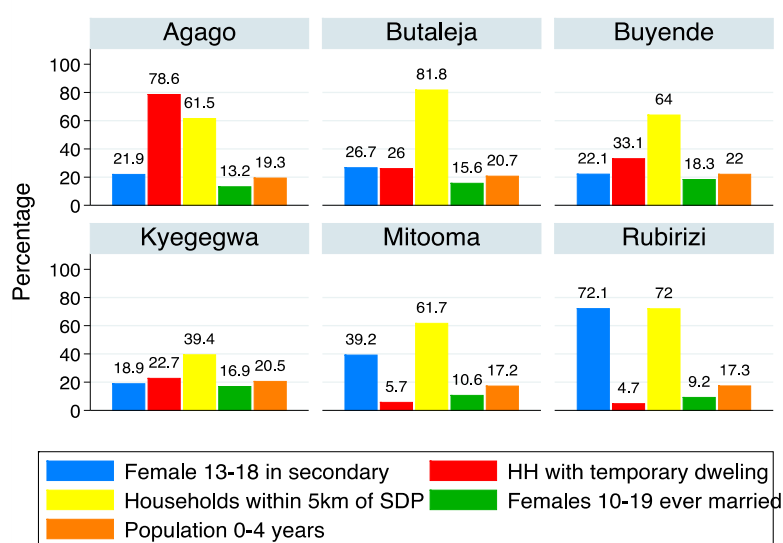
In an iterative process, after identification of key findings from the qualitative analysis that pointed mainly to poverty and gender gaps to partially explain high fertility, contraceptive use, and high adolescent pregnancies, a verification of the findings was conducted using district census profiles from NPHC 2014.

Figures 3.15 and 3.16 show socioeconomic and fertility characteristics in the identified hotspot districts. Resonant with the qualitative findings, data from the 2014 NPHC showed variations in the socioeconomic characteristics (percent of females 13-18 years in secondary school, percent of females 18-plus years who are illiterate, households with temporary dwelling, disparity in phone ownership, and households within 5 km of a public health facility) and indicators related to fertility (females 10-19 years who have ever married, and population aged 0-4 years).

Mitooma (the comparator) and Rubirizi districts had the lowest population aged 0-4 years (~17.3 percent), females 10-19 years who ever married (~10 percent), higher number of females aged 13-18 in secondary schools (Mitooma, 39.2 percent, and Rubirizi, 72.1 percent) and the lowest level of poverty measured by households with temporary dwelling (Mitooma, 5.7 percent, and Rubirizi, 4.7 percent). The high socioeconomic indicators were consistent with the lower TFR in both districts. The level of poverty indicator (percentage of temporary dwelling) and disparity of phone access between male and females as a measure of power and access to messages in these two districts were lower than in other

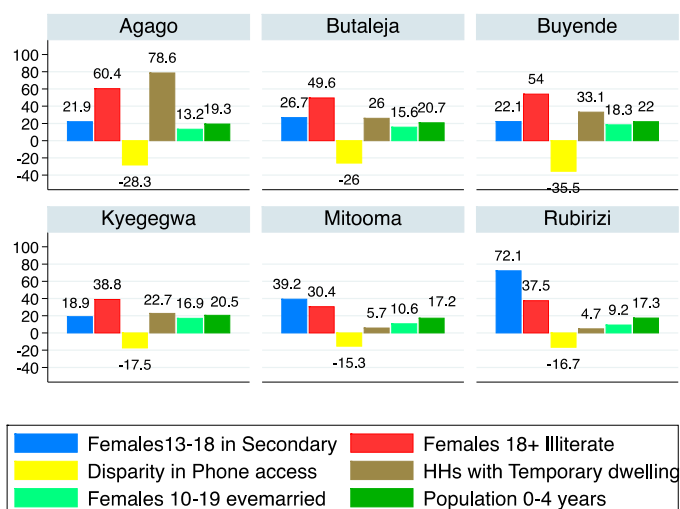
districts. Disparity in phone access (Figure 3.1b) can also be used to indicate the wider gender gaps in those districts. Districts in the South West and Western (Mitooma, Rubirizi, and Kyegegwa) have the lowest disparity in phone access, while districts in the East, East Central, and Northern (Butaleja, Buyende, and Agago) have the highest disparity in phone access between men and women. All the other high fertility districts had high percentage of households with temporary dwelling (22.7-78.6 percent), lowest levels of education as measured females 13-18 years in secondary schools (18.9-26.7 percent), while fertility characteristics were higher, percentage of females 10-19 who had ever been married (13.2-18.3 percent) and population 0-4 years (19.3-22 percent). Lower levels of poverty and disparity in power relations/access to individual information seem to be associated with lower risk of determinants of fertility (percentage of females 10-19 ever married), and lower female illiteracy. Access to public health facilities within 5 km of the household was lowest in Kyegegwa (39.4 percent) and highest in Butaleja (81.8 percent), but this did not appear to be related to fertility.

Figure 3.15: Socioeconomic and fertility characteristics in the selected districts



Note: Key determinants of fertility and contraceptive use (female education, early marriage, poverty, and access to health facility for services) were assessed across the hotspot districts.

Figure 3.16: Socioeconomic and fertility characteristics in the selected districts



**Phone access disparity is a potential indication of gender gaps between men and women that were evident in the qualitative interviews.*

CONCLUSIONS

Five districts (Butaleja, Buyende, Agago, Rubirizi, Kyegegwa) were selected with high fertility in five subregions. Within each district, three subcounties were selected as hotspots for high fertility and early pregnancies through an evidence-based process as well as dialogue with DHOs.

Although complicated model-driven approaches, such as Bayesian and small-area estimations, have been used to determine geographical heterogeneity, we used easier methods based on available empirical secondary data in identifying fertility hotspots, providing similar results.

This study establishes that the main explanations for high fertility and low contraceptive use in the hotspots were: high fertility desires that even amid contraceptive use would surpass the national average, communities perceiving children as a source of economic security in the future for parents, lower economic expectations that communities set for child welfare which make even households in lower wealth quintiles assume they can afford to care for several children, gender inequality heavily prevalent in all districts with minimal female voices in decisions regarding fertility, early marriages especially in eastern Uganda districts, and perceiving marriages to be primarily for procreation. A lot of pressure from significant others was reported, and norms about mixed sex of the children meant many couples keep having children until the missing sex is achieved. Contraceptive use was low because of fear of side effects, challenges with management of side effects at lower-level facilities, myths about modern methods often confused with side effects, and limited contraceptive choices in facilities.

High adolescent pregnancies were explained by extensive household poverty with many consequences such as poor crowded housing, dropping out of school, and cross-generational and transactional sex by adolescents, at times condoned by poor parents. Additional reasons included gender inequality in sexual relationships, ignorance in matters of sexuality and reproduction for adolescents engaging in sex, extreme parenting styles, and peer pressure from sexually active and married adolescents. Other factors were clandestine early marriages and misconceptions about the causes of high fertility among adolescents.

There were no major differences between hotspot districts although some factors were more prominently reported in some geographies than others.

Evidence-based appropriate recommendations with potential to impact high fertility—based on both district census reports and the qualitative substudy—are highlighted in the next section.

4. EVIDENCE-BASED RECOMMENDATIONS

Programmatic

- Develop integrated programming in which family planning messages are linked with household wealth creation/preservation.
- Manage contraceptive side effects at lower levels of the health system, and demystify myths confused with side effects at facilities and in communities.
- Sensitize communities to address myths regarding adolescent pregnancies.
- Use satisfied users of contraceptives as change agents for uptake.
- Address gender norms that curtail women empowerment.

Policy

- Identify sustainable solutions to improve livelihoods and address household poverty pervasive in all geographies.
- Increase contraceptive commodity choice at lower levels and sustain stocks.
- Strengthen community health workers to provide quality contraceptive services since communities expressed trust in them; scale up contraceptive service provision by VHTs nationally.

Future Research

- Further exploration to critically understand the roles of key influencers in positively and negatively impacting contraceptive use and fertility desires.

Programmatic

Develop integrated programming with multisectoral approaches to address FP issues. For example, contraceptive promotion messages should have a clear linkage between FP and household level wealth creation/preservation, as well as linkages with household poverty resulting from ignoring FP. These could be potential inroads to entrenching a culture of use of contraception amid all challenges.

Address gender norms that promote gender-based inequalities in all the districts to improve the involvement of women in decision-making regarding their own bodies and number of children, which will improve contraceptive use and lower fertility. The study makes evident that women are disadvantaged in reproductive health decision-making, and yet they need to be the main actors. Design

interventions to promote women empowerment and improve attitudes of men toward women's rights in order to increase contraceptive use.

Relatedly, interventions should suggest and encourage dialogue with parents and significant others regarding family economics and FP. Portraying further benefits of FP may help iron out potential conflicts that were reported to be rife in communities between couples due to disagreements over desired number of children.

Contraceptive side effects should be managed at the lower-level health facilities where women obtain methods, to minimize referrals to higher levels where access for women may be more constrained. Raising awareness about side effects should occur at the time the women/couples obtain the methods. Even when methods are obtained from outreaches, the immediate health facilities need to be equipped to handle side effects that women report when outreaches are long gone. Satisfied users of contraception go a long way in influencing nonusers. However, couples or women who experience very challenging side effects that are poorly/not managed at health facilities dissuades many potential new users. The results may be high rates of unmet need and unintended pregnancies.

Demystify the myths that are confused as side effects of contraception. Myths were reportedly rife in the communities and these may dissuade many nonusers from adopting contraception. These myths need to be tackled head on through health education using different avenues in the communities, media, and health facilities.

Using examples of women/couples who have maneuvered the challenges and successfully used contraception to plan manageable families may encourage young people to adopt contraception. These success stories could be change agents in the communities along with VHTs. In the same vein, using older women with low parity who are perceived to be successful within the communities may also encourage young women to aim at having smaller manageable families. They may also help relay how to maneuver through the norms expecting couples to have larger families.

The potential for change of attitudes among young women toward having fewer children presents a great opportunity to increase contraceptive uptake among them. It may be complex to significantly raise the age at sexual debut given the community reports of increasing exposure to opportunities for sex. However, measures that ensure early initiation of contraceptives at about the same time as

sexual debut supported by the service delivery side will delay the first pregnancies. This step would also provide young women/couples with much-needed support to have only the children that they plan for.

Policy

There is a need to identify more sustainable solutions to household poverty reported in all geographies. This study makes clear that poverty and all its associated consequences are the prime underlying causes of high adolescent pregnancies and high fertility. Poverty cannot be disentangled from reproductive health, with all this glaring evidence of its relationship with high fertility. The multisectoral efforts to tackle poverty need to include contraception, which means engaging stakeholders beyond health alone.

Strengthen community health workers, such as VHTs, in provision of quality contraceptive services including potentially training them about counseling for side effects where possible and referrals. Women overwhelmingly reported having faith in VHTs in all geographies. New methods that are community distributed such as subcutaneous injectables present a high potential for increasing uptake of contraception in communities with the VHT model. VHTs need up-to-date information on the methods they provide. Scaling this up nationally will help increase uptake.

Ensure an increase in contraceptive choices and sustain stocks of contraceptive commodities to ensure access to an entire range of methods consistently and at lower-level facilities within communities. These actions should be part of the lasting interventions to recruit new users and reduce potential discontinuation related to inaccessibility. Dealing with such access barriers, which women reported in this study, needs concerted efforts.

Future Research

Further exploration should be aimed at critically understanding the roles of key influencers in positively and negatively impacting contraceptive use in the communities as well as the reported high fertility desires. Understanding how these influences affect fertility decision-making of women and men may go a long way in identifying solutions that target their mindset change.

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