Sexual Behavior and Polygyny: Poverty-Driven Slum, Urban, and Rural Differences in Kenya

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Abstract

This paper assesses the validity of recent findings of declines in polygyny in the context of sexual behavior using Kenya Demographic and Health Survey (KDHS) and Nairobi Cross-sectional Slum Survey (NCSS). We examine trends in the prevalence and intensity of both polygyny and extramarital sexual relationships in Kenya as well as in rural, urban, and city slum areas of Kenya to see whether there are localized or nationwide substitution patterns between these relationship forms. Results show declines in the prevalence and intensity of both forms of multiple partner relationships. However, the pattern of trend is diverse for urban and slum areas. In particular, urban slum shows a significantly high level of polygyny. This localized high level of multiple partner relationships and non-uniform geographical declines is a cause for concern with regards to spread of sexual diseases and the well-being of children in such families.

Introduction

Polygyny, a form of multiple partner marital relationships, has generated intense interest from demographers in the last century. Much of this has focused on sub-Saharan Africa where the prevalence is high. Researchers agree that the marital institution and process in Africa are unique (Timaeus & Reynar, 1998) and, therefore, deserve thorough study. Past studies have examined polygyny's impact on fertility and reproductive behavior (e.g. Adewuyi, 1988; Ahmed, 1988; Bean and Minneau, 1986; Garenne and Van de Walle, 1989; Pison, 1987); resource allocation and child well-being (e.g. Desai, 1992); and provided estimates of trends and projection for the future (Timaeus & Reynar, 1998; Chamie, 1986).

More recent studies have suggested declines in polygyny with an optimistic forecast for continued decline (Caldwell, 1976; Goode, 1970; Romaniuc, 1988; Timaeus & Reynar, 1998). As a result, attention has been diverted from polygyny. Increasing westernization, urbanization, and educational attainment, and declines in agriculture in sub-Saharan Africa have all been suggested as possible reasons for current and future expected declines (Caldwell, 1976; Goode, 1970). These same forces constraining polygyny's growth, however, may have led to other forms of multiple partner sexual relationships. Extramarital sexual relationship, an informal form of polygyny, may be one of the emerging replacements for polygyny.

Unlike polygyny, there has been little focus on the existence, prevalence, and intensity of extramarital relationships in sub-Saharan Africa. While Demographic and Health surveys generally include related questions, very little has been done with these responses. Real declines in polygyny will be more meaningful in the health context if accompanied by reductions in multiple sexual partnerships. Conversely, polygyny declines accompanied by increases in extramarital sexual relationships may be an indication that the latter are simply substituting for culturally imposed polygyny declines.

The demographic significance of polygyny and extramarital relationships are extensive as they wield immense power on child well-being, social relationships between and within sexes, generation, and kin (Pison, 1986). The recent increased incidence of HIV/AIDS in Africa provides strong impetus for our interest in trends of these forms of multiple partner relationships. Both types of multiple mate relationships have potentially ominous implications. In this paper, we examine trends and spatial patterns in polygyny and extramarital sexual partnerships in Kenya.

Background

Polygyny is most common in sub-Saharan Africa. Indeed, the region remains the only one where polygyny is prevalent (Bledsoe & Pison, 1994). Its prevalence level, however, varies across the sub-Saharan region. For example, prevalence is moderate in East Africa and high in West Africa, varying from 18.6% to 44.3% in Zimbabwe and Mali respectively (Timeus and Reynar, 1998). While Kenya's prevalence of 19.5% for the same period is moderate, we focus on Kenya because it is one of the few countries that has experienced high levels of westernization, hence, change should be more significant in the country as a result.

In the past, polygyny was a vestige of wealth since only the very wealthy could afford multiple marriages. Bride wealth was paid by the groom's family to the bride's family to compensate them for the loss of her reproductive and productive services (Caldwell & Caldwell, 1990; Comaroff, 1960; Goody, 1993). The payment of bride wealth has declined over time (Caldwell et al, 1991). Evolutionary theory would then predict that the pool of men seeking additional wives should increase significantly since the benefits of securing a wife now even further outweigh the costs.

Sexual Strategy theory (Buss and Smith, 1993) provides further support for an anticipated increase in the incidence of polygyny. By this theory, human mating is strategic in being goal directed and problem solving. The goal directedness of human mating has led to sex differences in reproductive activity and child investment patterns; females do most or all of the childrearing, while males devote the bulk of their reproductive efforts to mating (Buss and Smith, 1993; Geary, 1998; Johnstone et al., 1996; G. A. Parker & Simmons, 1996; Trivers, 1972).

Sexual Strategy theory lends further support to what is evidenced in Sub-Saharan Africa in proposing "lifelong mating with a single person does not appear to be the norm for humans" (Buss & Smith, 1993, p. 204). In that vein, females and males have different sexual strategies. In spite of differences in strategies, both sexes have the same evolutionary goal - to ensure genetic representation in future generations. Males' strategies involve ensuring that the highest proportion possible of their sexual encounters results in conception while females' involve mating selectively with resource-rich males who can provide for the survival of their offspring. This theory further states that, in mating, men value physical beauty and youthfulness, a possible measure of a woman's reproductive potential, while women value wealth and status in men

(Buss & Barnes, 1986; Hills, 1945; McGinnis, 1958). Multiple sexual mate relationships, in particular polygyny, assist both sexes in achieving these goals.

Sub-Saharan African societies have been effective in institutionalizing females' sexual strategy through traditional practices such as bride wealth payment. Thus, polygyny is more prevalent in African societies with substantial wealth inequalities. Becker (1981: 44) suggests that polygyny is a function of inequality between men, whereby those with high economic means may acquire more wives than men with lower economic means. Males with substantial wealth are attractive to most females and, as a result, end up with more than one female partner. Males with poor economic resources are less attractive to females and may end up with no mate.

Bride wealth payment is less important in marriage transactions today relative to the past. Increases in westernization and Christianity have reduced the importance attached to this practice (Caldwell, 1976; Goode, 1970; Romaniuc, 1988). This practice has been done away with completely in some parts of Sub-Saharan Africa while in other parts it is practiced at lower levels. The decline in this practice reduces the exclusivity of polygyny and makes polygynous union formation accessible to low-income males. Therefore, unlike Goody's (1989) observation of an inverted U distribution in polygyny prevalence by income, we argue that the distribution of current prevalence will be U shaped. That is, high prevalence in high-income areas and areas with abject poverty levels.

Although declines in bride wealth transaction may have reduced the economic cost of polygyny, westernization, Christianity and urbanization may have raised non-economic costs. Declines in polygyny, if substantiated, will validate the saliency of non-economic costs.

Recently researchers have suggested that there is an impending decline in polygyny (Caldwell, 1976; Goode, 1970; Romaniuc, 1988; Timaeus & Reynar, 1998). Various studies

have noted a decline in the number of polygynous unions reported as well as in people's approval of polygyny (Omari, 1960). While some predicted further declines in polygyny, we argue that the decline may be artificial and obscures a more complicated sexual structure in which increased westernization has disassociated sex from marriage. Thus, we see high prevalence of premarital relationships that in most cases, lead to sexual intimacy and result in out of wedlock births. A Yoruba adage says, "A woman who gives birth to a man's offspring is more than his concubine"; hence, even though the society may view an unmarried male-female union with children as a polygynous union if he is married to other female(s), the couple may view and report themselves as unmarried.

In sum, while trends in polygyny tell us a lot about multiple sexual mate relationships, they only provide a measure of situations in which males have traditionally or otherwise performed bridal rites. They do not inform about the prevalence of other multiple sexual mate relationships. Polygyny alone may not be a good measure of multiple mate sexual relationships. Therefore, trends in *both* polygyny and extramarital relationships are better measures of multiple mate relationships. In this paper, we advocate the need to extend research on polygyny to encompass sexual forms of multiple mate relationships. Any conclusion that the occurence of multiple mate relationships is declining has to evidence declines in prevalence and intensity of all forms of such relationships. We ask whether this is the case, and whether the declines are spatially universal across rural, urban, and city-slum contexts.

Specific Aims

This study examines trends in prevalence and intensity of two forms of multiple mate relationships: a formal form –polygyny and an informal form – extramarital sexual relationship.

We suggest that both forms of multiple mate relationships affect family well being. Hence, an examination of both is critical.

To investigate the associations between multiple sexual mating patterns and spatial concentration of poverty/wealth, we examine the prevalence of polygyny and extramarital relationships in urban, rural, and slum areas of Kenya. This provides a spatial illustration of the sexual strategy theory in Kenya by analyzing the dynamics of geographically concentrated poverty (and/or wealth) and multiple sexual mating patterns. Even though residents in the geographical areas examined do not possess the same socio-economic status, we assume that their status are similar enough and the polygyny and/or multiple sexual mating sub-culture prevalent in each area will affect residents' mating decisions (Ezeh, 1997).

Data and Methods

Data for this study come from a couple sources. We use data from the 1988, 1993, and 1998 Kenya Demographic and Health Surveys (KDHS). We use males' responses because they are more likely to know their status. We also use data from Nairobi Cross-sectional Slum Survey (NCSS) conducted from February to June 2000. The NCSS serves as an urban poor complement to the 1998 KDHS data for Nairobi, given its focus on the city's slum. However, the NCSS male survey is different from the DHS in that only adolescent and young adult males were interviewed in the former.

We examine trends in the prevalence and intensity of both polygyny and extramarital sexual relationships. Timaeus and Reynar (1998) define the prevalence of polygyny as "the proportion of [*married*] men in polygynous unions" and the intensity of polygyny as the "average number of wives per polygynist" (p. 147).

In this paper, we examine trends in polygyny to see:

(1) Whether the prevalence and intensity of polygyny are indeed decreasing across both time and context.

(2) Whether the observed change is accompanied by like change in extramarital relationships.

In both DHS and NCSS we focus on married males. We obtain the prevalence rate of polygyny by dividing the number of men who report more than one wife by the total number of married males. For intensity of polygyny, we divided the total number of wives reported by polygynists by the total number of polygynists. Males who did not indicate the number of wives they have were excluded from our analysis. Table 1 shows the number of males in this report.

Table 1: Type of Marital Unions

	DHS			NCSS
	1988	1993	1998	2000
Monogamous	195	1457	1376	205
Polygynous	233	178	385	57
Total	428	1635	1761	262

Analysis of extramarital relationships is limited to the last two DHS because the question was not asked in 1988. Further, there is slight difference in how the question was asked in 1993 and 1998. In 1998, men were asked if they have had sexual intercourse with someone other than their wife (or the partner they live with) while in 1993, men were asked how many different women they have had sexual intercourse with. The NCSS question was similar to 1993. To make the question relatively comparable; we assumed an extramarital sexual relationship if the number of sexual partners was greater than the number of wives/partners reported in 1993. The prevalence of extramarital relationships is calculated by dividing the total number of married men identified as having extramarital relationships by the total number of married men. The

intensity is calculated by dividing total number of partners that are not wives by total number of men involved in extramarital relationships.

Rural and urban designations are reported in the KDHS. All three DHS over sampled rural areas such that urban male count is artificially low. Urban slums in 2000 are compared to all urban areas in 1998 KDHS because we do not have separate information on non-slum urban areas. However, slums constitute such a small proportion of urban populations that urban indicator should be similar to non-slum urban indicators.

What are the trends in polygyny in Kenya?

To adequately answer this question, we analyze trends in both prevalence and intensity of polygyny. We argue that declines in polygyny require decline in both the prevalence and the intensity of polygyny. The ensuing analysis examines this issue in some detail.

Prevalence of Polygyny

Almost one in every eleven married men in Kenya is polygynous. Furthermore, in concert with past findings, Figure 1 shows a decline in prevalence of polygyny in Kenya between 1988 and 1998. While the 1988 males' report should be used with caution because it was a smaller sample, there is still an overall decline in polygyny by 1998. Figure 1 shows the prevalence of polygyny declined precipitously prior to 1993 but only slightly in the five subsequent years. The decline is 1.7% between 1993 and 1998 compared to a decline of 43.6% between 1988 and 1993.

The above finding is contrary to our expectations. Declines in the economic cost of marriage resulting from less prevalent practice of bride wealth payment does not seem to have attracted more males to polygynous unions in Kenya. However, this does not imply that more poor males are not joining the pool of polygynists. Wealthier males may be leaving since the

prestige afforded them by polygyny is waning. The spatial analysis examined later in this paper seeks to explore males' involvement in polygynous union by socio-economic level of residential area, that is, comparing rural, urban, and city-slum data.

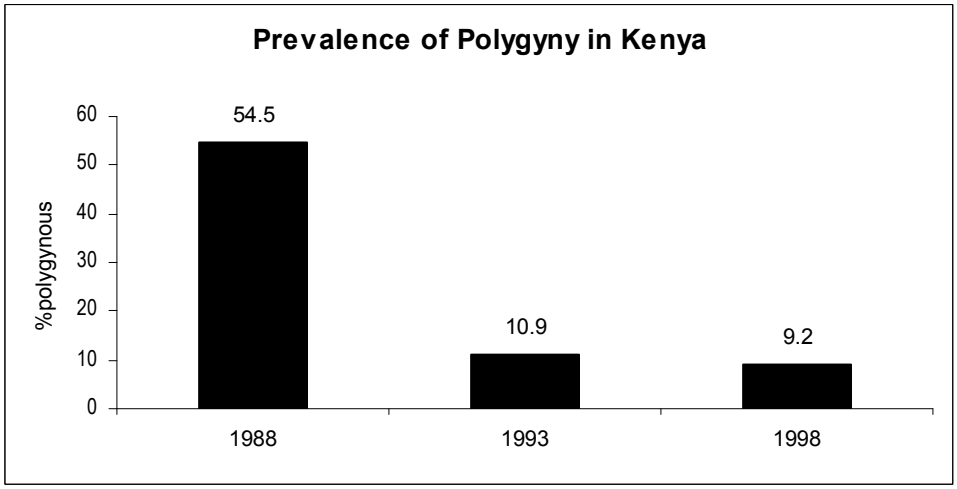

Figure 1

Intensity of Polygyny

Another scenario to consider is that polygynous males may be marrying more wives since the economic cost has lessened. This requires examining trends in intensity of polygyny. High polygyny intensity can significantly foster the spread of sexual diseases between partners and lead to further dilution (and diversion) of resources. With high intensity, a HIV positive polygynist has a greater chance of infecting his wives. On the other hand, high prevalence and low intensity means fewer women per man such that fewer women are exposed to an infected male. Similarly, high intensity implies fewer resources per wife and child.

Most polygynists in Kenya have two wives; very few men have more than four wives. The intensity of polygyny, measured by the average number of wife per polygynist (Timaeus & Reynar, 1998), in the most recent KDHS survey in 1998 was 2.2. Figure 2 shows the intensity of polygyny has declined very slightly in Kenya since 1988. Between 1988 and 1993, the intensity of polygyny was stable while a very slight and insignificant decline of 0.1 wives per polygynist

was recorded by 1998. Polygynists, however, on average still marry about the same number of wives as they married a decade ago. Polygynists are not responding to the decreasing economic cost of additional wives as expected. Rather than increasing because of reduced economic costs, the intensity of polygyny has declined, though slightly, in past years in Kenya.

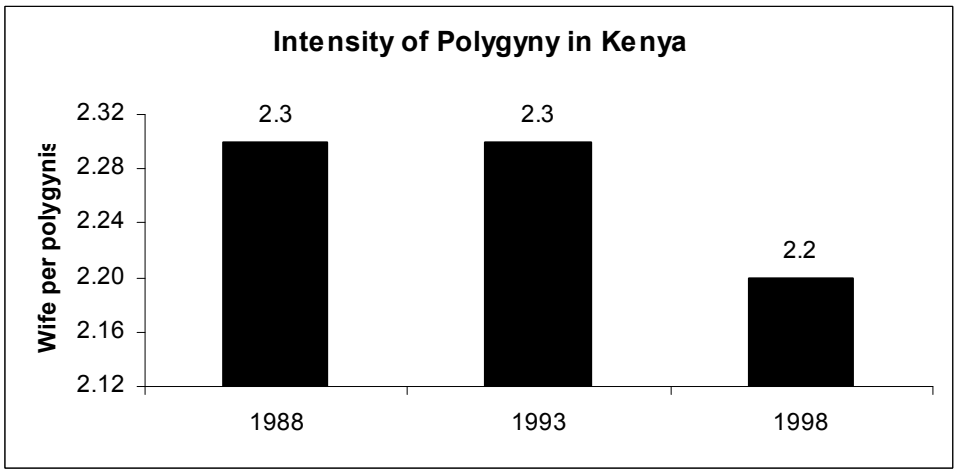

Figure 2

Trends in both the prevalence and the intensity of polygyny reveal slight change. Between 1988 and 1993, the steep decline in prevalence was countered by stable intensity. In the ensuing five years, slight decline in prevalence was bolstered by slight decline in intensity. Overall, we see an overall pattern of decline. This overall coupled decline in intensity and prevalence is contrary to our expectation and may indeed indicate a more positive turn of event in Kenya. Hence, our findings support recent claims of national declines in polygyny suggesting the need to explore if extramarital relationships are replacing polygyny.

Is the decline in polygyny accompanied by a decline in extramarital relationships?

Just as polygyny represents a form of union emanating from differences in sexual strategies by males and females in sub-Saharan Africa especially, extramarital and premarital relationships may represent forms associated with sex differences in strategies. Sexual intercourse is important

but is not the sole purpose of extramarital relationships in sub-Saharan Africa. Therefore, these relationships are not equivalent to commercial sex. For example, only 52% of males interviewed in NCSS reported that sex was very important in their extramarital relationships.

Polygyny and extramarital relationships may each have different costs. While the economic costs of the marriage transaction have been lowered considerably, extramarital relationships are still significantly less costly for males. Therefore, if males are to succeed in maximizing their future genetic representations, they may have to generate some combination of both polygyny and extramarital relationships to maximize the number of their offspring, especially in the face of declining polygyny. Also, high non-economic cost of polygyny may cause men to consider extramarital relationships as an attractive alternative.

Hence, it is important to examine trends in extramarital relationships in Kenya. To consider extramarital relationships as proxies for polygyny, the national declines in polygyny have to be offset by national increase in prevalence or intensity of extramarital sexual relationships.

Prevalence of Extramarital Relationships

We examine the involvement of polygynous and monogamous men in non-marital sexual relationships. Extramarital sexual relationships are more prevalent than polygynous marriages in Kenya (Figure 3). The higher level of extramarital relationships compared to polygyny in most sub-Saharan African countries show that these may indeed be modern forms of sexual strategies for both sexes.

In 1998, the prevalence of extramarital sexual relationships is 14.5% compared to 9.2% prevalence in polygyny. However, as reported for polygyny, there is an overall decline in levels

of extramarital relationships in Kenya. There is a 3.6% decline in the prevalence of extramarital sexual relationships between 1993 and 1998. Furthermore, in 1993, monogamous males were more likely to report involvement in extramarital sexual relationships (Table 3a); they were twice as likely as males in polygynous unions to report such involvement. In 1998, this reversed. Not only did the percentage of polygynous males reporting extramarital relationships double, males in polygynous marriages were also more likely to be involved in extramarital sexual relationships. Thus, the overall decline in the prevalence of extramarital sexual relationships resulted only from declines in the prevalence of extramarital sexual relationships in monogamous unions. The 5% decline in monogamous males reporting extramarital relationships was countered by 8.3% increase in polygynous males' involvement to give an overall decline of 3.6% in Table 3a.

Non-negative prevalence rates of extramarital sexual relationships for both years increased the proportion of men that are involved in sexual relationships with more than one woman. However, men in sexual relationship with more than one woman through polygyny and extramarital relationships declined from 29.2% to 21.6% (not shown) from 1993 to 1998.

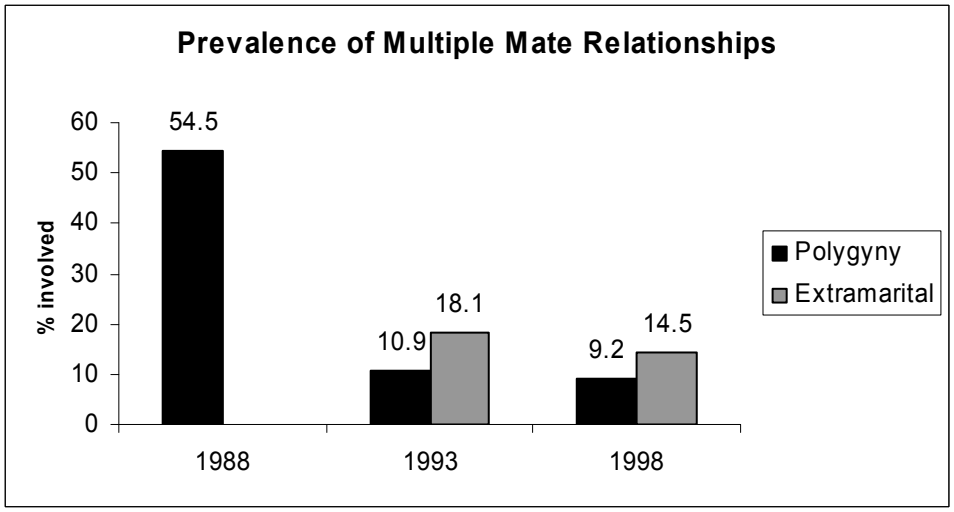

Figure 3

Intensity of Extramarital Relationships

In 1998, married men reported they were involved with 2.1 extramarital partners on average. Although this level of intensity is very similar to that of polygyny, the decline between 1993 and 1998 is more distinct for extramarital relationships. Between 1993 and 1998, a decline in intensity from 2.5 to 2.1 females per married male of extramarital sexual relationships was recorded.

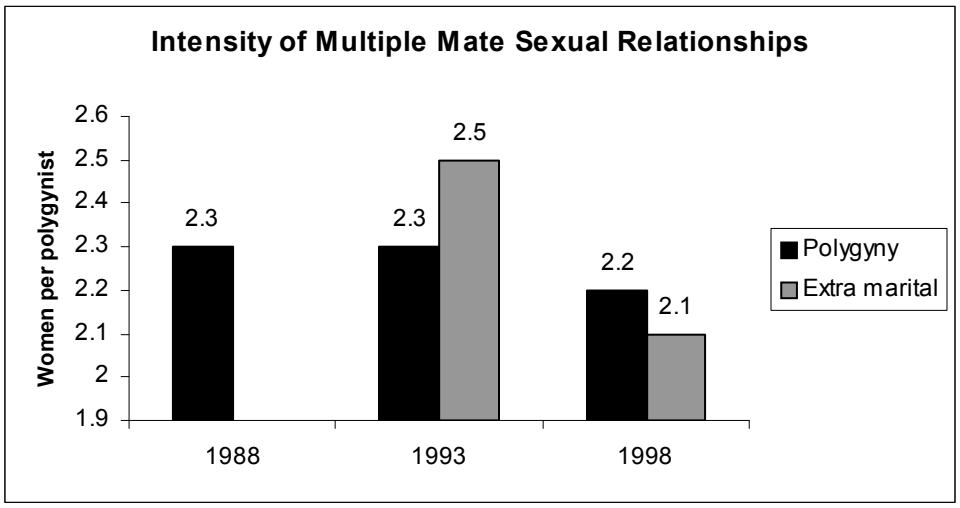

Figure 4

Both the prevalence and intensity of extramarital relationships declined in Kenya. This concomitant decline in intensity and prevalence of multiple mate sexual relationships suggest that the occurrence of multiple sexual partner relationships may be declining.

Even though these declines co-vary overall, we cannot completely conclude that extramarital relationships are not proxies for polygyny. The increased involvement of polygynous males in extramarital relationships demonstrates that this issue needs to be further examined. Are polygyny-prone males deferring the higher cost of polygyny by their higher involvement in extramarital affairs? Is this an adaptation of polygynous men in particular geographic areas? To respond to these questions, we need to investigate trends in polygyny and

extramarital relationships in rural, city-slum and urban areas. If geographically uniform declines are found for both, then there is indeed declining levels of multiple partner relationships with significant potential to limit the tempo in the spread of AIDS and other sexual diseases in the country. It will also resolve some other problems associated with multiple mate sexual relationships as well. We examine this analysis by geographic region in the next section.

Polygyny and Balkanization of Poverty

The prevalence, trend, and form of polygyny and other multiple sexual mate relationship may vary across a country. Some of these differences in rural, urban, and slum areas have been confirmed by past research especially in the case of polygyny with, for instance, polygyny being most prevalent in rural areas (KDHS report). The high level in rural areas is linked to stronger traditional beliefs that might favor polygyny. However, in spite of this finding of higher prevalence in rural areas, recent rural-urban migration has led to an increase in polygyny in urban areas. Hence, polygyny in urban areas may be higher than expected. Polygyny usually takes on different forms in both areas (Goody, 1989; Clignet, 1970). Goody (1989) suggests that unlike polygynous unions in rural areas, which tend to be formal and involve shared residences, wives in polygynous unions in urban areas tend to live in different residences.

Furthermore, while research has informed us of some level of polygyny in the slum, little or nothing is known about the exact prevalence rates. Few studies have examined sexual dynamics in African slums because slums are recent products of urbanization in Africa. This study provides some information on multiple mate sexual dynamics in the slum of Kenya. Previous discussion about the sexual strategy theory leads us to expect some level of polygyny in the slum. The increasing dissociation of bride wealth payment from marriage has opened the

door for men in the slum to be polygynous. The gender differences in mate selection strategies and in traditional African marriage lead us to expect gender differences in prevalence of polygyny by SES status, and hence by geographical location.

The slums of Kenya, like slums around the world, reflect a balkanization of poverty. As such, one would expect the prevalence of polygyny to be low or none existent in this setting. Also, since the males interviewed in the slums are adolescents, we expected even lower prevalence of polygyny. On the other hand, we expected the level of polygyny among women in the slum to be high compared to the KDHS women since they will desire to marry males who can provide some of the resources they lack. Also, compared with KDHS women, they may be more likely to marry a man who is already married. Furthermore, they will be more likely to marry someone with poorer economic prospects than is expected of a polygynist.

Discussions from Cherlin (2000) suggest that the Sexual Strategy theory may be less applicable in situations in which there are increased economic advantages for females relative to males. He proposed that low-income males and high-income females would emerge winners in union formation. That is, low-income males do not have to live up to past societal expectation of being the sole breadwinner in the home and high income females, because of their economic resources, will have more choice of males willing to share housework with them. This hypothesis was formulated to explain the trend in union formation in the United States and we can test this hypothesis on union formation in the slum. This hypothesis may hold for economically disadvantaged males in the slum if they have access to high-income females who are willing to give their resources in exchange for slum males doing more childrearing and housework.

We hypothesize that while polygyny may be declining in the general population, its prevalence will increase for low-income males because the decreasing prevalence of bride wealth

requirement makes them eligible in polygyny market. Furthermore, to the extent that they have better economic circumstances than the mate(s) they desire, their low socio-economic status may not be a deterrent in their desire and ability to acquire multiple partners.

Polygyny Trends in Urban, Rural, and Slum Areas of Kenya

Prevalence

Although most researchers agree that distinct differences exist between rural and urban areas, they usually fail to acknowledge the significant diversity in urban areas. The increase in job opportunities in urban areas compared to rural areas has caused increasing rural-urban migration. In most countries, rural areas are depopulating because of migration to urban areas. In most developing countries, this results in an urban sprawl such that urban areas are divided into distinct areas - slum and non-slum areas. Slums usually have balkanized poverty, crime, and myriad other problems. Hence, social and economic conditions vary significantly between urban slum urban non-slum, and rural areas. As a result, we expect significant variation in union formation patterns and types of union formed in urban slum, urban non-slum, and rural areas.

Although only 262 or 15.3% of the 1708 adolescents interviewed in the NCSS were in formal unions, 57 or 22% of them reported more than one partner. This is significantly higher than the prevalence of polygyny in KDHS male population. For comparison, we examined the prevalence of polygyny from slum women's report. Only 12.8% of slum women are in polygynous unions. Therefore, polygyny prevalence appears to be less prevalent for slum females but more prevalent for slum male adolescents compared to the general DHS population. The low level for females may be obscuring under-reporting and a more complicated sexual dynamics that occurs for this population.

Table 2: Percent Polygynous by Area

	1988	1993	1998	2000
Rural	69.1	11.5	9.9	N/A
Urban	51.0	8.3	6.8	N/A
Total	54.5	10.9	9.2	N/A
Slum	N/A	N/A	N/A	22.1

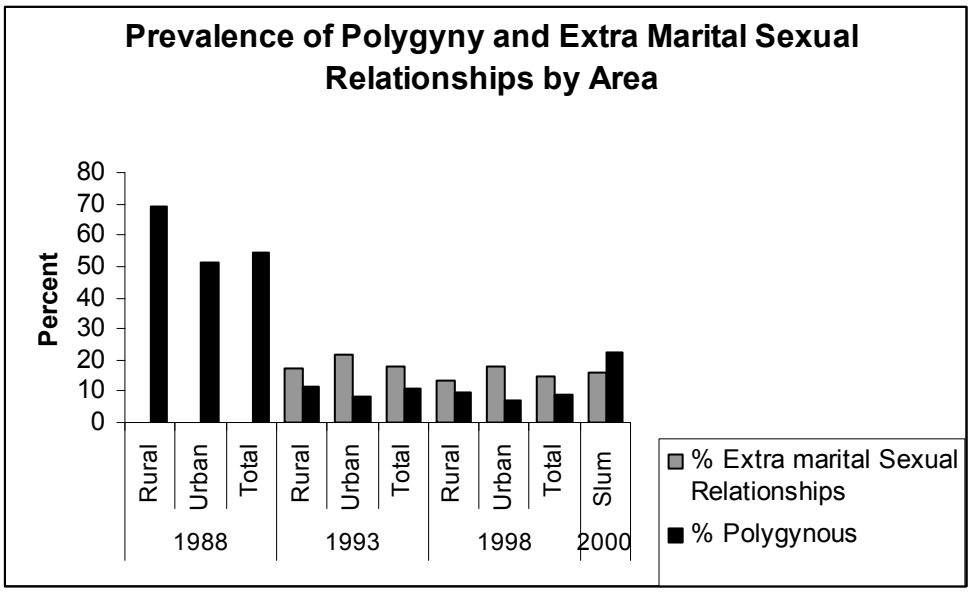

Figure 5

Close to a quarter of adolescents interviewed in the slum in 2000 are polgynous. This prevalence is significantly higher than what we would expect for any community in this century, especially one with severe poverty such as the slum. The prevalence of polygyny in the slum is higher than in rural or urban Kenya. Table 2 shows that polygyny prevalence in the slum is more than twice the prevalence in rural areas.

The prevalence of polygyny in rural and urban areas is significantly below the levels recorded in the slum. As expected, males in rural areas reported higher prevalence of polygyny. Close to 10% of married rural males were polygynous compared to 6.8% married urban males. The prevalence of polygyny has decline slightly in both rural and urban areas in recent years. Between 1993 and 1998, only 1.7% total decline was recorded, 73.2% of the decline in male polygynists was due to decline in rural polygyny. However, decline in rural polygyny is 1.6% while decline in urban polygyny is 1.5%.

The astronomical level of polygyny prevalence in slum versus rural and urban areas is unsettling. Has the prevalence of polygyny increased for other areas of Kenya since 1998? Or is the high prevalence a modern adaptation to poverty and other prevailing problems in the slum? The release of KDHS 2003, expected any time now, will help resolve some of these questions. An examination of extramarital relationship prevalence may shed some light on this as well.

Intensity

The intensity of polygyny has shown no discernible trend in Kenya (Figure 4). Between 1988 and 1993, it was stable then it declined slightly in 1998. Although the intensity of polygyny declined in rural areas, urban areas do not show any decline. Surprisingly, the highest polygyny intensity was for urban males in 1993. Few Kenya males have more than 3 wives. Regardless of geographical area, most polygynists have two wives on average.

Although the overall intensity of polygyny was stable between 1988 and 1993, this intensity increased for urban males in 1993. This 2.8 wife per polygynist was the highest intensity for all groups in all years. In this same period, rural-urban difference in intensity of polygyny increased as well. However, in 1998, there was no rural-urban difference.

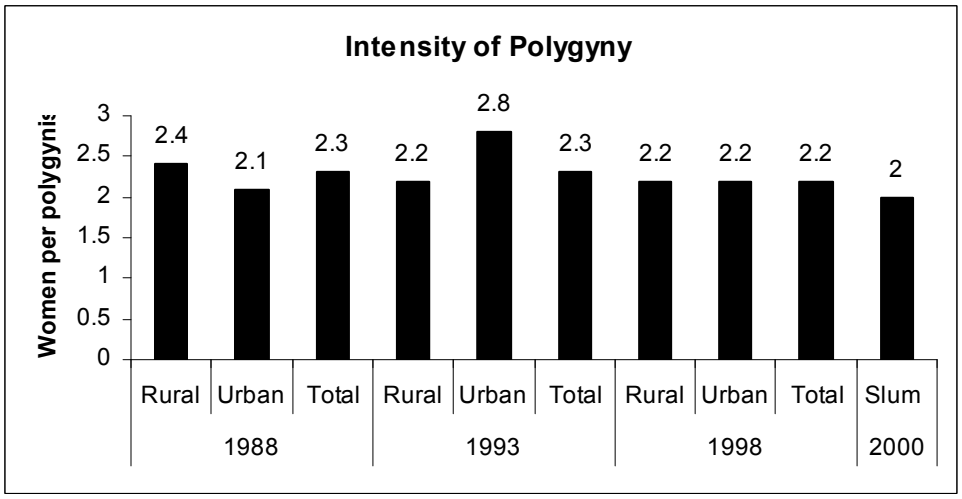

Figure 6

Due to the youthfulness of slum male respondents, it is not surprising that they have lower polygyny intensity compared to the KDHS general male population. Only one of the 57 polygynous adolescents in the slum had more than two wives. Therefore, unlike KDHS males, slum adolescents reported a narrower distribution in number of wives.

The intensity of polygyny has significant implication for the well being of the couples as well as the offspring in such union. Apart from material and financial resources, which are diluted in polygynous unions, sexual diseases can spread more easily and to more people in polygynous unions. This is of utmost importance in the present day. The decline recorded in the past decade is slight and the trend can easily be reversed if extramarital relationships increase.

Trends in Extramarital Sexual Relationships in Urban, Rural, and Slum Areas

Prevalence

Characteristics of urban slum, urban non-slum and rural areas lead us to expect differences in prevalence of extramarital sexual relationships in each of these settings. As discussed earlier, the prevalence of extramarital sexual relationships is declining overall in Kenya.

Extramarital sexual unions were more likely to occur in monogamous unions in both rural and urban areas in 1993. This pattern reversed in 1998. Table 3a presents this information. In rural and urban areas, a higher percentage of polygynous males were involved in extramarital relationships. The difference in prevalence of extramarital sexual relationships between monogamous and polygynous union is significant in both urban and rural areas. In 1993, extramarital sexual relationships in urban areas were more than six times prevalent in monogamous union than they were in polygynous union. In rural areas, the monogamous-polygynous divide is less apparent in 1993. In 1998, the difference though significant in both

rural and urban areas, was reversed. The prevalence was higher in polygynous relationship in both rural and urban areas.

The decline in extramarital sexual relationships was greatest in urban areas (Table 3b). The prevalence declined by 4.2% in urban areas compared to 3.5% in rural areas. In spite of this higher decline in urban areas, monogamous urban males in 1993 and polygynous urban males in 1998 had the highest rates of extramarital sexual relationships. Extramarital relationships, thus, appears to be an urban adaptation of polygyny.

The above-observed pattern in monogamous-polygynous difference in extramarital sexual relationships prevalence does not hold in the slum. The prevalence of extramarital sexual relationships was nearly as common for both monogamous and polygynous unions in the slum. The prevalence is lower for slum males than for urban males.

However, while the national KDHS prevalence of extramarital sexual relationships declined from 18.1% to 14.5% between 1993 and 1998, the prevalence reported in the slum was 16.1% in 2000. When we compare disaggregated data by union type, the prevalence level in the slum is analogous to that of urban areas. While monogamous males were less involved in extramarital relationships in 1998, polygynous males in both rural and urban areas had higher involvement rates. This suggests a more complex situation; polygynous males may be responding to forces of modernization and westernization by using extramarital relationships to meet their desires for additional wives.

Table 3: Slum, Rural, Urban Prevalence Extramarital Sexual Relationships by Union Type

Table 3a		1993	1998	2000
Monogamous	Rural	18.1	13.4	N/A
	Urban	23.6	17.1	N/A
	Total Monogamous	19.2	14.2	16.2
Polygynous	Rural	10.0	15.4	N/A
	Urban	3.7	26.9	N/A
	Total Polygynous	9.0	17.3	15.8
	Total	18.1	14.5	16.1

Table 3b		% Prevalence Extramarital	% Prevalence Polygyny
1993	Rural	17.1	11.5
	Urban	22.0	8.3
	Total	18.1	10.9
1998	Rural	13.6	9.9
	Urban	17.8	6.8
	Total	14.5	9.2
2000	Slum	16.1	22.1

Intensity

The intensity of extramarital relationships has similar trends to that of polygyny. Although overall decline has been recorded in Kenya, this decline is not uniform across all areas of the country. The intensity did not change in urban areas between 1993 and 1998; rural areas, however, witnessed a decline (Table 4b).

In both 1993 and 1998, there were slight monogamous-polygyamous differences in intensity (Table 4a). However, the rural-urban differences within each union type were quite significant. Surprisingly, males in rural areas, in any form of union, have higher extramarital relationship intensity for both years (Table 4b).

The intensity of extramarital relationship in the slum, like that of polygyny, is low. This could be because respondents are younger or could be due to financial constraints which inhibit the level of their participation in the multiple partner relationships.

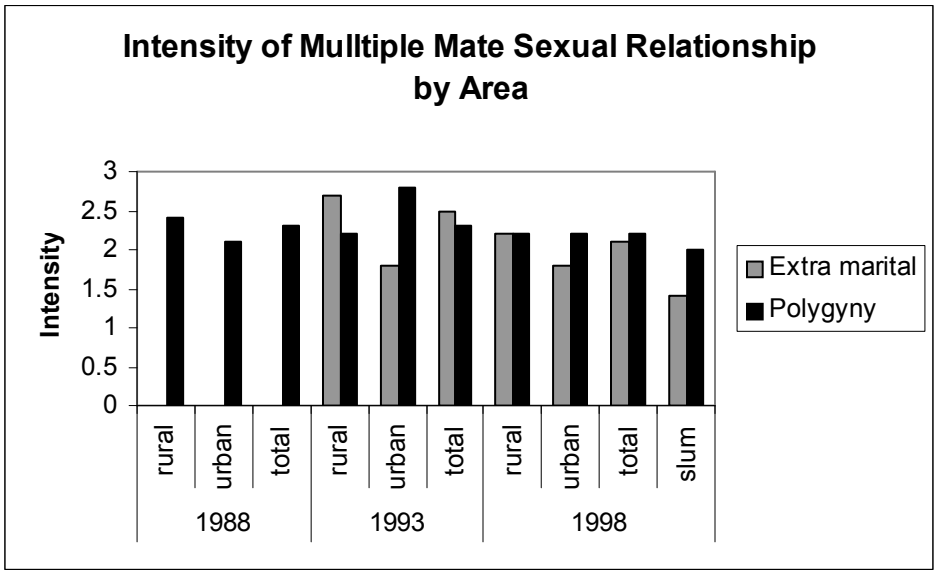

Figure 7

Table 4: Intensity of Multiple Mate Sexual Relationships

Intensity of Extramarital				
Table 4a				
		1993	1998	2000
Monogamous	Rural	2.7	2.3	N/A
	Urban	1.8	1.7	N/A
	Total Monogamous	2.5	2.1	
Polygynous	Rural	2.7	1.9	N/A
	Urban	1.0	2.3	N/A
	Total Polygynous	2.6	2.0	
	Slum	N/A	N/A	1.4

Polygyny versus extramarital Relationships			
Table 4b			
		Extra	Polygyny
1988	Rural	N/A	2.4
	Urban	N/A	2.1
	Total	N/A	2.3
1993	Rural	2.7	2.2
	Urban	1.8	2.8
	Total	2.5	2.3
1998	Rural	2.2	2.2
	Urban	1.8	2.2
	Total	2.1	2.2
	Slum	1.4	2.0

Analyzing trends in polygyny and extramarital sexual relationships in Kenya reveal the following:

- The prevalence of polygyny has declined in rural, urban, as well as overall in Kenya in past decade. However, the magnitude of polygyny for adolescent males in the slum (available only in 2000) is higher than what prevails in both rural and urban areas. This makes us cautious of embracing the optimistic picture that the overall pattern presents.
- The prevalence of extramarital sexual relationship shows declines in both rural and urban areas. The level of prevalence in the slum is comparable to that of urban areas.
- The intensity of polygyny in polygynous unions in urban areas increased between 1988 and 1993; however, some decline is seen in rural areas. The intensity of polygyny is lowest in slum areas.
- The intensity of extramarital declined slightly between 1993 and 1998; most of this decline was due to declines in rural areas. The intensity of extramarital sexual relationships is lower in the slum than in rural and urban areas for both available years.
- Disaggregating trends in extramarital by type of union show increase in prevalence in polygynous unions and stable intensity in urban polygynous unions.

Thus, findings from this geographically disaggregated analysis cautions us from accepting a hypothesis of declining polygyny. The decline in national prevalence and intensity of polygyny and extramarital relationships in Kenya does not hold for all areas and all types of unions when the data is disaggregated. Further research should be conducted to investigate these differences in trend.

Conclusion

The overall prevalence in polygyny, in conformity with recent findings, is declining. However, this decline is so insignificant and non-uniform in recent years that we caution any optimism of declining polygyny. Increase in prevalence and/or intensity of extramarital sexual relationships could counter these slight declines in polygyny. The data shows this fear is unfounded only when we examine national trends for Kenya. The prevalence and intensity of multiple sexual relationships has declined, with greater decline in the prevalence of extramarital sexual relationships. However, disaggregated data by area and union type reveal what our aggregated data obscured. There is increase in prevalence of extramarital relationships in polygynous unions in all areas and stable intensity of the same in urban polygynous unions. Furthermore, the significantly high levels of prevalence of polygyny in the slum adolescent population and extramarital sexual relationships in urban areas give us cause for concern. This provides support for our proposition of a U shape pattern of polygyny, with high levels in areas of high and low resources.

Extramarital sexual unions may exist to fulfill the same needs polygynous marriages fulfilled in the past, that is, address gendered sexual strategies to reproductive and mating problems in sub-Saharan Africa. Forces of urbanization and westernization appear to be

constraining polygynous males towards greater involvement in extramarital relationships. Thus, males who would have married additional wives in the past may now be finding this need met in extramarital relationships. Thus, while overall decline in polygyny and extramarital relationships offers some hope in terms of curbing the spread of sexual diseases, the localized increase in extramarital relationships gives us cause for concern about spread of sexual diseases. Sexual relationships transcend geographical boundaries and increase in extramarital relationships may fuel further spread of sexual diseases. This situation is more disastrous when it involves polygynous males, as many wives may be unaware of their partners' involvements in such.

Our findings also suggest that prevalence of extramarital sexual relationships should be of as much concern as polygyny. Extramarital sexual relationships are nearly twice as prevalent as polygyny. These relationships indicate a silent vehicle for propagation of sexual diseases in marital unions especially in areas with low level of condom usage.

Although we proposed high levels of polygyny in the slum if the males have access to higher income females; we expected this level to be lower than levels in more economically advantaged urban areas. We also expected higher levels of extramarital relationships in the slum because of the social climate in the slum. The higher prevalence of polygynous relationship and lower prevalence of extramarital relationships in the slum compared to other areas is, thus, contrary to our initial expectation.

There are some limitations in our analysis. The small number of urban males, especially polygynous urban males, makes us suggest caution in interpreting some of our findings. Similarly, having 3 data points with an average of 5-year interval does not provide enough points of observation. Furthermore, as mentioned in our earlier discussion, to the extent that there is underreporting of polygyny or extramarital sexual relationships, our results may be biased. This

could be a case of social desirability, especially in societies where masculinity is linked to the number of female sexual partners.

However, in spite of all these limitations and cautions, we believe findings from this report provide a significant contribution to knowledge of the trends in multiple partner sexual relationships in sub-Saharan Africa. This is especially the case because most studies on this issue use the same data sources and, therefore, have these same limitations we have outlined.

In light of our findings of slight and nearly insignificant decline in polygyny and extramarital sexual relationships in Kenya, we predict similar or lower levels in West Africa where the practice has a stronger foothold. This suggests the vigor of the AIDS epidemic in sub-Saharan Africa is far from waning. We hope AIDS prevention messages will help dampen the prevalence and intensity of multiple sexual partner relationships throughout sub-Saharan Africa.

Future research

The release of KDHS 2003 will provide important information needed to discern whether the current high prevalence levels in the slum reflects national increase since 1998. Research examining this will contribute significantly to our knowledge of the trend in multiple partner relationship in sub-Saharan Africa. Also, an examination of DHS on West African countries will help test if similar trends are seen in East and West Africa. To the extent that factors affecting multiple partner sexual relationships are different between East and West Africa, different trends may prevail.

The recorded high prevalence of polygyny in the slum adolescent population in Kenya requires urgent investigation. Quantitative and qualitative examination of this phenomenon will

be important in our understanding of the dynamics of multiple partner relationships in slums in sub-Saharan Africa.

An individual level analysis of the relationship between poverty (and/or wealth) and involvement in multiple partner relationships, formal and informal would further illustrate the applicability of the sexual strategy model to polygyny in Africa. However, the low response rate for most poverty and wealth questions in the male datasets made it difficult to further explore individual level analysis. The dataset for females should be used to explore the applicability of this theory to current trends in polygyny in sub-Saharan Africa.

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