



# IDENTIFYING FERTILITY HOT SPOTS IN UGANDA

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## THE HOW TO GUIDE



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# Acronyms and Abbreviations

<b>APC</b>	Advancing Partners & Communities
<b>DHT</b>	District Health Team
<b>DHIS</b>	District Health Information System
<b>FGD</b>	Focus group discussion FHI 360 Family Health International
<b>IDI</b>	In-depth interview
<b>KII</b>	Key informant interview
<b>MakSPH</b>	Makerere University School of Public Health
<b>mCPR</b>	Modern contraceptive prevalence rate
<b>NPHC</b>	National Population and Housing Census
<b>NGO</b>	Nongovernmental organization
<b>PMA</b>	Performance monitoring and accountability
<b>TFR</b>	Total fertility rate
<b>UDHS</b>	Uganda Demographic and Health Survey
<b>UNFPA</b>	United Nations Population Fund
<b>USAID</b>	United States Agency for International Development

# Glossary of Terms

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**Adolescents:** The boys and girls aged 10-19 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:** 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/offspring.

**Fertility Hot Spot:** Settings with higher than national average fertility including poor adolescent reproductive health indicators such as unintended pregnancies, and usually with low modern contraceptive use over prolonged periods, with marked differences from adjacent locations.

**Low Parity Women:** In this report, it is defined as women age 35 or more years, with half the national TFR (3) or less children born alive.

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

**Social-Cultural Barriers:** Man-made constructs that originate from the social and cultural norms and values in the society, which curtail decision making process to have a/another child and/or use of modern contraception in the communities.






**Total Fertility Rate:** TFR is the number of live births (children) a woman would have at the end of her reproductive life if she experiences the prevailing age specific fertility rates.



# About The Guide

This guide has been produced to help program staff and other stakeholders in population and reproductive health/family planning sectors to develop interventions that are informed by the identification of fertility hot spots. <sup>1</sup>Utilizing fertility data to identify hot spots in the family planning sector can enable programs to develop and direct holistic context specific interventions where they are needed most, improve resource allocation, and introduce cost- efficiencies into family planning programs with a potential to maximize outcomes or programmatic impact. The guide provides an overview of the USAID /APC Project’s experience in identifying hot spots.

## 5 steps we used:

Level	DataSource	Result/Ouput
STEP 1 NATIONAL LEVEL/ SUBREGION	 UDHS, PMA 2020 SURVEYS Database	Determined high fertility regions with poor indicators for contraceptive use and adolescent pregnancy.
STEP 2 DISTRICT LEVEL	 National Population & Housing Census (NPHC, 2014)	Hot spot districts-those within high fertility regions with a total fertility higher than national average of 5.8 (NPHC, 2014) selected.
STEP 3 SUBCOUNTY LEVEL	 DHIS2 data/ stakeholder interviews	Subcounties within selected districts with persistently low uptake of modern family planning methods were selected.
STEP 4 SUBCOUNTY/ PARISH LEVEL	 Qualitative Assessment	Exploration of sociocultural explanations of high fertility and high adolescent pregnancy, Key informant interviews (KIIs), focus group discussions (FGDs) and in-depth interviews (IDIs) were conducted.
STEP 5 DISTRICT/ SUB COUNTY	 District NPHC profiles	Validation of themes arising from the qualitative findings, using empirical data from the NPHC with a focus on socio-economic and fertility characteristics.

<sup>1</sup>Neal S, Ruktanonchai C, Chandra-Mouli V, Matthews Z, Tatem AJ “Mapping adolescent first births within three east African countries using data from Demographic and Health Surveys: exploring geospatial methods to inform policy.” *Reprod Health*. 2016 Aug 23;13(1):98. doi: 10.1186/s12978-016-0205-1.



## The guide is divided in 4 parts:

### **Part 1:** Why Fertility hot spot identification?

Explains the rationale for Hot spot Identification.

### **Part 2:** What is Hot spot identification?

Describes the concept of Hot spot identification.

### **Part 3:** How do you carry out Fertility hot spot identification?

- Defining the scope( i.e national, regional , district, sub county, parish
- How to conceptualize the study (defining purpose, objectives, expected outcomes)
- How to access the data. What are the data sources? What types of data?
- How to analyzes and interpret the data?
- Triangulation with qualitative enquiry

**Part 4:** Using Hot spot identification data to inform design or improvement of interventions. Key considerations for applying fertility hot spot identification in your program or project.



# RATIONALE

## Part1: Why Fertility hot spot identification?

### 5 TOO MANY



**5.8** on average the number of children every woman has in her lifetime in Uganda.

For over 25 years fertility levels have remained high in Uganda with sub optimal declines of about 27.0% in the total fertility rate (TFR) over this period driven in part by high adolescent fertility, unintended and mistimed pregnancy. The Total Fertility Rate (TFR) is at 5.4 (2016), more than 5 children for every woman with regional variations. More than half of Uganda's 122 districts have a TFR of at least 6.0. There have been several programs designed to address the high fertility levels focusing on individual determinants of contraceptive use, such as knowledge, attitudes and access to services, gains remain minimal. This 'one-size-fits all' approach that has predominated FP interventions largely missed the contribution of geographical heterogeneity or geo-spatial differences.

The APC activity used an avante garde method -fertility hot spot identification to target the areas with the highest fertility rates and prevalence of adolescent pregnancy. Our goal was to tailor interventions that address context specific structural vulnerabilities and social-cultural dynamics that expose women to a greater risk of high fertility.



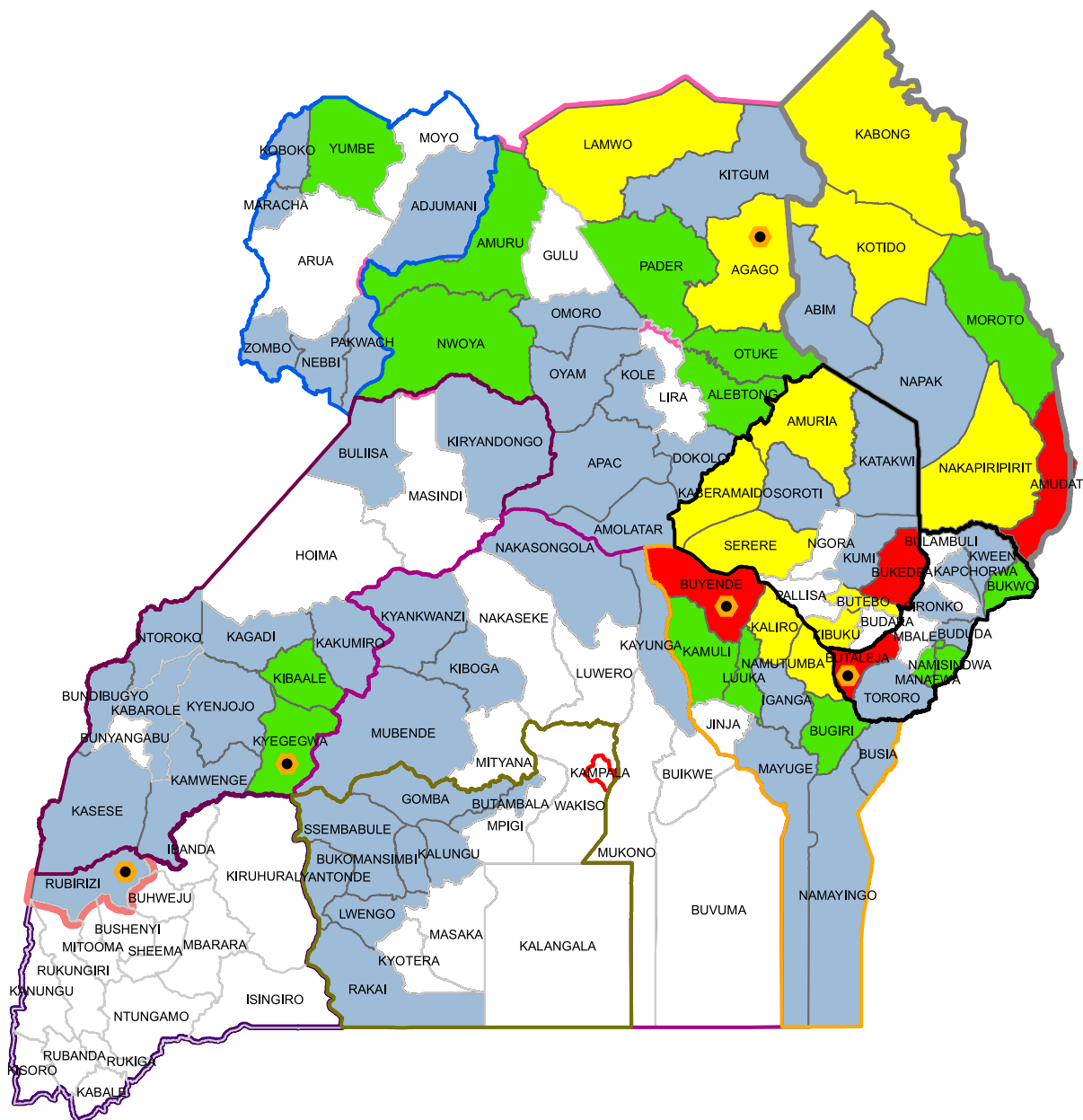


## Part 2: What is Hot spot identification?



Hot spot identification is a process of classifying geographical settings that have a high concentration of disease/outcome of interest, or poor uptake of services such as child immunization, where the area is markedly different from adjacent locations.
















### Map Showing High Fertility Hot spots in Uganda



### Legend

### Total Fertility Rate(TFR)

-  **USAID/APC Intervention Districts**

	Eastern Region		Karamoja Region		0 - 5.8		8.0 - 9.8
	East-Central Region		Western Region		5.9 - 6.9		Northern Region
	Central Region-1		West Nile Region		7.0 - 7.5		South Western Region
	Central Region-2		Kampala		7.6 - 7.9		

# IN ACTION

## Part3: How do you carry out Fertility hot spot identification?

### STEP- BY -STEP

#### 6 D’S of Fertiliy Hot spot identification



##### 1. Develop the research problem

Articulate the specific fertility problem you would like to address.In Uganda's case:



Fertility levels remain high with suboptimal declines (27.0% over 25 year period) , nearly half (46%) of pregnancies in last 5-years were unintended and a persistently high adolescence pregnancy leading high maternal mortality.

##### 2. Describe key indicators for the exercise

Identify and define key indicators such as **fertility, unintended pregnancy, child immunization** that are a proxy for the magnitude of the research / programmatic problem.

##### 3. Define the hot spot geography/location

Know your scope of focus. It can be regional, district or subcounty, or even a lower level unit. The focus for the programmatic implementation in the APC project was at sub-county level. Fertility hot spot identification started at national level and was cascaded to the regional, district and finally sub county level. Regions with low and/or stagnating CPR, districts with high TFR above the national average, and sub counties with low utilization of family planning services were selected to be areas with the highest need for intervention.

##### 4. Determine sources of relevant data

Secondary or primary data sources used in the study; national, sub-national or small areas. Census, survey, routine data or projections.

Level	DataSource
Sub-Regional	1. Uganda Demographic and Health Surveys from 2001, 2006, 2011 and 2016) 2. PMA2020 Round-5 data (2017)
District	3. Census data 2014 (district statistics on TFR) 4. DHIS2 service data at the district level
Sub-county	5. Qualitative data from leadership of selected districts such as population officers and district health officers to explore within district variations (at sub-counties) before selecting the sub counties for program intervention. 6. Qualitative data from within identified hot spots for program intervention (sub counties) to understand the factors that may explain the high teenage pregnancies, unintended pregnancies, low contraceptive use and ultimately high fertility among Women of Reproductive Age.



## 5. Data Management

### How to manage and analyze the data

- Assemble a skilled team with experience in managing large datasets, and generating statistical outputs using well defined indicators as presented above.
- Append data with similar form (e.g. DHS 2006, 2011 and PMA R5) into one dataset for easy analyzes of the changes in the indicators over time. Link / merge data from the various sources into one file using unique identification (e.g. data about a location from various data sources should be combined into one file).
- Analyze data using descriptive approach with available statistical software. The statistical outputs should be presented in simple tabular form, graphs and info graphics to ease the interpretation.
- Rank the location in order of indicator values to determine the potential hot spots as described in step 4, "Determine the research problem."

## 6. Data gap fill, leverage primary sources

Where secondary data are insufficient to select the hot spot locations, primary data can be collected through consultation with the supervision level (e.g. districts when hot spots are sub-counties). Findings from these consultations can inform the hot spot selection. For example when we had two similar locations, discussions with leadership enabled us to go where the need was greatest especially in terms of service gaps.



# CONSIDERATIONS

## Part3: THE APC Story, lessons and key suggestions for applying fertility hot spot identification in your program or project

### 5 Touch Points To Remember



#### 1. Envision the change

Any program that is interested in conducting a hot spot identification must review their project vision, goals and objectives to ensure that the variables you set are in line with the change you are working towards.

#### Our Experience

**Key objectives: Create an enabling environment for family planning uptake**

The APC project contributes to the USAID country strategy 2017-2021, particularly to objective 2.i.e **Demographic Drivers affected to lead to a long-term trend shift.** APC's second objective is to create an enabling framework to transform social norms that impact demand for and use of modern contraception in our five selected districts. As such we were interested in working with cultural leaders and key community gatekeepers to lead transformation of negative social norms and improve norms around schooling, early marriage and childbearing. In order to implement effective community-led service delivery interventions APC was required to use data-driven programming at all levels. The hot spot mapping identification approach therefore, the methods and variables within the study were tailored towards addressing the key intervention needs for the target groups. For instance, the project targeted low parity women and as a result throughout the analysis the variables on proportion of women 15-49years who married earlier than 18 years (while adolescent stage), (3)proportion of adolescents (15-19) who have ever had sex, or ever given birth were used.



#### 2. Prioritise National Strategies

#### Our Experience

**Key objective:** Increase the Contraceptive Prevalence Rate (CPR) to 50% and reduce `unmet need for family planning to 10%.

APC directly supports the National Family Planning Costed Implementation Plan (NFPCIP) 2015-2020 whose goal is to increase the Contraceptive Prevalence Rate (CPR) to 50% and reduce `unmet need for family planning to 10%. One of the key priorities of the NFPCIP is implementing the family planning policies and interventions in multi-sectoral domains in addition to addressing myths and misconceptions, addressing adolescent pregnancy, promoting task sharing and addressing family planning commodity gaps. This required investigating a wide range of parameters outside health and interviewing respondents outside health sector. In this regard the need to do further investigations on the social-economic and cultural correlates within the selected hot spot districts and sub counties became apparent. As a result, the qualitative enquiry transcended health respondents to include political heads, education departments among others.





### 3. Leverage Existing Data And Information Resources

#### Our Experience

##### **Key objective: Build on existing credible fertility data**

In conducting the study, the APC team from the start intended to leverage any credible available data on fertility in the country. Therefore, after determining the study objectives, research questions and key variables a scan of available data sets that would inform study was conducted. The DHS surveys, the PMA 2020 surveys and the National Housing and Population Census data set were thus identified for analysis of key drivers of fertility at national and regional levels. At the district level, the DHIS2 was selected as the primary source of data, together with the estimated sub-county female population for the years 2015, 2016 and 2017 to determine use of modern contraceptive within a sub-county. Triangulation with the qualitative enquiry and within district stakeholder consultations then guided the final determination hot spot sub counties for intervention.

Programs conducting hot spot identification will also need to determine the ability of in house expertise to utilize available data sources for the required analyzes. In the case of APC we chose to work with an expert demographer and a behavioral researcher from the Makerere School of Public health to augment our in-house expertise. It is noteworthy, that work already undertaken by APC and other experts in this area provide a head start to anyone who will carry out a similar analysis.



### 4. Development Agenda

#### Our Experience

##### **Key objective: Build on existing credible fertility data**

While conducting the scientific study, it is imperative that programs/projects reflect on their respective funder strategies and priorities. Currently, the regions and districts in Uganda are delineated under the respective funding partners in order to avoid duplication and maximize efforts. This therefore means that while the analysis identified certain districts as the highest fertility hot spot based on the study parameters, they could not be selected for intervention because similar projects were already.

For instance, the top 10 high fertility districts were in the four regions of East (6), East-Central (3), North-East/Karamoja (3) and M-North (1). All of these districts fell within high teenage pregnancy and increasing fertility regions. The top 5 districts for intervention if this analysis was used would be: Buyende in East Central; and Bukedea, Butaleja, Amuria and Serere in East Central region. However, with the guidance of USAID there was a need to have regional representation with the eventual interventions districts so that learning from the study and subsequent interventions could be cross-walked into RHITES project, the USAID country wide health service strengthening project. There was also need to avoid UNFPA and DFID supported regions for reasons explained earlier. Therefore, the districts finally selected were Agago, Buyende, Butaleja, Kyegegwa and Rubirizi. While the South Western region TFRs were overall below all of the regions, Rubirizi was selected because it had significantly higher TFR than all the other districts in the region and fell in the RHITES South Western programming area. Similarly, Mitooma district was selected as a comparison (specifically for Rubirizi).



5. Iterative nature of the process

Our Experience

Key objective: Collaborate, learn and adapt

It is important to note that the Fertility hot spot identification identification process has not been linear. Programs will need to consider iteration and innovation at all stages as it has been an ongoing learning process. For instance, APC had intended that the final phase in the data collection and analysis process would focus at the level of the qualitative enquiry at the sub-county/parish which would provide socio-cultural explanations for the high fertility and high adolescent pregnancy. However, during qualitative analysis it became necessary to validate the emerging themes, such as, the role of mobile phone access to increasing adolescent pregnancy, hence, analysis of the Census district data profiles was done for the same sub-counties looking at additional variables, such as, phone density.

In conclusion, this guide shows that available empirical survey, service and routine secondary data can be used to identify hot spots for the development and implementation of public health interventions. The “How to Guide” is an important documentation that stakeholders can use to refocus resource allocation and improve efficiency in program and service provision.





