

# ACQUIRE Evaluation and Research Studies

## Factors Affecting Vasectomy Acceptability in the Kigoma Region of Tanzania

E & R Study #5 ♦ June 2006



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the **ACQUIRE** project

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## Acronyms/Abbreviations

FHI	Family Health International
FP	family planning
IUCD	intrauterine contraceptive device
MCH	maternal and child health
MOH	Ministry of Health
NSV	no-scalpel vasectomy
RH	reproductive health
SDA	Seventh-Day Adventist
UMATI	Family Planning Association of Tanzania
USAID	U.S. Agency for International Development



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# Executive Summary

## Background

As part of its mandate to coordinate efforts to scale up and expand facility-based reproductive health (RH) and family planning (FP) services in a number of countries, the ACQUIRE Project in Tanzania has been working to support male-centered services—including vasectomy—in the Kigoma region. This in-depth exploration of vasectomy use in Kigoma, a pocket of unusually high vasectomy acceptance, was conducted by ACQUIRE in collaboration with Family Health International (FHI), to refine existing vasectomy programs and to replicate and scale up best practices and lessons learned from the study sites to areas of low vasectomy acceptance.

The study design consisted of both service statistic and qualitative data collection.<sup>1</sup> Client record data were collected from five facilities in the three districts of Kigoma region, to quantify levels of vasectomy use from 1998 through 2003. Facility audits were also conducted at the five facilities to determine infrastructural needs for vasectomy and other men’s RH services. During the same period, in adjacent communities, in-depth interviews and focus groups were held with vasectomized men, wives of vasectomized men, sterilized women, nonvasectomized men, and key opinion leaders, to explore the variables that most affect the decision-making process and to assess leaders’ influence on voluntary sterilization use and men’s RH.

## Results

Service statistics showed inconsistent levels of vasectomy service provision in the Kigoma region, as well as a lack of infrastructure and supplies within some of the facilities. Though Tanzania has national standards for vasectomy, none of the facilities had written vasectomy protocols or guidelines on-site. Vasectomy instruments were not uniformly available at the facilities, nor were electricity and piped water. Only one facility had communications materials showing pictures of men for male RH/FP services.

However, the majority of the facilities had providers trained in infection control practices and in FP and couples counseling. All of the facilities employed someone trained in vasectomy surgery, and two of the facilities also provided vasectomy outreach services.

Overall, levels of vasectomy use from 1998–2003 have fluctuated in parallel with intermittent training and promotional activities. Heri Seventh-Day Adventist (SDA) Mission Hospital has been the focal point of EngenderHealth-sponsored promotional and training activities, and this is reflected in higher levels of vasectomy service provision at this facility.

The primary themes that emerged as factors encouraging men to limit family size and undergo vasectomy were economic hardship and concern for the wife’s health. Concerns regarding economic hardship were framed in terms of the general economic benefit of having a small family, and particularly in terms of lacking the means to educate one’s children. Concern for the wife’s health included wanting to stop the cycle of problematic pregnancies and deliveries, and the recognition that vasectomy is a relatively minor procedure compared with tubal ligation. Related to

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<sup>1</sup> The study proposal received approval from FHI’s institutional review board and from NIMRI, Tanzania’s national review board.

concerns regarding the wife's health (though also extending beyond this concern) was dissatisfaction with previous methods of birth control. The majority of vasectomized participants had previously tried other methods of birth control, including the rhythm method, the pill, the IUD, and injectables. However, having attained their desired family size, they opted for sterilization, due either to side effects or to other dissatisfaction with temporary methods.

Barriers to vasectomy uptake included the desire to have more children, poor knowledge of and understanding about vasectomy, a lack of trust in one's spouse, and an inability to predict the desire for children in the future. A poor understanding of vasectomy, including belief in rumors about castration and loss of virility, was frequently mentioned. Interestingly, rumors and misinformation about vasectomy were more often mentioned by vasectomized men, who frequently provided this as a specific reason for having delayed the procedure. Nonvasectomized men also mentioned rumors more generally and most often cited lack of information as a specific reason for not considering the procedure. Several nonvasectomized men stated that given further information, they might consider the procedure.

A lack of trust in the faithfulness of one's spouse was mentioned as a barrier by both men and women: Men were concerned that a loss of virility resulting from the procedure would lead their wives to be unfaithful, while women were concerned that a vasectomy would provide their husbands with license to engage in sex out of wedlock.

The permanence of vasectomy and uncertainty about the future represented another barrier to vasectomy acceptance. Some men expressed fear that one or more of their children would die and that they would no longer have the ability to reproduce; others feared that should their wives die, their inability to reproduce would leave them unable to remarry.

The position of Kigoma religious leaders with regard to FP varies, and includes denominations that are in favor of modern contraceptive methods (such as the Seventh-Day Adventists) as well as those opposed to contraception (particularly the Roman Catholic Church). It is unclear to what extent participants were actually influenced by religious beliefs in their own decisions: While several vasectomized men and women who had undergone tubal ligation volunteered that they had done so counter to the teachings of their religion, several nonvasectomized men stated that their religious beliefs had in fact prevented them from choosing sterilization.

The decision to have a vasectomy was typically not made immediately; on average, participants had had one more child between the time the decision was made and when they actually had the procedure. Reasons for the delay included the desire to have more children, misinformation/rumors, negative reputation of the provider, and a lack of provider availability. A notable finding was the considerable amount of communication between couples during the decision-making process. The majority of vasectomized men reported discussing the procedure with their spouses, and in at least several cases, wives succeeded in convincing their husbands to postpone the decision.

Sources of vasectomy information included satisfied clients, books, pamphlets, radio, church, billboards and other advertisements, in-school seminars, and casual conversation on the street. Sources that necessitated personal conversation and sources such as mass vasectomy promotions were almost equally represented overall and were mentioned by both vasectomized and nonvasectomized men.

## Recommendations

Based on suggestions made by both study participants and ACQUIRE program staff, we have developed the below recommendations for improving men's FP involvement and increasing vasectomy uptake in the Kigoma region. These recommendations address issues of both vasectomy supply (the need to improve service delivery and access) and demand (the promotion of vasectomy through mass media at the community level and through various forms of interpersonal communication).

### Service Delivery and Access

- ◆ To increase the availability of vasectomy services, vasectomy surgeon outreach services should be regularly scheduled, and referral systems should be established and linked with community outreach and mobilization. A community-based intermediary (such as a community-based distribution worker) who knows the schedule for service provision can help potential clients make appointments and can follow up with clients to learn if they obtained services. If community resources allow, an anonymous hotline can be established for customers seeking information and wanting to make an appointment.
- ◆ To improve the quality of vasectomy services, efforts should be made to improve provider counseling skills. Client counseling must include a balanced discussion of both the benefits and the risks of vasectomy. Prevasectomy and postvasectomy counseling should be conducted with the husband and wife together.
- ◆ Since a postsurgery pregnancy may lead to accusations of spousal infidelity, it is important that clients clearly understand that to avoid an unplanned pregnancy, they or their partner will need to use another method of contraception during the first 12 weeks after the vasectomy. Clients should be given clearly written and simple postoperative instructions and (per Tanzania national standards for vasectomy) should be encouraged to return to the clinic after three months for semen analysis.

### Demand for Vasectomy Services

- ◆ To raise men's awareness of vasectomy and increase men's FP involvement more generally, FP services and education must be expanded and oriented towards men. Both sterilized and nonsterilized men in the study recommended that men should have a dedicated space where they can learn about FP. Such spaces can be created at outpatient departments or through educational seminars held by vasectomized men or political and community leaders. Men can also be reached at public gatherings such as soccer games, holiday events, and markets.
- ◆ Since vasectomy is often chosen because of dissatisfaction with short-acting methods, providers should consistently offer vasectomy as a safe, more convenient alternative to short-acting methods for couples who have completed their family size, as well as offer it as an alternative to tubal ligation.
- ◆ Communications activities are needed to address lack of awareness of the method, lack of accurate knowledge about the method and its benefits, and spousal distrust, as well as to dispel the negative myths and rumors that currently form barriers to the method's wider acceptance and use. Possible strategies include the following:
  - ◇ To address rumors and fears about vasectomy and loss of virility, media campaigns can portray physicians and/or satisfied clients and couples, who can reassure viewers that sexual functioning remains normal after the procedure.
  - ◇ Promotional efforts should be directed toward women as well as men. Marketing efforts should focus on the couple as a decision-making unit and can emphasize the notion of a

“satisfied spouse,” who no longer has to be concerned about problems associated with childbearing, who is sexually satisfied, and whose husband is able to provide for their family.

- ◇ Both to increase awareness of the method and to decrease fears, myths, and rumors, vasectomy promotion should be done using various channels of communication, ranging from media and educational materials to community outreach events and interpersonal communication.
- ◇ Promotional efforts should channel potential clients to community resources and project sites where they can reliably obtain additional information, receive answers to their specific questions, and ultimately obtain services when the method is selected.

# Introduction

Sterilization is the world's most widely used contraceptive method, accounting for nearly half of all contraceptive use. Although vasectomy is safer, simpler, and less expensive than female sterilization, while being just as effective, sterilized women outnumber sterilized men by five to one, and vasectomy remains one of the least-known and least-used contraceptive methods. This is particularly true in Africa, where barely 100,000 couples use vasectomy (United Nations, 2006). In Tanzania, less than 1% of the population uses male sterilization.

The underutilization of vasectomy in Africa has often been attributed to men's lack of interest in family planning (FP). However, research has confirmed that men in many African countries do in fact care about avoiding pregnancy and want to share the responsibility for FP with their partners (Landry & Ward, 1997; Drennan, 1998; and Salem, 2004). Furthermore, evidence suggests that lack of access to vasectomy information and services is the principal reason for vasectomy underutilization (Atkins & Jezowski, 1983; Vernon, 1996, Wegner et al., 1998).

The ACQUIRE Project,<sup>2</sup> designated by the U.S. Agency for International Development (USAID) Mission in Tanzania to be a key mechanism for coordinating efforts to scale up and expand reproductive health (RH) and FP services in the country, is working to support male-centered services—including vasectomy—in the Kigoma region. This includes providing material, technical, and financial support to four hospitals in the region's three districts (Kigoma, Kibondo and Kasulu): Heri Seventh-Day Adventist (SDA) Mission Hospital, Kigoma Regional Hospital, Kibondo District Hospital, and the Kasulu District hospital.

Anecdotal accounts of an unusually high demand for vasectomy services in Kigoma Region, particularly from the Heri SDA Mission Hospital catchment area in the Kasulu District, were reported to EngenderHealth for a period of several years prior to this case study. In 1998, an exploratory team from EngenderHealth and Family Planning Association of Tanzania (UMATI) visited Heri SDA Mission Hospital, and as a result of word-of-mouth information about the arrival of “vasectomy experts,” a large number of clients turned up for vasectomy services. In five days, the team performed 55 vasectomies. In 2002, Heri SDA Mission Hospital collaborated with EngenderHealth to host a vasectomy training<sup>3</sup> in which 11 physicians were trained in no-scalpel vasectomy (NSV) clinical procedures and counseling. During that five-day training alone, the trainees and master trainers served a total of 27 clients. Between 1998 and 2004, more than 200 men had a vasectomy at Heri SDA Mission Hospital.

This study, undertaken as a collaboration between EngenderHealth and Family Health International (FHI) between July and August 2004, was designed to explore factors contributing to vasectomy use in Kigoma region, to refine existing vasectomy programs, and to replicate and scale up best practices and lessons learned from the study sites to areas of low vasectomy acceptance.

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<sup>2</sup> The ACQUIRE Project (which stands for Access, Quality, and Use in Reproductive Health) is USAID's global project to advance and support facility-based RH/FP services. ACQUIRE is implemented by a partnership managed by EngenderHealth with a diverse and complementary group of partners: Adventist Development and Relief Agency International (ADRA), CARE, IntraHealth International, Inc., Meridian Group International, Inc., the Society for Women and AIDS in Africa (SWAA), and SATELLIFE.

<sup>3</sup> The Heri SDA Mission Hospital offered to host and support a regional center of excellence in no-scalpel vasectomy in 1999.

Specific study objectives were:

1. To quantify levels of use of vasectomy and other men's RH services
2. To determine the key characteristics of vasectomized men
3. To determine the key variables in the vasectomy decision-making process
4. To identify existing service-provision components and strategies for men's RH services, with a focus on vasectomy and quality of care
5. To explore the influence of opinion leaders on voluntary sterilization use and men's RH

# Background

## Country and Regional Profile

Tanzania, measuring approximately 940,000 km, is the largest country in East Africa. The mainland is divided into 26 administrative regions and is further subdivided into 121 districts. Kigoma Region, situated on the shores of Lake Tanganyika and bordering Burundi and the Democratic Republic of the Congo, is one of the poorest and most remote regions in the country. The majority of the people living in Kigoma are Waha, though other ethnic groups include the Bembe, Tongwe, and Nyamwezi. Up to one-quarter of Kigoma's population (numbering 1.6 million in 2002) may consist of Burundian, Rwandan, and Congolese refugees. The major religions are Christianity and Islam (roughly 40% each), and approximately 10% of the population is animist. Economic activities consist primarily of fishing and small-scale subsistence agriculture, which generate minimal revenue. The per capita income in Kigoma Region is 154,000 Tanzanian shillings (US\$144), well below the national average of 250,000 Tanzanian shillings (US\$233).

The study sample was drawn from the three administrative districts of Kigoma Region: Kibondo, Kasulu and Kigoma. Kigoma District has a population of 635,668 people and contains both an urban center (Kigoma Urban) and rural areas (Kigoma Rural). Kasulu District has 628,677 inhabitants; Kibondo, with a population of 414,764, is the smallest district (Tanzania National Bureau of Statistics, 2002).

## RH Service Needs and Availability

Tanzania's population of 35 million has doubled in the past 25 years. More than half of the population is under the age of 25, and growing numbers of youth are entering their reproductive ages each year. The number of women of reproductive age (15–49) is projected to increase from 8.2 million in 2002 to 10.7 million in 2009.

Though some health indicators in Tanzania as a whole are improving, the unmet need for FP services remains high. Findings from the 2004 Tanzania Demographic and Health Survey (DHS) show that the total fertility rate declined from 6.2 lifetime births per woman in 1991 to 5.7 in 2004 (though it has remained static since 1996), and the contraceptive prevalence rate increased from 10% in 1991 to 26% in 2004 (use of any method by married women of reproductive age). Despite this increase in contraceptive prevalence, in 2004 22% of married women continued to have an unmet need for FP services.

About one-fifth of Tanzania's population uses modern methods of contraception; this comprises the majority of FP users. DHS findings show that the pill and injectables are the most widely used modern methods (by 6% and 8% of the population, respectively). The use of long-acting and permanent methods (IUCDs, Norplant implants, and male and female sterilization) has remained low and relatively static; use of male sterilization was less than 1%. Traditional and folk methods are used by 6% of the population (Tanzania National Bureau of Statistics and ORC Macro, 2005).

Kigoma's RH indicators are lower than those for Tanzania as a whole. The average family size in Kigoma is 7.5, and contraceptive prevalence is 20%. Of those using a contraceptive method, 12% are using modern methods, and the population growth rate in Kigoma is close to double the national rate (4.8% compared with 2.9%). Maternal mortality in 2003 was estimated to be 606 deaths per

100,000 live births (Mbaruku, 2003). Kasulu District contains an area called Manyovu, which is a pocket of higher-than-average vasectomy acceptance. In addition, the average household size in Kasulu (7.4) is greater than the averages in Kigoma and Kibondo (6.9 and 7.0, respectively).

These statistics show a large need for FP in Tanzania overall and the Kigoma Region in particular. The scope of this study, however, is restricted to the analysis of male sterilization in the Kigoma Region. Specifically, we attempt to quantify levels of vasectomy use, determine the key characteristics of men who undergo a vasectomy, and explore the personal and contextual factors that influence a man's decision to have a vasectomy in the Kigoma Region.

# Methodology

## Client Records and Facility Audit

Client record reviews and facility audits were conducted between July and August 2004 at five facilities: Heri SDA Mission Hospital and Kasulu District Hospital in Kasulu District, Maweni Regional Hospital in Kigoma District, and Kibondo District Hospital and Kakonko Health Center in Kibondo District. All vasectomy client records for each center from 1998–2003 were reviewed. Data were entered and analyzed using SPSS.

## Focus Groups and In-Depth Interviews

A purposive study sample drawn from nine participant categories included 12 focus groups and 56 in-depth interviews divided equally between the three districts of Kigoma region (see Table 1, page 6). The majority of focus groups contained 9–10 participants.<sup>4</sup> In-depth interviews were conducted with all of the groups except wives of vasectomized men, nonvasectomized men, and sterilized women.

Recruitment varied by type of participant. To identify and recruit sterilized men and women, service providers randomly selected respondents from client registers who fell within the selection criteria. Wives of vasectomized men were recruited through their husbands. To identify nonvasectomized men, women using an FP method (who had at least four children) were identified through maternal and child health (MCH) client registers; these women assisted in the recruitment of their husbands.

All of the religious leaders and administrators for each district were recruited and interviewed. To recruit community leaders, local people were asked to name the most influential people in their community; the one who was mentioned most frequently was selected. Councilors were chosen randomly, and traditional healers were selected randomly through a registry of traditional healers.

## Data Collection

The semistructured interview guides comprised three question domains: participant characteristics, contraceptive decision making, and perceptions of RH programs. Sociodemographic data were obtained after each focus group or interview was completed; participants were asked about their age, educational level, occupation, tribe or ethnic group, number of living children, ideal number of children, and use of FP methods. The interview guides were translated into Swahili and backtranslated into English, and then were pretested before being administered to the target population. All interviews were conducted in Swahili by native speakers.

The overall study was approved by institutional review boards in the United States and Tanzania.<sup>5</sup> All interviewees and focus-group participants were provided written informed consent documentation, and oral consent was recorded before each interview or focus group.<sup>6</sup> Personal

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<sup>4</sup> The focus groups of vasectomy users and wives of vasectomy users in Kigoma Urban and Rural contained six and five participants, respectively.

<sup>5</sup> The study proposal received approval from FHI's institutional review board and from NIMRI, Tanzania's national review board.

<sup>6</sup> Under the U.S. Federal Policy for the Protection of Human Subjects, section CFR 45.46.117(c), the signature on the informed consent form was waived in favor of oral consent.

identifiers and locator information were not collected, and any inadvertently mentioned identifying information was cleaned from the text prior to analysis.

**Table 1: Respondent categories**

<b>Respondents</b>	<b>Selection Criteria</b>	<b>Method</b>	<b>Sample Size by District</b>
<b>Vasectomized men</b>	Men who have undergone vasectomy	In-depth interview	Kigoma urban and rural (2), Kibondo (6), Kasulu (2)
		Focus group	1 each in Kigoma Urban and Rural, Kibondo, and Kasulu
<b>Nonvasectomized men</b>	Men at least 33 years old with at least 4 children* who have expressed a desire not to have any more children and who have used or whose wives have used a reversible contraceptive method during the past 6–24 months	Focus group	1 each in Kigoma Urban and Rural, Kibondo, and Kasulu
<b>Wives of vasectomized men</b>	Women who are married to a man who has had a vasectomy	Focus group	1 each in Kigoma Urban and Rural, Kibondo, and Kasulu
<b>Vasectomized men</b>	Women who have undergone tubal ligation in the past 6–24 months	Focus group	1 each in Kigoma Urban and Rural, Kibondo, and Kasulu
<b>Surgeons</b>	Surgeons who have been trained in and have performed vasectomies	In-depth interview	1 in Kigoma, 1 in Kibondo, and 2 in Kasulu
<b>FP counselors</b>	Counselors from the maternal and child health (MCH)-FP clinics	In-depth interview	1 in Kigoma, 1 in Kibondo, and 2 in Kasulu
<b>Traditional healers</b>	Licensed traditional healers	In-depth interview	2 in Kigoma, 1 in Kibondo, and 2 in Kasulu
<b>Religious leaders</b>	Muslim Sheikhs and ministers from the following Christian denominations: Seventh-Day Adventist, Catholic, Anglican, Pentecostal, and Lutheran	In-depth interview	6 each in Kigoma and Kibondo, 5 in Kasulu
<b>Administrators</b>	Regional and District Commissioners, Regional and District Area Supervisors, and District Executive Director	In-depth interview	2 each in Kigoma, Kasulu and Kibondo
<b>Councilors</b>	Local council members	In-depth interview	1 each in Kigoma, Kasulu and Kibondo
<b>Community leaders</b>	Community resource persons	In-depth interview	2 each in Kigoma, Kasulu and Kibondo

\* Client age and number of children are based on the lowest end of the medians provided in a previous study conducted by EngenderHealth (Binyange, M., et al., 1993).

## Data Analysis

All interviews were tape-recorded, and verbatim responses to each question were translated and transcribed by local researchers, using a standardized transcription protocol (McLellan, MacQueen, & Niedig, 2003). Collaborative thematic analysis was performed at FHI and EngenderHealth using NUD\*IST N6 software. An initial codebook was developed by three research analysts, using a standard iterative process (MacQueen et al., 1998), and was revised as necessary throughout the data analysis process. The transcripts were coded for the following domains: factors facilitating or acting as barriers in vasectomy decision making, contextual facilitators and barriers, issues related to vasectomy procedures, and program recommendations.

For both interviews and focus groups, frequency reports and cross-tabulations were run to determine the relative importance of themes found in the data and their linkages to one another, using the transcript or data collection event as the unit of analysis. Based on these calculations, codes with similar characteristics were combined and reanalyzed. Separate analyses were also conducted by sex, type of interviewee (e.g., vasectomized and nonvasectomized men) and region. Two analysts reviewed the focus-group data to ensure accuracy of the weights accorded to emergent themes.

We compared results and presented findings of in-depth interviews and focus groups together. This was possible because focus-group and in-depth interview guides were very similar, and the data revealed no major substantive differences between the two formats. Further, the topics covered were not extremely sensitive, so questions remained at a level that most participants could answer in a focus-group setting without feeling embarrassed. Transcript excerpts are quoted verbatim unedited, as translated from the Swahili.

### **Potential Limitations**

The need to translate data affects the degree to which data can be considered an accurate representation of what was actually said. However, transcripts were reviewed by the on-site principal investigator for translation accuracy and were revised when necessary. Furthermore, little emphasis was placed on specific word choices or phrasing of responses during data analysis.

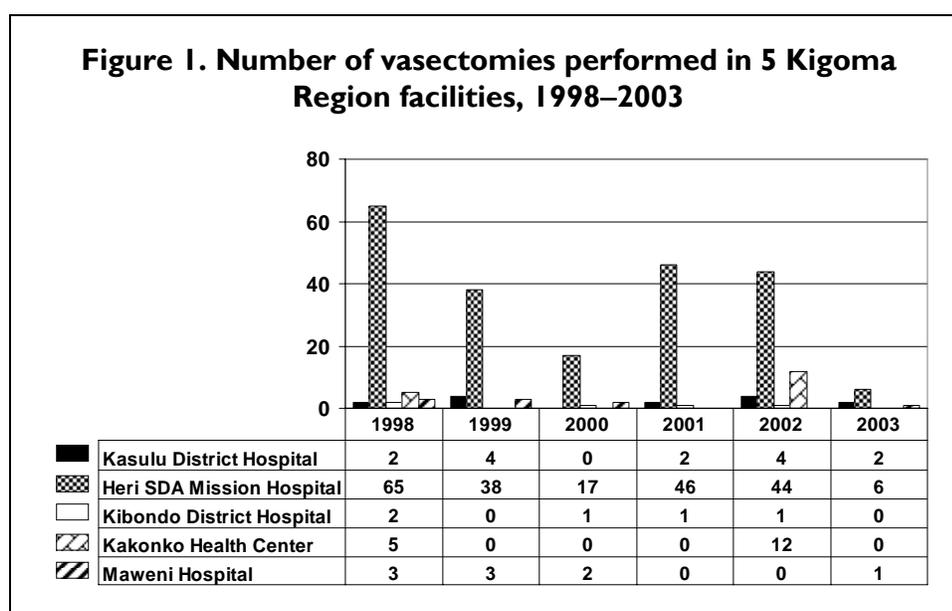
The small sample size and the qualitative nature of the focus-group and in-depth interview data prohibit generalization to the larger population. Nevertheless, the use of qualitative methods enabled us to gain insight into attitudes, beliefs, and contextual factors that would not have been captured using survey methods. Interview and focus-group data may be subject to both social desirability bias and recall bias, since these data are based on self-report and participants were asked to discuss events and decisions that had occurred in the past.



## Service Statistics

### Client Records

Figure 1 shows the annual number of vasectomy clients served in the five facilities from 1998 to 2003. The majority (83%) of vasectomies performed in the six-year period were performed at Heri SDA Mission Hospital; at least half of these were linked to training events. At Heri, rates of utilization have decreased since intensive training and promotional activities in 1999, with rises in 2001 and 2002, perhaps coinciding with renewed promotional efforts and training activities.



### Facility Audits

All of the facilities audited reported offering vasectomy services, though not all facilities offered the services regularly. These services were offered in conjunction with other RH services at the facilities, including sexually transmitted infection (STI) testing and management and HIV testing (all but one facility). All of the facilities provided couples counseling. Two of the facilities provided vasectomy services on an outreach basis.

Only one of the hospitals, and none of the MCH-FP clinics, exhibited behavior-change communication materials that showed pictures of men for male RH/FP services.

The providers in all but one of the facilities were trained in infection control practices, FP counseling and couples counseling. While only four of the five facilities reported that service providers had been trained in vasectomy in the past three years, all of the facilities employed someone who had been trained in vasectomy at some point in time.

In terms of resource availability, all but one of the facilities had vasectomy instruments available, and another reported having been without this equipment within the past six months. None of the

facilities had written protocols or guidelines for vasectomy. All but one of the facilities had electricity at the time of the audit; two stated that it was always available when the facility is providing services, and two responded that it is sometimes interrupted.

## **In-Depth Interviews and Focus-Group Discussions**

The findings below are based on in-depth interviews and focus-group discussions with all study participants. Though opinion leaders were not asked about personal decisions regarding vasectomy, they were asked about general motivators and barriers to vasectomy uptake in the Kigoma Region. For this reason, their views are incorporated into the discussion “Key Variables in the Decision-Making Process,” where applicable.

### **Respondent Characteristics**

The average ages for vasectomized and nonvasectomized men were 42 and 41, respectively. Wives of vasectomized men were on average 40 years old, and the mean age for sterilized women was 38. Sterilized men and women in the study had on average more living children (6.3 and 6.4, respectively) than did men who were not (five living children). The majority of vasectomized men, nonvasectomized men, wives of vasectomized men, and sterilized women for whom data are available were Waha. Most had completed primary school, but few had proceeded further. The majority of vasectomized men, wives of vasectomized men, and sterilized women were farmers, while nonvasectomized men held a variety of occupations (12 farmers, seven working in the medical field, and eight in other occupations).

All of the opinion leaders interviewed were male, with the exception of one female administrator. An attempt was made to interview a representative from one of each of the main religious denominations in each district. In Kibondo and Kigoma, one of each of the following religious groups was represented: Islamic, Roman Catholic, Lutheran, Anglican, Seventh-Day Adventist, and Pentecostal. In Kasulu, only five leaders were interviewed: a Muslim, a Seventh-Day Adventist, a Roman Catholic, an Anglican, and a Baptist.

Three surgeons had been trained at Heri SDA Mission Hospital, and one had been trained at an UMATI training in Mwanza. Three had performed vasectomy surgery for a total of 4–9 years, and the number of surgeries performed ranged from 20 to 50.<sup>7</sup> All four surgeons used NSV. The length of time for which FP service providers had counseled ranged from five to 10 years; one had worked for one year as an “assistant surgeon.”

## **Key Variables in the Vasectomy Decision-Making Process**

### **Reasons for Wanting to Limit Family Size**

Having enough or too many children was a frequently mentioned motivation for undergoing vasectomy. The primary reasons provided for wanting to limit family size were economic hardship and concern for the health and well-being of spouses.

*Economic hardship* was a salient motivator in the decision to limit family size. As one vasectomized participant from Kibondo stated:

*When we were increasing the generation, we found that we did not get any progress in life, even buying soap was a problem; seeing that the children we had were enough, we decided to accept the services. By this time we had five children.*

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<sup>7</sup> This information was obtained from only three of the four surgeons interviewed.

Apart from comments about the general economic advantage of having a smaller family, participants' responses frequently reflected anticipated problems with having enough food to feed their family and covering all of their children's basic needs, including health care and education. Indeed, education was the most frequently mentioned specific economic motivation for vasectomized men, and it was also mentioned by more than half of the opinion leaders. Many people mentioned the growing importance of educating one's children. Some participants discussed the fear of children's becoming street children, thieves, and beggars if parents could not adequately care for and educate them. As one Kigoma man stated:

*Sincerely, I had no any idea at first about vasectomy, until I found that my family was becoming a burden to me and when I thought of economic situation at this time. For example, if you cannot educate your child, if she is a female you may cause her to be selling oranges or to become a sex worker. If he is a male and you can't give him education, expect him be a hawker. Those are the consequences I was trying to look at, and decided that the family I had by that time of five children was enough.*

Although economic issues are one of the most frequently mentioned reasons for choosing a vasectomy, such concerns were more frequently mentioned by men than by women.

*Concern for the health and well-being of one's spouse* was a frequently mentioned motivation for vasectomy and was often framed in terms of a man's desire to stop his wife's cycle of problem pregnancies and births. One vasectomized man from Kibondo stated:

*... I was sympathetic toward my wife's health. She was already tired and her health condition [had] already deteriorated because of childbearing.*

Similarly, a man from Kasulu recounted:

*My wife had previously had an operation. Thereafter, she continued to experience pains whenever she become pregnant. Because of that, I discussed with her about family planning. We had decided to have four children, and fortunately by the time we [decided in favor] of family planning, we already had six children, though through difficulties. We therefore discussed and I told my wife that I had decided to do vasectomy.*

Concern for the wife's health as a factor in choosing vasectomy over either temporary methods or tubal ligation is discussed in more detail below.

## **Reasons for Choosing Vasectomy over Another Contraceptive Method**

After a decision was made to stop childbearing, most vasectomized men chose vasectomy over other FP methods due either to dissatisfaction with the previous method(s) or the desire to "rescue" their wives from the burden of undergoing sterilization themselves.

The majority of vasectomized men chose to undergo a vasectomy after previously using at least one other method with their wives. Half of those who opted for vasectomy specifically stated that they were dissatisfied with the former method. The principal sources of dissatisfaction were the side effects associated with the previous method, the previous method's perceived ineffectiveness, and the discomfort experienced with using condoms. One Kibondo participant alluded to his and his wife's experience with contraceptives in the following way:

*Pills were causing her some side effects. And with condoms, I decided to stop it because it was like chewing sweets while wrapped in their papers, you cannot taste their sweetness.*

Women who had received a tubal ligation also frequently stated dissatisfaction with former contraceptive methods as a reason for undergoing sterilization.

For some of those individuals who decided in favor of sterilization, it was a matter of deciding *who* should be sterilized. In some cases, vasectomy was determined to be a comparatively minor procedure and thus the logical alternative to tubal ligation. As one vasectomized man from Kasulu stated:

*I heard for the first time that it was better for a man to undergo vasectomy rather than a woman undergo tubal ligation....This is because it happens sometimes that a woman experiences irregular heavy bleeding after tubal ligation.*

In other cases, the husband decided that the health of his wife was too poor to undergo tubal ligation, and that he should be sterilized instead. The wife of one vasectomized man recounted:

*... I had many children and the nurses insisted that I should use this service [tubal ligation], but because of the problems that my legs used to swell seriously, my husband decided on my behalf!*

Also, in some cases a physician advised the husband to undergo sterilization in the place of his wife. A Kibondo participant related:

*After my wife had such problems [pregnancy complications], we were advised from the hospital that it is better I undergo vasectomy, because if my wife gets pregnant again there is a danger of getting complications in her reproductive parts. Since I had no physical problem, I was advised to do vasectomy.*

Thus, vasectomy was often chosen over other methods as a response to concerns about side effects, discomfort or other dissatisfaction with temporary methods, or the ease of the procedure relative to tubal ligation.

## **Barriers to Choosing Vasectomy over Other Methods**

Barriers to choosing vasectomy over other methods included satisfaction with the current method of contraception, lack of knowledge or rumors regarding vasectomy, the procedure's permanence and the inability to predict future needs and desires, and a lack of trust in one's spouse.

### **Satisfaction with current method of contraception**

Several of the nonvasectomized individuals stated that they were satisfied with the contraceptive method they were currently using and for this reason were not considering vasectomy. In the words of one nonvasectomized man from Kibondo:

*Pills cause no harm to my wife. Therefore, for the time being, I would rather continue with the use of pills for the purpose of family planning.*

When asked what he would do if his wife were to have side effects from the pill, he responded:

*That is when I will have the idea of doing so [having a vasectomy]. I had been working as an assistant in the [operating] theatre myself, so I know that vasectomy has no problem, but it is a permanent method—a lifetime procedure.*

Similarly, a nonvasectomized man from Kigoma stated:

*... What caused me not to have vasectomy is that I wanted to see the condition of my wife [regarding] family planning usage, [whether] she will get problems or not. If she had problems, I would have got it [vasectomy], because myself I had enough children.*

Thus, some nonvasectomized men expressed a willingness to consider vasectomy, provided that they were no longer satisfied with their current method of contraception and were ready for a permanent method.

### **Vasectomy knowledge and understanding**

Lack of information, misunderstanding, and rumors contribute to men's reluctance to undergo a vasectomy. Rumors that vasectomy results in decreased sexual desire or performance, or that the procedure is the equivalent of castration, appear to be prevalent and were mentioned by all types of respondents.

Vasectomized men, as well as wives of vasectomized men, frequently recounted that they had been concerned by rumors of decreased sexual desire, weakness, and weight gain prior to undergoing the procedure. In some cases, these beliefs led men to postpone the procedure. One man described delaying the procedure for three years because he believed that "it would lead to the distortion of my marriage because many were saying vasectomy destroys sexual desires and [the] ability to do sex."

Interviews with vasectomy surgeons and FP counselors confirmed these concerns: Prior to obtaining a vasectomy, most men inquired about sexual side effects. One vasectomized man from Kibondo recounted asking his provider about the issue of weight gain:

*I asked the provider whether this method makes one become overweight. As I know with [goats], they become very fat after being castrated He replied me that they don't do it to the extent of making someone overweight and being unable to do work.*

In fact, many of the vasectomized men reported that their concerns regarding sexual weakness were assuaged by service providers' reassurances to the contrary. One man reported that his doctor assured him that his potency "...will be improved...that nothing will be decreased. Sperms will be passing there and thus giving me more energy."

Notably, while a number of nonvasectomized men also discussed rumors of loss of virility and castration, only a few explicitly expressed belief in them; most often, the reason nonvasectomized men provided for not obtaining a vasectomy was a general lack of knowledge about the procedure. A man from Kibondo who expressed the need for further information before he could consider the procedure stated:

*...What we hear about is that a man undergoes vasectomy but we don't know how it is being done. It is said that they break certain "canals." I don't know, we just hear from health professionals and that is when we know of the "canals." Because what I know is that when I ejaculate it is from one hole only and sperms comes out like bullets and straight... What I heard next is a baby's cry. But for a professional, he knows that there are certain "canals" that are blocked during vasectomy but for me, given a chance to explain about it, I will tell you there is no way [a vasectomized man] can even urinate.*

A nonvasectomized man from Kigoma stated, "If we will understand in detail, even me, I will [use] this method."<sup>8</sup>

Thus, general lack of knowledge about what vasectomy is, how it prevents pregnancy, and what its side effects may be creates a negative environment for vasectomy acceptance, particularly in the

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<sup>8</sup> Interestingly, the misconceptions of two nonvasectomized men framed vasectomy in a positive light: They believed that decreased virility resulting from vasectomy reduces the risk of HIV/AIDS.

face of rumors regarding the procedure's consequences. Indeed, almost two-thirds of opinion leaders who were asked about men's receptivity to undergoing vasectomy believed that men are in fact not very receptive, and attributed this resistance largely to a lack of knowledge and sensitization about the procedure. In the words of an administrator from Kibondo:

*I don't think they [men] are much willing, and this is due to lack of knowledge about it. But I think with education they will be willing.*

### **Unpredictability of the future**

Worry about what the future holds prevented some individuals from pursuing a permanent method of contraception. As one nonvasectomized man from Kibondo stated:

*I think after cutting the "canals" [vas deferens], there will be no communication. You will not be able to have a sexual desire because those canals have been cut. This means even if you desire to have more children, you will not be able to father again. But because you are the one who decided willingly, what is remaining with you is just a regret. You will probably be thinking had it been otherwise you would like to have more children, and suppose one of the children passes away.... You will have all sorts of thoughts.*

In addition to concerns about child mortality, some men expressed concerns regarding having no option to remarry if their wife died or left them. One nonvasectomized man from Kigoma stated:

*Because you can marry a young woman without a child, when she comes to you and finds you are not bearing children, you can cause her to go away early because you are not bearing children, you remain having sex only. Many can't live without a woman.*

Thus, future expectations regarding life after the procedure were a significant concern for some men. These concerns were primarily related to the possibility of their living children dying or to the possibility of their wife dying, leaving them infertile and hence an unlikely candidate for remarriage.

### **Lack of trust in one's spouse**

A related barrier was some men's distrust in the commitment or faithfulness of their spouse. This manifested itself in several ways. Some men expressed worry that their wives might leave if they were no longer able to give her children or if their sexual performance suffered as a result of the vasectomy. Other men worried that if their wife became pregnant after the vasectomy, the physical proof of her infidelity would ruin the marriage. One nonvasectomized man, who had heard a rumor about a vasectomized man whose wife became pregnant after he had the procedure, stated:

*...The man can get a vasectomy, but the safe way is for the woman to have tubal ligation, because she is the woman who is the farm....The man can get vasectomy but the woman can still go outside and get pregnant, and you will find yourself increasing the family unexpectedly.*

Lack of trust was mentioned by women as well as men. For women, lack of trust in their husband's fidelity was considered both a reason for as well as a barrier against vasectomy. Vasectomy was seen to be positive by some women, ensuring that their husbands' extramarital relations would not increase their own childrearing burden. One woman stated:

*You know a man is very reproductive. He may have children out of wedlock. And if he brings them home, you are turned to a babysitter. Oh! He will be complaining that you are not caring for his children and so forth...*

On the other hand, a vasectomy was also interpreted by some women as providing their husbands with license to have extramarital relations. One woman who distrusted her husband's motives to undergo a vasectomy stated:

*I thought for him to undergo vasectomy is a warrant for him to be promiscuous. He is sure that even if he goes out of wedlock with more than a hundred women, he will never bring you home bastards. Even if he was not promiscuous, he will be tempted because he knows there is no way his wife will know about it because he will not bring home children from other women. Through this way, he can bring home diseases which I had never expected to get in my life.*

Several sterilized women mentioned concerns regarding their husbands' infidelity as a reason they chose to be sterilized instead of their husbands. Nonetheless, just as wives' fears might deter men from having a vasectomy, wives' encouragement might also impact their decision; this is discussed in more detail below.

## **The Decision-Making Process**

The following elements of the process of making a decision regarding vasectomy were examined: the duration of decision making, sources of vasectomy information, and the role of the spouse in decision making.

### **Duration of decision making**

Vasectomized respondents had an average of 5.3 children when they first began *considering* vasectomy, and on average they had one more child between the time the decision was made and the procedure itself. For those respondents who provided quantifiable responses, the average length of time between first considering vasectomy and having the surgery was one year and seven months. This indicates that decision making is not an immediate process.

The most common reason given for the delay in undergoing surgery was that at least one partner (often the wife, from the male point of view) was not ready and desired more children. A vasectomized man from Kasulu recounted:

*I had the idea of doing vasectomy when I had five children. I told my wife that it was better for us to do sterilization because I thought our children were enough for us. My wife was against the idea. We stayed like that until we got three more children and that is when we decided and I underwent vasectomy.*

The wife of a vasectomized man in Kigoma described her experience in convincing her husband to have one more child in the following way:

*... He wanted us to go for contraception, myself I was disagreeing, because I had three children, two girls and one boy, I said I can't go for contraception with only three children....We continue disagreed until we got the fourth born.*

Thus, in several cases women successfully convinced their husbands to wait until they had more children; in others, delay allowed the discussion to continue until consensus was reached.

### **Sources of vasectomy information**

Sources of vasectomy information included satisfied clients, books, pamphlets, radio, church, billboards and other advertisements, in-school seminars, and casual conversation on the street. While the MCH-FP clinic was a frequently mentioned source of vasectomy information for women, this did not hold true for men. When information sources were combined into two groups—sources that

necessitated personal conversation (including conversation with other vasectomy acceptors, spouses, friends or acquaintances, and health care personnel) and sources that were mass vasectomy promotions (pamphlets, books, radio, billboards, and political discourse)—the two types were almost equally represented overall and were mentioned by both vasectomized and nonvasectomized men.

Vasectomized men frequently reported having discussed the decision to undergo a vasectomy with family members (particularly brothers) and friends. Satisfied clients appeared to be particularly influential, especially in terms of resolving worries about loss of sexual abilities and other side effects. Physicians and nurses also played an important role in the decision-making process for many vasectomized men, either by recommending vasectomy as an option or by assuaging their fears.

### **Role of the spouse in decision-making**

A notable finding is the important role of the spouse in the vasectomy decision, both in terms of being an important motivation for undertaking the procedure (discussed above) as well as in terms of being an active participant in the decision making. All of the vasectomized men discussed the decision with their spouse. In at least some cases, this was a give-and-take discussion, with the wife's approval being a key determinant in final decision making. As one nonvasectomized man from Kigoma reported:

*My wife has not yet agreed to the use of vasectomy and I can't use it before we agree together; but I hope that as I continue to convince her she will accept the idea, because we are having already enough children, while our economic situation is not good. We are having not enough money to pay for health service and other social services, so I am sure she will understand later on.*

In contrast, a Kibondo woman stated:

*When he decided to use vasectomy, he involved me, and so I gave him a goahead. He said that it's a very long time that I have been suffering so he should go instead and I said go!*

Interviews with wives of vasectomized men indicated that many of the men underwent vasectomy after their wives refused to undergo tubal ligation. Conversely, some sterilized women indicated that they underwent the procedure after their husband refused to undergo vasectomy.

The positive overall influence of one's wife appears in the majority of transcripts as facilitating a man's decision to have a vasectomy. The majority of vasectomized mentioned the wife's approval as a factor in the decision, and four of the nonvasectomized men provided their wife's disapproval as a reason. These reasons, compounded by the fact that the most frequently stated reason for delaying a vasectomy was the wife's desire for more children, indicate that with several exceptions, vasectomy is a decision taken by the couple together.

## **The Context of Vasectomy Acceptance or Refusal in Kigoma Region**

### **Vasectomy Service Delivery and Access**

We explored several aspects of vasectomy service provision and quality of care in the Kigoma Region. These included the cost of services, the availability of providers and equipment, providers' adherence to elements of informed choice procedures, and postoperative experiences and care.

### **Cost of services**

Cost did not appear to be a significant barrier to undergoing the vasectomy procedure; most vasectomized men said that the procedure cost them nothing. However, in some cases, participants had to delay the procedure until free services became available in their district. A Kibondo man who waited for more than three years explained:

*It was thirty thousand [shillings] at the district hospital. Later on I was informed that vasectomy health providers were coming at Mganza health centre. So when they came, I came also and the procedure was free of charge. So I did it.*

In a couple of cases, men had to pay for transportation to get to a facility that offered services. However, many walked or biked to the clinic or hospital, and Heri Mission Hospital provides free transport by car. A couple of participants reported paying for equipment and anesthesia, and one man who had a “private” vasectomy paid about 30,000 shillings (roughly 60 dollars US). One community leader mentioned that though vasectomy services are often provided free of charge, follow-up visits are not, and clients leave “discouraged, as they cannot pay.”

### **Provider and equipment availability**

Provider availability was repeatedly mentioned as an impediment to vasectomy uptake, both in a general sense as well as a specific obstacle experienced. One vasectomized man from Kibondo described the irregular availability of service providers:

*...This year, three specialists came to this centre, comparing to last years where it was almost difficult to get the service....Therefore, many people got the service as compared to last years.*

A number of vasectomized men mentioned lack of provider availability as justification for postponing the procedure, while others simply described the hassle involved in obtaining the service. Providers were seen as often unavailable or inaccessible, and there was considerable confusion about when they would be in the area either to answer questions or to perform vasectomies. Participants told stories of men returning several times to a clinic or hospital before finding a provider available to perform the surgery, or having to wait before they could undergo the procedure, due to high demand and a limited number of providers. The wife of a vasectomized man from Kibondo recounted:

*I went there with him but the service providers were very late. When they arrived, they found many people and therefore they said that they will start with those who came from far. He decided to escort me back home, and then he turned back to the service place where he stayed up to 10 hours when he could get the service!*

One man reported having to return another time due to lack of appropriate equipment. However, despite the described difficulties obtaining services, only one nonvasectomized man (from Kasulu) cited lack of provider availability as a reason for not having undergone the procedure. He recounted the following:

*I live far from this hospital [Heri SDA Mission Hospital], so it has been difficult for me to get appropriate contacts/communication with responsible health officers... Last time I came here, he [a friend] told me that those health officers who are the experts of vasectomy were already transferred to other places. Since then, I have been trying to get information about it, unsuccessfully.*

Interviews with vasectomy surgeons and FP service providers indicated that with the possible exception of Heri SDA Mission Hospital, clinics and hospitals lacked sufficient instruments to

support a large number of clients. One surgeon from Kasulu offered the following opinion on the importance of having multiple vasectomy kits:

*One set is not enough because, for example, when you go for mobile [outreach] then you find 15 clients, so if you have only two sets, it takes [a] long time to finish, because you are required to sterilize equipments, you do to another client, you can finish with another client before equipment to be ready. Therefore [it] is important to have more sets.*

However, some providers interviewed stated that the number of kits available at their site was sufficient to meet client demand. All of the service providers interviewed reported that their facilities had emergency equipment available on site.

### **Informed choice**

We addressed the issue of informed choice to assess the quality of vasectomy care currently provided by the five facilities. Vasectomized men in the study were asked to report which elements of the informed choice process they had been exposed to when making the decision to have a vasectomy. Overall, it seems as though the most basic element of informed consent was in place: All but one of those asked testified that they had signed a consent form before the vasectomy surgery. However, individual elements of the informed consent process were not uniformly adhered to.

Under one-quarter of those asked reported that someone had explained to them the *risks* of the procedure before they made their decision. As a Kibondo man stated, “He didn’t tell me about anything other than that I will not be able to getting children again.” Two-thirds of those asked reported that they had been told the *benefits* of the vasectomy before making their decision, and two people were not sure if the benefits had been explained.

Just over half of those asked said that *other methods of contraception* had been explained to them before they underwent the vasectomy procedure. A Kasulu man reported:

*He [the service provider] told me that I could use other methods like use of pills or injectable, or else if you cannot use these methods, you can also use condoms. These are the methods which were explained to me before I had entered the operation room.*

Other men who had undergone the procedure said they had not wanted other methods to be explained to them, that they had come to the clinic or hospital having already made a decision and simply wanted the procedure to be performed.

All of those respondents asked were told of the *period of fertility following the vasectomy procedure*. However, at the time of the interview, a number of the men had difficulty recalling the correct length of time that vasectomized men remain fertile. In other cases, it is unclear to what extent the directions were either clearly explained by the provider or understood by the client. A Kasulu man recounted:

*...The provider told me that when you get home, after seeing you have healed, don’t sleep with our wife without condoms. Start with condom first to avoid unwanted pregnancy, which can bring misunderstanding between yourself while you have undergone vasectomy. Therefore, I took condoms, which the doctor gave me. I used for short time then I left them.*

Adherence to elements of the informed consent procedure did not vary by site.

### **Postsurgery**

Almost three quarters of vasectomized men specifically stated that they were pleased by the attitude and care of the health care professionals involved in the procedure. Several men reported minor complications related to the surgery: One man had the procedure redone after his wife became pregnant, and a few men complained of postsurgical pain in the genital area. Two individuals who experienced pain after the surgery did not seek follow-up care, and one tried to but found that no provider was available to advise him. Though one of the men interviewed regretted having had a vasectomy (due to the pain he experienced), the majority of men, and wives of vasectomized men, were pleased with their decision. As the wife of a vasectomized man from Kibondo stated:

*... When the husband decides to use vasectomy, the wife does not get any disturbance and she becomes free and confident. For those who think that this method is harmful, that it causes loss of sexual abilities ...we are now encouraged enough to advise them that it has no effect. In addition it has advantages that one will have enough children who are in school and those who are getting all the important service as required. One will also get enough time to talk with the family, to do his works properly and also one can save some money for the family.*

## **The Social, Political, and Religious Context of Vasectomy in Kigoma Region**

### **Political involvement in FP in Kigoma Region**

Most of those interviewed agreed that politicians, from the level of councilors to that of the prime minister, openly support FP, including vasectomy, on development grounds. As one surgeon reported:

*The prime minister said that this region is among the region with high fertility rate; therefore, people should join family planning so as to improve life economically...*

A number of individuals called on the Ministry of Health to undertake a larger role in FP education and research, and to expand the number of service providers and necessary equipment.

### **The involvement of traditional healers in FP**

The involvement of traditional healers as advocates of modern FP methods appears to be minimal. Traditional healers' encouragement of birth spacing, was mentioned, as were traditional practices that were seen by some as providing an obstructive environment for modern FP methods. However, the majority of sterilization users and potential users claimed not to know anything about the views of traditional healers or their role in FP promotion; others stated either that traditional healers were not involved in FP or that they did not promote contraception at all.

### **The influence of religion on modern FP methods**

Religious perspectives regarding contraception in Kigoma Region vary by faith. Seventh-Day Adventists in Tanzania are strong advocates of all forms of contraception, including vasectomy. In addition to providing vasectomy services at Heri SDA Mission Hospital, contraception is discussed and promoted in SDA sermons, and the denomination organizes educational seminars and advertises the availability of providers. One SDA leader in Kasulu District explained his position in the following way:

*We recommend all family planning methods as recommended by government. I think family planning issues were being taught by our denomination even before the government, what we do is to make our followers aware of these family planning issues, but we leave the decision in the people's hands.*

One surgeon from Kigoma believed that the high demand for vasectomies during his training at Heri SDA Mission Hospital was related to the fact that most of the men were coming from villages with many SDA congregants. Another surgeon reported the willing help of SDA and Anglican religious leaders in disseminating information about vasectomy services offered through his mobile clinics; he also mentioned using a Pentecostal health clinic to provide the service.

In contrast, the Roman Catholic Church in Tanzania opposes modern methods of contraception. In addition, a number of participants reported that the Roman Catholic Church teaches that contraception is not only a sin, but that it causes cancer and impotence. According to the Roman Catholic wife of a vasectomized man from Kigoma:

*...They [Roman Catholic Church] want us to use calendar [the calendar method], they say family planning ways are sins... They said when you use pills you will get cancer, and they say if the man got vasectomy he will suffer from cancer...*

The views of other religious denominations regarding modern FP in Kigoma Region were more ambiguous, as was the degree to which religion actually influences people's decision making. One vasectomized man discussed the decision with his pastor (who had undergone a vasectomy himself). Some nonvasectomized participants admitted that religious beliefs played a part in their decision not to undergo the procedure. A Muslim man from Kigoma stated:

*There is somewhere in God's book which says contraception is a sin because God said let us people multiply. So if you prevent it means you are against God. So...I can't have it [a vasectomy].*

However, a similar number of people admitted to having a vasectomy or tubal ligation despite the disapproval of their church. A vasectomized man from Kibondo explained:

*My impression was that, since it is God who created us, I was feeling that it was an offense against him if one undergoes vasectomy. Therefore I was worried that if I undergo vasectomy I will be doing sin before God. But since God [has] also given us wisdom, slowly through him I came to realize that it was proper for me to undergo vasectomy and therefore I did it.*

Thus, despite various religious teachings regarding modern methods of contraception, it is difficult to ascertain the weight accorded to religious views on contraception in practice.

## Discussion

The findings of this study in many ways echo those of previous studies of vasectomy utilization conducted in Sub-Saharan Africa and elsewhere. We found financial hardship (and the effects of this hardship on children's educational prospects) to be one of the most salient reasons for deciding not to have more children. Landry and Ward (1997) found this to be true in their international survey of Bangladesh, Kenya, Mexico, Rwanda, Sri Lanka, and the United States, where nearly all respondents cited economic issues as a reason for not having more children. Studies in Tanzania and Kenya have also acknowledged the importance of economic pressures, particularly in terms of education, on vasectomy uptake (Wilkinson, 1996; Muhondwa, Rutenberg, & Lusiola, 1997).

Another leading factor affecting the decision to end childbearing in Kigoma was concern for the health of the spouse. This concern, particularly as it related to the toll of multiple pregnancies, was also found in Kenya and Rwanda (Landry & Ward, 1997). We also found that people often decided upon permanent methods as a result of dissatisfaction with either traditional or modern FP methods; this dissatisfaction was frequently due to side effects experienced by the spouse. In his study of vasectomized men and couples in the United States, Mumford (1983) also found that dissatisfaction with temporary methods was one of the most important steps in the vasectomy decision-making process.

General lack of knowledge about vasectomy was a considerable barrier to vasectomy uptake among men. In the Kigoma Region, vasectomy is commonly rumored to lead to impotence and loss of sexual energy and is also often equated with castration; such concerns have been reported in multiple studies (AVSC International, 1998; Fapohunda & Rutenberg, 1999; Qureshi & Solomon, 1995; Binyange et al., 1993; Muhondwa et al., 1997). Other research has also addressed female partners' concerns regarding sexual functioning and physical strength of her husband after the procedure (Ruminjo, 1999). Though some vasectomized men in our study reported postponing their decisions due to fear of side effects, it remains unclear to what extent specific rumors served as barriers for nonvasectomized men or whether lack of knowledge in general prohibited men from seeking such services. Other salient barriers included lack of trust in the faithfulness of one's spouse, and uncertainty about the future and about future reproductive desires (specifically, concerns about the loss of existing children to disease or the loss of one's wife and consequent inability to remarry). The latter concern was similarly found in Ghana, where nearly half of the men in a panel study said that vasectomy's permanence was a disadvantage (The ACQUIRE Project, 2006).

In Kigoma, sources of vasectomy information included satisfied clients, books, pamphlets, radio, church, billboards and other advertisements, in-school seminars, and casual conversation on the street. Mumford (1983) found that few respondents obtained information about vasectomy from the mass media, that about half spoke to a physician prior to the operation, and that satisfied users were the primary sources of information for vasectomized men. In this study, personal information sources and mass media were almost equally represented. However, discussions with satisfied clients were an important factor encouraging men to undergo the procedure, as were discussions with physicians and nurses.

Landry & Ward (1997) found that while most respondents in their six-country survey felt that decisions about family size should be taken jointly, in many cases this did not happen in practice. In

this study, a notable finding was the seemingly considerable amount of communication between couples in the decision-making process.

This study has brought to light further research questions of interest from a programmatic standpoint. Study participants frequently mentioned dissatisfaction with contraceptive pills; further research is necessary to determine the extent of dissatisfaction with this method and reasons behind the dissatisfaction. In terms of vasectomy, it would be useful to know what allowed vasectomy acceptors to discount rumors of impotence and decide to undergo the procedure. Though some mentioned that their fears were assuaged after speaking with a doctor, other contributing factors may also play a role. Similarly, it would be useful to explore power dynamics within relationships on a larger scale and how such dynamics affect contraceptive decision making.

## Recommendations

To increase vasectomy uptake in the Kigoma region and beyond, a sustainable strategy must be developed to increase both the awareness and availability of vasectomy services. To date, use of vasectomy services in the region has fluctuated in accordance with SDA, UMATI, and EngenderHealth promotional campaigns and trainings in the area; a stable level of vasectomy service provision and utilization has not been achieved. Outlined below are the principal facilitators and barriers in the decision-making process identified through our analysis, and recommendations for programmatic interventions based on these findings. These recommendations are based on a supply-and-demand model of service provision, which entails improving service delivery and access while also increasing demand for methods or services through mass media promotions at the community level and through various forms of interpersonal communication.

### Barriers to Undergoing Vasectomy

#### Lack of Information and Prevalence of Myths and Rumors

*“I had been expecting to be educated more about it. Because I have no idea what is being done during the procedure...I need to get a whole picture about vasectomy before I decide to do it.” (nonvasectomized man, Kibondo)*

Lack of knowledge about vasectomy procedures, consequences, and side effects was common. These information gaps need to be addressed if this method is to be positioned as a viable choice in the minds of men and couples. There was widespread agreement among participants that in contrast to women, men are underserved and overlooked in terms of FP education. Participants also felt that a vasectomy campaign must be proactive in searching out and educating men, and that men are unlikely to seek out FP providers on their own. Though vasectomy information is provided at some MCH-FP clinics, some participants mentioned that men will not go to an MCH-FP clinic because they would feel out of place, and that men need a place where they will feel “relaxed.” Encouragingly, several of the nonvasectomized men stated that given further information and readiness to end childbearing, they might consider undergoing the procedure.

#### Recommendations

FP services and education must be expanded and oriented toward men. Participants recommended the establishment of separate spaces for men to learn about FP; such spaces may be created within outpatient departments or through community outreach activities at public gatherings. Staff in outpatient departments must be trained in men’s RH needs, and such departments might also consider offering broader men’s RH services, to enhance the appeal of FP services. Since some men indicated that they would prefer to receive service and information from other men, an effort could be made to hire male staff and outreach workers. Outreach activities can include educational seminars led by either vasectomized men, health care providers, or political leaders. Interactive learning tools and methods should be available during educational activities directed toward men.

To address rumors, both satisfied clients and physicians should be among those who deliver messages in media campaigns, and messages should address the men’s and couples’ key concern: assurance of normal sexual functioning after the operation.

## **Lack of Consistent Service Availability**

*“...The ideas came [to undergo vasectomy] when I had three children; that means had the service been there earlier the number children wouldn’t have gone up to five!” (vasectomized man, Kibondo)*

A number of participants reported difficulty accessing vasectomy services in a timely manner due to lack of availability of providers and equipment. While political leaders have taken a strong, vocal stand on FP promotion from the perspective of national development, participants called upon a larger investment of programs and resources toward this goal.

### **Recommendations**

To ensure consistent levels of vasectomy service provision, vasectomy surgeon outreach services should be regularly scheduled (on a weekly basis) and should be linked with community outreach and mobilization. A community-based intermediary (such as a community-based distribution worker) who knows the schedule for service provision could help potential clients make appointments, could follow up with clients to ensure services are attained, and could answer men’s questions both before and after the procedure. If community resources allow, an anonymous hotline could be established for customers seeking information and wanting to make an appointment.

Each facility must have the appropriate equipment consistently available, so that services can be performed when the provider is on-site.

## **Trust**

*“Another thing that I had in mind initially... was the fear that once you undergo vasectomy operation, your wife might lose faithfulness and bear a child with other men. And this is still a big problem to many men, especially those who are not yet to understand well. But I trust my wife very much that is why I decided to undergo the vasectomy operation.” (vasectomized man, Kibondo)*

### **Recommendations**

The issue of spousal trust as a barrier to permanent contraception must be addressed via carefully planned communications and/or community level activities.

Since fewer postsurgery pregnancies may decrease fears of infidelity, compliance with postoperation instructions must be ensured. Providers must highlight the need to use another FP method for three months after the operation and should provide clear postoperative care instructions. To decrease misunderstanding between the couple, the husband and wife should participate in pre- and postvasectomy counseling together. Clients should be encouraged to return to the clinic for semen analysis after three months.

## **Facilitating Factors**

### **Financial Hardship**

*“Once you undergo vasectomy, economically you are free to plan your life issues... You know that through vasectomy, ‘I will afford to educate the children I have,’ [and] economic issues may become good.” (vasectomized man, Kibondo)*

Financial hardship was an important factor facilitating an individual's decision not to have any more children. This hardship was discussed generally, in terms of a man's ability to ensure the health of his family, as well as specifically, in terms of the ability to educate one's children.

### **Recommendations**

The promotion of FP, including vasectomy, should include the economic benefits of smaller family size. Media campaigns might use messages emphasizing a vasectomized man's ability to be a good provider for his family and his satisfaction at having taken an important step to be able to send his children to school.

### **Spousal Influence**

*“When we were waiting for vasectomy, I was giving birth with a lot [of] problem! I got about three miscarriages. Having seen that eight children were enough for us, when I was pregnant [with] the last child, my partner decided to go for the service in order to get rid of these pregnancy problems.” (wife of a vasectomized man, Kibondo)*

Concern for the wife's health, particularly in terms of problematic childbirth, side effects from temporary FP methods, and the knowledge that vasectomy is a minor method compared to tubal ligation, facilitated a man's decision to undergo a vasectomy. Most vasectomized men also mentioned their wife's approval as a factor in their decision. Nonetheless, spouses sometimes had a negative influence on the husband's decision to have a vasectomy. In some cases, a wife convinced her husband to postpone the procedure until her desired number of children had been attained, forbade the procedure, or decided to undergo a tubal ligation instead.

### **Recommendations**

Given the spouse's potential role in decision making, promotional efforts should be directed toward women as well as men. A media campaign might convey the notion of a “satisfied spouse” who no longer has to be concerned about problems associated with childbearing, who is sexually satisfied, and whose husband is able to provide for their family; such messages may resonate among men who are concerned about their spouse's health, in addition to rumors and financial hardship. Women can receive education regarding vasectomy in MCH-FP clinics, and both counseling and promotional efforts should be directed at the couple as a decision-making unit.

### **Dissatisfaction with Previously Used Methods**

*“When my wife started getting weak [from childbirth], we decided to use family planning methods. There were two choices: whether to do sterilization or to use pills. My wife used pills for sometimes before she started feeling bad because of it and she stopped using the pills forever.”*

Dissatisfaction with previously used methods, either due to side effects, inconvenience, or perceived lack of effectiveness, facilitated the choice of some men to undergo vasectomy.

### **Recommendations**

Vasectomy should be consistently offered by providers as an alternative to temporary methods for couples who have completed their family size and as a safer and easier alternative to tubal ligation. In addition, participants' dissatisfaction with temporary methods indicates a need to improve counseling about these methods and the need to offer more information about long-acting and permanent methods to couples for whom they are well-suited.

## **Vasectomized Men As Role Models**

*“I heard about vasectomy from those who had already used it. They encouraged and sensitized me to use it because they said it has no ...negative side effects.”*  
(vasectomized man, Kibondo)

Many of the vasectomized men interviewed had spoken to satisfied clients prior to undergoing the procedure. These men played a particularly important role in allaying fears concerning the loss of sexual ability after vasectomy.

### **Recommendations**

Promotional and community-level activities should use satisfied clients as role models for vasectomy. Such activities can include seminars conducted by vasectomized men or mass media campaigns featuring satisfied clients.

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