Demographic and Socioeconomic Determinants of Female Rural to Urban Migration in Sub-Saharan Africa

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Demographic and Socioeconomic Determinants of Female Rural to Urban Migration in Sub-Saharan Africa

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Data from eight recent Demographic and Health Surveys (DHS) in sub-Saharan Africa are used to assess whether fertility, child mortality and other individual-level characteristics motivate or constrain long-term female migration from rural to urban and other rural areas. Findings indicate that the likelihood of rural-urban and rural-rural migration is lowered in most countries when the woman has had two or more recent births, but not when she has had only one birth. Child mortality experience moderately reduces the risk of migration in most countries. The likelihood of rural-urban migration is greatly increased when the woman has attended school, is not married, is in her twenties, or does not belong to the largest ethnic group.

Thanks to surveys and analyses conducted by development organizations in sub-Saharan Africa in the 1980s, our knowledge of migrant characteristics and migration patterns, causes and consequences in Africa has expanded considerably. In areas of West Africa, for instance, it is now apparent that drought conditions increase levels of circulation relative to long-term migration, polygamous women are more likely than monogamous women to circulate, and migrant women are more likely than nonmigrants to foster-out their children (Findley, 1991; Blanc and Lloyd, 1990).

Nevertheless, our understanding of the causes of rural to urban migration in the region remains largely based on hypotheses formulated in the 1960s, and often does not extend beyond the observation that economic motivations predominate. A notable shortcoming, in light of the extremely high fertility and mortality experienced in rural Africa, is that virtually nothing is known about how demographic processes in rural areas motivate or constrain migration to towns and cities. The study of interrelationships
between vital events and rural to urban migration could suggest whether the contribution of migration to long-term urban growth has been overestimated (e.g., if migrants represented the low fertility or high child mortality segment of the rural population). Such research is also critical for policies to reduce the rate of urban growth in almost all African countries (United Nations, 1990), insofar as it may indicate whether current family planning and child survival program efforts in rural Africa are compatible with the objectives of migration policies.

This study uses data collected between 1986 and 1990 by the USAID-sponsored Demographic and Health Surveys (DHS) project in eight African countries—Burundi, Ghana, Kenya, Mali, Nigeria, Senegal, Togo, Uganda—to assess the impact of fertility and child mortality on female migration from rural to urban areas for periods of six months or more. A secondary objective is to ascertain the influence of migration of individual-level factors—education, age, marital status, ethnicity—that have been hypothesized and identified as “determinants” of rural to urban migration in demographic literature and small-scale surveys, but have not yet been tested in a manner that permits generalization to the region as a whole, i.e., through multivariate analysis of comparable, national survey data. Unlike its predecessor multinational survey projects, the World Fertility Survey (WFS) and Contraceptive Prevalence Surveys (CPS), most DHS surveys collect basic information on residence and mobility that can be linked to vital events recorded in retrospective birth histories and socioeconomic characteristics of women, thereby allowing for the first time the cross-national study of both interrelationships among the three demographic processes and the causes of female migration.

CONCEPTUAL ISSUES

While numerous theorists have posited relationships between vital events and rural outmigration at the societal level (Davis, 1963; Friedlander, 1983; Goldscheider, 1984), the full range of micro-level linkages has not yet been articulated. Figure I suggests ways by which fertility and child mortality can either motivate or constrain long-term female rural to urban migration in sub-Saharan Africa. High fertility is hypothesized to induce migration in several ways. First, given the high economic value placed on children in rural Africa by fathers and their kin (Mhloyi, 1987), married women with low fertility may still have to achieve a desired family size before leaving their husband’s family, who will foster the children and use their labor; high parity women, on the other hand, may be free from this constraint against moving. Second, the absence of basic amenities for children in most rural areas, such as schools, health services and modern housing facilities, may
motivate rural women with children to move to large cities where such items are typically concentrated (Adepoju, 1988). The incentive in this case could be greatest for women with several very young children, since they would experience the greatest returns from migration in terms of years of schooling gained and access to modern health resources during the highest child mortality risk period (*i.e.*, before age three). Third, there are also economic factors relating higher fertility to higher rates of outmigration. Raising an additional young child may require more money, often most readily available through long-term work or employment in another location (*e.g.*, the nearest urban center). The child may also strain other family resources—*e.g.*, living space, drinking water—which may be more plentiful elsewhere. Finally, more children implies a greater need for additional child-raisers, such as husband and kin. When these persons have already migrated to the city, the mother’s incentive to move may be heightened.

**FIGURE I**

**Effects of Fertility and Child Mortality on Long-Term Rural to Urban Migration**
A contrary argument is that rural women with fewer children are more likely to undertake long-term migration. When child fostering is not a viable option—most true in Africa with children under age five (Page, 1989)—migrating with several children may be prohibitive in terms of the physical effort required of the mother or couple and the cost of moving and resettling a family. Women who have had one or more recent births may also be physically incapable of undertaking an arduous move, such as to a distant city. In addition to these “negative” checks to migration, having several children often conveys rights or benefits (e.g., access to land, social prestige) for the mother or the father and members of his lineage (Locoh, 1988), which may induce the woman to remain in the village. For women with lower fertility, on the other hand, social benefits may be greater in an urban setting, increasing their likelihood of migration. Such advantages may include greater opportunities for career advancement (which may be unavailable to women raising small children), and a normative environment favorable to small family size (including greater availability of family planning services). Their lower fertility may also be the result of spousal separation, and may prompt them to rejoin their husbands, particularly in societies with high fertility norms.

With respect to the child mortality-migration relationship, women who have recently experienced child mortality may be deterred from leaving by the common obligation of having to replace that child or by being psychologically unprepared for the move due to grieving. To the extent that, following the death of a child, women subsequently place greater emphasis on currently alive children, and the migration process is perceived to involve hardship, migration may also be constrained by fear that a child will be negatively affected by the move (e.g., if breast-feeding must be terminated). On the other hand, women who have had a child die may perceive their location more negatively and be more concerned about the survival of currently living children in that environment. This would be a strong motive to migrate to a location where there are superior public services, housing, health care facilities and climate. A child death may also terminate breast-feeding, making a long move less arduous for the mother, and may free women from certain childrearing obligations that tie them to their home community. Repeat mortality may also strain a woman’s relations with her husband and his kin, if she is perceived as unable to reach a desired completed family size (Mhloyi, 1987). Separation or divorce resulting from such strains may instigate female migration to the city, or the strain itself may induce the married couple to move.

Other individual-level factors commonly associated with rural to urban migration in African countries are level of education, age, marital status and
ethnicity (Adepoju, 1984; Findley, 1977). These characteristics have been linked almost exclusively to male migration; evidence on the determinants of female migration in Africa remains virtually nonexistent (United Nations, 1991a; Thadani and Todaro, 1984). They have been identified as causes of migration by survey questions of “reasons for migration” and, more typically, on the basis of differentials between migrants at destination and nonmigrants at origin observed in census data (Findley, 1982).

Numerous studies in the region have concluded that more schooling increases a rural individual’s likelihood of migrating to an urban area (Browning, 1971; Caldwell, 1969). While most of this research has focused on males, the “rational choice” explanation typically given for the strong education-migration relationship can also be applied to females: rural women with higher levels of education are likely to receive more, and to better evaluate, information that indicates the advantages of migration and, more importantly, to have skills and aptitudes that are rewarded in an urban setting, thus encouraging migration.

The most comprehensive evidence we have regarding effects of age on migration comes from the cross-national study of West African data sponsored by the World Bank (Zachariah and Conde, 1981). The conclusion of this study was that, as in other parts of the world, migrants in West Africa include a high proportion of young adults of working age, and average age is younger for female than for male migrants. More recent surveys of adult males suggest that long-term rural outmigration occurs at a relatively late age: migrants in four Malian towns arrived, on average, between ages 29 and 31 (Herry, 1991), while 90 percent of outmigrants from the Senegal River Valley to other parts of Africa were age 25 or older (Findley et al., 1988). In the case of women, one would expect an inverted U-shaped relationship with long-term migration to the city. Women still in their teens may be constrained from migrating by several factors—social norms that dictate against long-term departures while young, lack of financial autonomy, the need to find a husband, and their importance in helping to raise younger siblings—while women over age 30 are more likely to have stronger ties to the area that inhibit departure. Women in their twenties, on the other hand, may not be subject to these constraints and may be most able to capitalize on economic opportunities elsewhere.

The importance of ethnicity as an influence on female migration has been documented extensively in the case of circulators in West Africa (Hamer, 1981; Sow, 1981). In Senegal, for instance, young Serere and Diola women have sufficient autonomy to migrate seasonally to the city to work as domestics, until they marry, whereas Toucouleur, Peul and Soninke women have no such independence to leave the village (Sy, 1991).
long-term migration, surveys and censuses provide evidence that the proportional representation of some ethnic groups is much higher among urban migrants than among the population as a whole (Zachariah and Conde, 1981), suggesting a greater tendency to migrate among these ethnic groups than others. Poor economic opportunities in the rural areas in which an ethnic group is concentrated, rather than sociocultural characteristics of the ethnic group itself, are often cited as the main reason for a group's higher propensity to outmigrate from rural areas (Amin, 1974). This is seen, for instance, in studies of the Frafra of northern Ghana, who have a long tradition of migration to more prosperous coastal towns (Nabila, 1975; Hart, 1974). There is also considerable evidence, however, that some ethnic groups, particularly in West Africa, have established social networks in urban areas that encourage in-migration through the prospect of superior income-earning opportunities, housing and social activities for members of that group (Gugler and Flanagan, 1978). An important research question remains whether these and other incentives to migrate to the city (e.g., access to social services and political representation) are greater for members of the dominant ethnic group in society than for minority group members.

No generalizations can be made regarding marital status and migration: both married and unmarried women may have strong motivations to migrate. It has generally been assumed that African women, unlike their more autonomous counterparts in other developing regions, leave rural areas to join husbands who have secured employment and housing in the city (Connell et al., 1976; O'Connor, 1983). The strongest evidence of this is the decreasing ratio of males to females observed in cities throughout Africa (Peil, 1985). Unmarried women, however, may be motivated to move to the city to seek employment or education prior to marriage as a response to pressures at home resulting from divorce or widowhood (Morokvasic, 1984) or in order to get married, as in Cameroon (Podlewski, 1975) and Ilorin, Nigeria (Watts, 1983). Indeed, in the 1989–1990 DHS of northern Sudan (the only African DHS to collect information on reasons for migration), marriage was the most commonly cited reason for the most recent migration, by 48 percent of female migrants (Department of Statistics, 1991). In the analysis presented in this article, marital status is also important as a control variable in measuring the impact of fertility on migration, since being married often increases a woman's exposure to intercourse and the risk of conception.

DATA, METHOD AND VARIABLES

The DHS used in this study each interviewed between 3,200 and 9,200 women aged 15 to 49 years, regardless of marital status, and all surveys were
based on nationally representative samples except in Uganda, where coverage was 80 percent. Definitions of "urban" and "rural" residence varied across countries; minimum population size for urban area classification ranged from 1,000 in Nigeria to 20,000 in Burundi. Each survey provides the following information on residential experience: 1) type of residence for most of childhood up to age 12 (usually classified as city, town, village or another country); 2) number of complete years spent at the current location; and 3) for women who have lived outside the current location for a continuous period of six months or more at some time in their lives (i.e., migrants), type of previous residence (categorized like childhood residence). The DHS also encompass "visitors"—women who have lived at the current location for less than six months and do not intend to stay—but these women are excluded from the present study since their motivations for migration are assumed to differ greatly from those of migrants with long-term intentions.

In combination with information on current place of residence, the DHS residence and mobility information can be used to identify a large array of migrant types by time and space, such as recent arrivals, immigrants, teenage migrants, and persons socialized in an urban or village setting. Some limitations of the DHS residential data are that no more than two moves can be identified, the exact locations of childhood and previous residence are unknown, and the data do not encompass emigrants to non-neighboring countries, who are known to have different motives for migration than the type of migrants studied here (Findley et. al., 1988). The most serious shortcoming of the data for migration analysis is that the date of the most recent move, since based on number of years lived at the current location, can only be identified by the year in which it occurred, rather than the month as in event history survey calendars. This temporal crudeness, in combination with the widespread misreporting of month of birth and age at death of children typical of African demographic surveys (Hill and David, 1988), precludes the use of analytical techniques to ascertain a precise relationship between timing of migration and timing of birth or death. Rather, it supports the use of broad time intervals for migration, fertility and mortality to encompass potential misdated events.

For seven of the eight countries, multinomial logit analysis is performed using the CATMOD procedure in SAS, to assess the relative impact of demographic and other factors on the risk of rural to urban and rural to rural migration. For Burundi, a single model is estimated using the LOGIST procedure in SAS of the risk of migration between rural areas, due to the small number of women recorded in urban areas. The distinction between migration streams, where possible, is necessary because rural to urban migrants also had the option of moving to other rural areas. It is also based
on the assumption that rural to urban and rural to rural migration in Africa are motivated by different forces. One would expect, for instance, that given large mortality and fertility differentials between urban and rural areas in most states, long-term rural to urban migration is motivated more by a desire to enhance child survival and achieve small families than is rural to rural migration.

The analytical model developed by Goldstein and Goldstein (1982:148) for the study of migration-fertility interrelationships is employed in the following analysis. The sample consists of all women living in rural areas two years prior to the survey. A set of dummy variables is used to test the relationship between migration during the two years prior to the survey (the dependent variable) and level of fertility and mortality before age five occurring in the period two to seven years before the survey (i.e., in the five-year period prior to exposure to the risk of migration). Using a two-year period for migration eliminates the potential error introduced by assigning a date of migration during the year in which a woman is known to have moved. The two-year duration is also short enough that relatively few additional births or deaths are likely to have occurred during the two years but before migration. A five-year period is used for births and deaths because, as hypothesized earlier, fertility should most strongly affect the risk of migration through the presence or absence of very young children. Since we do not know migrants’ duration of previous residence, it is also assumed that all women lived continuously in the same location for the entire period two to seven years ago; this is a reasonable assumption, since many women recorded in the surveys have never changed locations, and the large majority of migrants moved between similar types of areas.

The model takes the following form:

\[ \ln(P(Y_i = j)/P(Y_i = J)) = b_j X_{it}, t-5 + c_j Z_{it}, \ldots \text{for } j \neq J = 1, \ldots, J-1, \]

where \( P \) represents probability; \( Y_i \) stands for the trichotomous dependent variable; \( J \) are the unordered categorical values for \( Y_p \), which represent migrated to an urban area/migrated to a rural area/did not migrate, during the period \( t \) to \( t + 2 \); \( X \) represents a set of dummy variables indicating number of births and their survival status up to age 5 in the five years preceding \( t \) (see Table 1); \( Z \) indicates a set of characteristics of the mother two years before the survey; and \( b \) and \( c \) are vectors of the parameters to be estimated. To simplify interpretation, in the following discussion the “log odds ratios” represented by this equation are converted into “relative risks,” which
<table>
<thead>
<tr>
<th>Variable</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migration Status(a)</td>
<td>(0 = ) Did Not Migrate(d)</td>
</tr>
<tr>
<td>((0–2 \text{ years before survey}))</td>
<td>(1 = ) Migrated to Urban Area</td>
</tr>
<tr>
<td></td>
<td>(2 = ) Migrated to Rural Area</td>
</tr>
<tr>
<td>Fertility-Child Mortality Experience(b)</td>
<td>(1 = ) 0 Births(d)</td>
</tr>
<tr>
<td>((2–7 \text{ years before survey}))</td>
<td>(2 = ) 1 Birth, Survived</td>
</tr>
<tr>
<td></td>
<td>(3 = ) 1 Birth, Died</td>
</tr>
<tr>
<td></td>
<td>(4 = ) 2 or More Births, All Survived</td>
</tr>
<tr>
<td></td>
<td>(5 = ) 2 or More Births, 1 or More Died</td>
</tr>
<tr>
<td>Education</td>
<td>(1 = ) None(d)</td>
</tr>
<tr>
<td></td>
<td>(2 = ) Attended School</td>
</tr>
<tr>
<td>Marital Status</td>
<td>(1 = ) Never Married(d)</td>
</tr>
<tr>
<td>((2 \text{ years before survey}))</td>
<td>(2 = ) Currently or Formerly Married</td>
</tr>
<tr>
<td>Age at Exposure to Migration</td>
<td>(1 = 20–29(d)</td>
</tr>
<tr>
<td>((2 \text{ years before survey}))</td>
<td>(2 = -20</td>
</tr>
<tr>
<td></td>
<td>(3 = 30+</td>
</tr>
<tr>
<td>Ethnicity(c)</td>
<td>(1 = ) Smaller Ethnic Group(d)</td>
</tr>
<tr>
<td></td>
<td>(2 = ) Largest Ethnic Group</td>
</tr>
</tbody>
</table>

Notes:  
\(a\) Left their previous residence for continuous period of six months or more.  
\(b\) Deaths refer to children born in the period two to seven years before the survey.  
\(c\) Data not available for all countries. Largest ethnic groups are the following: Twi in Ghana, Kikuyu in Kenya, Bambara in Mali, Wolof in Senegal, and Adja-Ewe in Togo.  
\(d\) Reference category in the analysis.

indicate the likelihood of migration for a woman with a given characteristic relative to the reference category.

It is necessary to consider births and child deaths jointly because they are so highly correlated, \(i.e.,\) number of child deaths will greatly depend on number of births. The categorization of the fertility-child mortality variables shown in Table 1, however, enables one to test for independent effects of births and deaths on migration. With respect to fertility effects, the hypothesis that female migration is constrained by the burden of having to move and resettle young children would be supported if risks of migration are lower for women with one surviving recent birth (category 2) than for women who have not had a birth (the reference category), and lower for
women who have two or more surviving young children (category 4) than for women with one surviving child (category 2). On the other hand, if the risk of migration increases with number of surviving young children (i.e., if estimates are higher among category 2 than 1, and among category 4 than 2), it is probable that rural to urban migration is motivated in part by a desire for superior amenities for children. The notion that births in rapid succession render a woman physically incapable of migration would be confirmed if risks of migration are significantly lower among women who had two or more births in the previous five years (categories 4 and 5) than among women who had one recent birth (categories 2 and 3), irrespective of the survival status of the children. In each case, statistical tests of difference between categories other than the reference category are based on variance-covariance matrices of coefficients (not shown).

The effects of child mortality on the risk of migration can be ascertained by standardizing for fertility. This involves two comparisons: 1) among women who had one recent birth, between those whose child survived (category 2) and those whose child died (category 3); and 2) among children who had two or more recent births, between those who did not experience a child death (category 4) and those who experienced one or more child deaths (category 5). Significantly higher or lower risks of migration among women who experienced a child death (at either level of fertility) would suggest that child mortality affects the migration decision according to one or more of the potential mechanisms noted earlier.

The other variables thought to influence migration are categorized on the basis of the hypotheses discussed earlier. Values of each variable are known or assumed to have been established at least two years before the survey, prior to the woman's exposure to the risk of migration. Age is ascribed at birth, and ethnicity is treated as an ascribed variable, even though a minority of women in some African countries are known to change ethnicity (e.g., upon marriage). Whether a woman had ever been married two years ago is used as a proxy for marital status at that time. Female schooling in sub-Saharan Africa is almost always completed as a teenager or earlier. Since the analysis here considers as permanent migrants only those women who moved after age 14, rural to urban migrants in each survey were on average over 26 years old, and a large majority of them in each country did not exceed the primary level, it is safe to assume that virtually all migrants completed their education prior to the most recent migration.

Table 2 presents the percentage distribution of the sample analyzed in each country according to the variables used in the analysis. These figures are given to illustrate the proportion of rural women who were subject to
### Table 2

**Percent Distribution of the Samples by Personal Characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Burundi</th>
<th>Ghana</th>
<th>Kenya</th>
<th>Mali</th>
<th>Nigeria</th>
<th>Senegal</th>
<th>Togo</th>
<th>Uganda</th>
</tr>
</thead>
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<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>81.0</td>
<td>46.4</td>
<td>27.4</td>
<td>90.6</td>
<td>65.3</td>
<td>92.7</td>
<td>65.6</td>
<td>38.6</td>
</tr>
<tr>
<td>Primary or Higher</td>
<td>19.0</td>
<td>53.6</td>
<td>72.6</td>
<td>9.4</td>
<td>34.7</td>
<td>7.3</td>
<td>34.4</td>
<td>61.4</td>
</tr>
<tr>
<td><strong>Ever Married</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>37.0</td>
<td>26.1</td>
<td>32.9</td>
<td>13.7</td>
<td>9.4</td>
<td>23.0</td>
<td>28.6</td>
<td>31.9</td>
</tr>
<tr>
<td>Yes</td>
<td>63.0</td>
<td>73.9</td>
<td>67.1</td>
<td>86.3</td>
<td>90.6</td>
<td>77.0</td>
<td>71.4</td>
<td>68.1</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 20</td>
<td>38.4</td>
<td>37.4</td>
<td>34.8</td>
<td>35.8</td>
<td>36.8</td>
<td>36.4</td>
<td>34.4</td>
<td>34.4</td>
</tr>
<tr>
<td>20–29</td>
<td>30.8</td>
<td>30.1</td>
<td>31.1</td>
<td>27.5</td>
<td>31.2</td>
<td>33.8</td>
<td>33.9</td>
<td>37.4</td>
</tr>
<tr>
<td>30 or Older</td>
<td>30.8</td>
<td>32.5</td>
<td>34.2</td>
<td>36.7</td>
<td>32.0</td>
<td>29.8</td>
<td>31.7</td>
<td>28.2</td>
</tr>
<tr>
<td><strong>Ethnicity</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major</td>
<td>—</td>
<td>36.1</td>
<td>24.8</td>
<td>32.1</td>
<td>—</td>
<td>37.6</td>
<td>45.3</td>
<td>—</td>
</tr>
<tr>
<td>Minor</td>
<td>—</td>
<td>63.9</td>
<td>75.2</td>
<td>67.9</td>
<td>—</td>
<td>62.4</td>
<td>54.7</td>
<td>—</td>
</tr>
<tr>
<td><strong>Births (2–7 Years Ago)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>48.2</td>
<td>42.3</td>
<td>42.7</td>
<td>37.6</td>
<td>44.1</td>
<td>38.4</td>
<td>41.2</td>
<td>46.9</td>
</tr>
<tr>
<td>1</td>
<td>20.0</td>
<td>30.0</td>
<td>24.0</td>
<td>26.6</td>
<td>23.6</td>
<td>25.3</td>
<td>26.0</td>
<td>21.5</td>
</tr>
<tr>
<td>2 or more</td>
<td>31.8</td>
<td>27.7</td>
<td>33.3</td>
<td>35.8</td>
<td>32.3</td>
<td>36.2</td>
<td>32.8</td>
<td>31.6</td>
</tr>
<tr>
<td><strong>Child Deaths (2–7 Years Ago)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>86.8</td>
<td>86.9</td>
<td>92.7</td>
<td>75.7</td>
<td>84.2</td>
<td>80.5</td>
<td>86.2</td>
<td>85.7</td>
</tr>
<tr>
<td>1</td>
<td>10.0</td>
<td>11.5</td>
<td>6.1</td>
<td>17.9</td>
<td>11.3</td>
<td>15.3</td>
<td>11.7</td>
<td>11.5</td>
</tr>
<tr>
<td>2 or more</td>
<td>3.2</td>
<td>1.6</td>
<td>1.2</td>
<td>4.5</td>
<td>4.2</td>
<td>2.1</td>
<td>2.8</td>
<td>—</td>
</tr>
</tbody>
</table>

Notes:  
<sup>a</sup> Characteristics refer to two years before the survey month. Education and ethnicity are assumed to have remained constant in the two years before the survey.  
<sup>b</sup> Major ethnicity refers to the following groups: Twi in Ghana, Kikuyu in Kenya, Bambara in Mali, Wolof in Senegal, and Adja-Ewe in Togo.

The risks of migration associated with each category used in the analysis. The table reveals considerable diversity among women in rural Africa in terms of most of these indicators. Whereas most rural women in Ghana, Kenya and Uganda had attended school, few women in the four francophone countries and Nigeria had received schooling. The percent of rural women who were married prior to the period of migration ranged from 63 in Burundi to 91 in Nigeria, while between 25 and 45 percent of rural women belonged to their country's largest ethnic group. The most dramatic country
differentials—and most important for this study—are in child mortality experience. The percent of rural women who had a young child die in the five years before the migration period ranged from only seven in Kenya to 24 in Mali. In all countries, however, roughly one third of rural women were subject to the risks of migration associated with having had at least two recent births. In light of this large percentage, the effects of high fertility on migration will receive special attention in the following discussion.

RESULTS

Table 3 reveals that, throughout sub-Saharan Africa, high fertility (i.e., the presence of several young children) constrains female migration to both urban and rural areas. Compared to rural women who have not had a recent birth, rural women with one surviving child under age 5 are significantly less likely to move to urban areas only in Nigeria and Senegal and to other villages only in Burundi. Women with two or more surviving young children, however, are significantly less likely to undertake migration to urban areas in five of the seven countries, by 43 to 75 percent, and migration to rural areas in six of the eight countries (including Burundi), by 36 to 61 percent. These results suggest that migrating and resettling with young children only becomes a burden for mothers or parents when two or more children are involved or, alternatively, that child fostering (i.e., leaving the child at the rural origin) is feasible for aspiring migrants only when one child is being left. The analysis provides no evidence that rural to urban migration in sub-Saharan Africa is prompted by mothers’ or parents’ desire to improve their children’s material or physical well-being through proximity to the resources concentrated in urban areas.

There is strong evidence to support the hypothesis that high fertility reduces the likelihood of migration to both urban and rural areas by physically incapacitating the mother, i.e., through number of births rather than number of surviving children. In nine of the fifteen migration streams presented in Table 3, risks of migration are lower among both groups of women who had two or more recent births than among women who had one birth; in four of the other six migration streams, risks are lower among both groups of two-or-more-birth women than among one group of one-birth women. This deterrent effect of multiple recent births on female migration is particularly strong in Kenya, where rural fertility levels are among the highest in Africa, and is least pronounced in the two Sahelian states, Mali and Senegal. Lower risks for multiple birth women in both migration streams from rural areas suggest that migration to cities and to other villages are perceived by rural women to be equally demanding on their health or physical well-being.
<table>
<thead>
<tr>
<th>Stream</th>
<th>Burundi</th>
<th>Ghana</th>
<th>Kenya</th>
<th>Mali</th>
<th>Nigeria</th>
<th>Senegal</th>
<th>Togo</th>
<th>Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.385&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.076&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.221&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.131&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.088&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.155&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.212&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.046&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Fertility-Mortality</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>1Birth: Survived</td>
<td>0.648&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.829</td>
<td>0.776</td>
<td>0.744</td>
<td>0.929</td>
<td>1.005</td>
<td>1.083</td>
<td>0.663&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>1Birth: Died</td>
<td>0.523</td>
<td>0.323&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.325&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.613</td>
<td>2.501&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.947</td>
<td>0.691</td>
<td>0.865</td>
</tr>
<tr>
<td>2+Births: Survived</td>
<td>0.333&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.245&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.496&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.345&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.591&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.783</td>
<td>1.215</td>
<td>0.567&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>2+Births: 1+ Died</td>
<td>0.457&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.269&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.395&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.183&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.693</td>
<td>0.597&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.722</td>
<td>0.335&lt;sup&gt;c&lt;/sup&gt;</td>
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<td>Education</td>
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<td>1.000</td>
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<td>Primary+</td>
<td>1.284&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1.467&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.964</td>
<td>2.023&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.065</td>
<td>4.943&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.012</td>
<td>8.882&lt;sup&gt;c&lt;/sup&gt;</td>
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<tr>
<td>Stream</td>
<td>Burundi</td>
<td>Ghana</td>
<td>Kenya</td>
<td>Mali</td>
<td>Nigeria</td>
<td>Senegal</td>
<td>Togo</td>
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<td>------</td>
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</tr>
<tr>
<td></td>
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<td>R-U</td>
<td>R-R</td>
<td>R-R</td>
<td>R-U</td>
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<td>R-U</td>
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**Marital Status**

<table>
<thead>
<tr>
<th></th>
<th>Burundi</th>
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<th>Nigeria</th>
<th>Senegal</th>
<th>Togo</th>
<th>Uganda</th>
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</thead>
<tbody>
<tr>
<td>Not Married</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Married</td>
<td>0.386(^c)</td>
<td>0.772</td>
<td>0.819(^a)</td>
<td>0.444(^c)</td>
<td>0.395(^c)</td>
<td>0.696</td>
<td>0.459(^c)</td>
<td>0.322(^c)</td>
</tr>
</tbody>
</table>

**Age 2 yrs. ago**

<table>
<thead>
<tr>
<th></th>
<th>Burundi</th>
<th>Ghana</th>
<th>Kenya</th>
<th>Mali</th>
<th>Nigeria</th>
<th>Senegal</th>
<th>Togo</th>
<th>Uganda</th>
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</thead>
<tbody>
<tr>
<td>20–29</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>-20</td>
<td>0.689(^b)</td>
<td>1.218</td>
<td>0.978</td>
<td>0.608(^c)</td>
<td>1.197</td>
<td>0.930</td>
<td>1.746(^b)</td>
<td>0.834(^c)</td>
</tr>
<tr>
<td>30+</td>
<td>0.844</td>
<td>0.719</td>
<td>0.522(^c)</td>
<td>0.232(^c)</td>
<td>0.263(^c)</td>
<td>0.765</td>
<td>1.267</td>
<td>0.393(^c)</td>
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</tbody>
</table>

**Ethnicity**

<table>
<thead>
<tr>
<th></th>
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<th>Ghana</th>
<th>Kenya</th>
<th>Mali</th>
<th>Nigeria</th>
<th>Senegal</th>
<th>Togo</th>
<th>Uganda</th>
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</thead>
<tbody>
<tr>
<td>Minor Ethnicity</td>
<td>—</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>—</td>
<td>1.000</td>
</tr>
<tr>
<td>Major Ethnicity</td>
<td>—</td>
<td>1.017</td>
<td>0.687(^b)</td>
<td>0.466(^c)</td>
<td>1.058</td>
<td>0.944</td>
<td>1.036</td>
<td>—</td>
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</tbody>
</table>

-2\(^a\) Log Likelihood Ratio

<table>
<thead>
<tr>
<th></th>
<th>Burundi</th>
<th>Ghana</th>
<th>Kenya</th>
<th>Mali</th>
<th>Nigeria</th>
<th>Senegal</th>
<th>Togo</th>
<th>Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases</td>
<td>2426.61(^c)</td>
<td>2815.14(^c)</td>
<td>3510.97(^c)</td>
<td>2531.06(^c)</td>
<td>2977.87(^c)</td>
<td>2634.25(^c)</td>
<td>3516.84(^c)</td>
<td>4204.45(^c)</td>
</tr>
</tbody>
</table>

Notes:

- \(^a\) Significant at p<.10.
- \(^b\) Significant at p< .05.
- \(^c\) Significant at p< .01.
Child mortality inhibits female migration to a lesser extent than does fertility and constrains migration to urban areas but not to rural areas. Among women who had one recent birth, those whose child died had a significantly lower risk of rural-urban migration than those whose child survived only in Ghana, while among women who had two or more births, those who experienced one or more child deaths had a significantly lower risk of migration in four countries—Kenya, Mali, Nigeria and Uganda. The stronger deterrent effects of child mortality on migration among multiple-birth women than among single-birth women may be due to the presence of women who had two or more child deaths among the former group. This would suggest that a recent child death does not reduce a woman’s motivation or capability to leave the rural area, but a second or third child death in rapid succession does prevent her departure. One cannot ascertain from this analysis whether child mortality lowers a mother’s probability of migrating to urban areas due to child replacement obligations or to psychological factors. One can conclude, however, that women in sub-Saharan Africa do not move to cities to escape the much higher mortality conditions facing their children in rural areas, since in no country does mortality experience lead to a greater tendency to migrate to urban areas.

With respect to rural-rural migration, child mortality experience reduces the risk only in Ghana, and it actually increases the likelihood of moving to another village in Kenya, and to a lesser extent in Nigeria and Senegal. A possible explanation for the pattern in these latter three countries, as suggested earlier, is that the death of a child frees women from certain childrearing obligations that would customarily prevent them from migrating even to nearby villages.

Estimates of other variables in the model are remarkably similar in direction and magnitude across the countries included in this analysis, and thus permit one to generalize about the influence of these personal characteristics on female migration in the region as a whole. A consistent finding across countries is that never married women are much more likely than ever married women to migrate from rural areas, confirming the pattern observed by Zachariah and Conde (1981) in West Africa in the 1960s and 1970s. In each country, currently or formerly married women are significantly less likely to migrate to either urban areas or other rural areas, while in four countries, including both East African states analyzed, they have a lower likelihood of participation in both streams of migration. In most countries, married women are less than half as likely to migrate to urban areas as never married women. Table 4 reveals that throughout sub-Saharan Africa a large percentage of unmarried female migrants leave their villages probably in order to get married soon thereafter. Among never married
Table 4
Percent of Never Married Migrants who Subsequently Married Less Than Two Years After Migration

<table>
<thead>
<tr>
<th>Migrant Group</th>
<th>All</th>
<th>Rural-Urban</th>
<th>Rural-Rural</th>
<th>Total Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>—</td>
<td>—</td>
<td>74.5</td>
<td>248</td>
</tr>
<tr>
<td>Ghana</td>
<td>42.5</td>
<td>21.1</td>
<td>53.1</td>
<td>230</td>
</tr>
<tr>
<td>Kenya</td>
<td>58.8</td>
<td>43.3</td>
<td>75.2</td>
<td>364</td>
</tr>
<tr>
<td>Mali</td>
<td>90.4</td>
<td>86.1</td>
<td>92.3</td>
<td>70</td>
</tr>
<tr>
<td>Nigeria</td>
<td>59.0</td>
<td>43.6</td>
<td>71.2</td>
<td>317</td>
</tr>
<tr>
<td>Senegal</td>
<td>75.2</td>
<td>43.3</td>
<td>91.1</td>
<td>152</td>
</tr>
<tr>
<td>Togo</td>
<td>44.0</td>
<td>20.1</td>
<td>57.8</td>
<td>210</td>
</tr>
<tr>
<td>Uganda</td>
<td>68.9</td>
<td>46.4</td>
<td>79.4</td>
<td>243</td>
</tr>
</tbody>
</table>

Women who migrated during the two years before the survey, the percent married by the time of the survey, i.e., less than two years after migration, ranged from 43 percent in Ghana to 90 percent in Mali. In every country except Mali, however, nonmarital reasons for migration appear to be more common among rural-urban than rural-rural migrants. One can conclude from the large number of single women who migrate to urban areas for these other reasons, and from the higher risk of migration among never married women overall, that the notion of female migration in sub-Saharan Africa as primarily associational has been overemphasized and may be outdated. Certainly, these results support other evidence of the increasing autonomy of female migration in the region (Little, 1976).

As expected, in all seven countries where the risk of rural to urban migration is assessed, rural women who attended school were more likely than noneducated women to migrate to urban areas in the mid- and late 1980s. The size of effects is striking, with the increased risk ranging from 47 percent in Ghana, where a large percentage of rural women are educated, to 778 percent in Nigeria, where few rural women have received formal schooling and socioeconomic disparities between urban and rural areas are
particularly large (Federal Office of Statistics, 1992). It is clear that those rural women who have schooling choose to migrate to towns and cities rather than other villages or commercial farms, since only in Burundi and Nigeria does schooling significantly increase the likelihood of rural to rural migration.

In almost all of the countries, women were most likely to leave their villages for long periods when they were in their twenties. Exceptions are the two Sahelian states, Mali and Senegal, where teenage women were more likely to engage in rural to rural migration. The distinction in teenage migration between these two countries and the others included in this study may relate mainly to the duration of stay at the destination: young adults in the other countries may more likely be circulators, who leave their home villages for periods of less than six months during the agricultural slack season to supplement family incomes through short-term work in the city. In most countries, young age is more of a constraint on rural to urban than rural to rural migration. The most striking finding concerning age at migration is the much lower probability of migration among women age 30 or older in every country, with the possible exception of Burundi and Mali. In most cases, their likelihood of migration is at least 40 percent lower than that of women ages 20–29. A noteworthy implication of rural to urban migration during the peak reproductive years in sub-Saharan Africa (i.e., 20–29) is that migrant women may have contributed immediately and substantially to the rapid urban growth experienced throughout the region in the 1980s. This may be particularly true in Kenya, where this age pattern of rural to urban migration is strongest and where urban growth has been most rapid in recent years (United Nations, 1991b). Data on ethnicity are not available for all of the countries included in this study. The most notable findings are that Wolof women in rural Senegal and Adja-Ewe women in rural Togo are significantly less likely to migrate than women from other ethnic groups (considered as a whole), while Kikuyu women in rural Kenya are less than half as likely to migrate to the city as others. In no country are women from the largest ethnic group more likely than others to migrate from rural areas. Whether there is a general pattern in sub-Saharan Africa, that persons of smaller ethnic groups are more likely to leave their home villages for long periods, e.g., due to the presence of stronger ethnic support networks at destination, is an issue worthy of further investigation.

CONCLUSION

The main findings of this study are that, throughout Africa, high fertility (i.e., multiple young children and recent births) greatly lowers a rural woman's likelihood of moving to an urban or rural area, while child
mortality only moderately reduces the probability of rural to urban migra-
tion in some countries. The mortality-migration relationship should be
viewed positively, insofar as it implies that child survival program efforts do
not undermine policies and measures implemented to reduce urban growth.
The question arises, however, whether future reductions in fertility will
remove important constraints against rural outmigration and thereby
maintain high rates of urban growth even as sustained fertility decline
occurs throughout the region. While the analysis suggests that fertility
limitation and longer child spacing would enable more women to migrate
to and settle in urban areas, it is unlikely that increased migration of such
lower fertility women would translate into higher rates of urban growth.
One obvious reason for this is that fertility decline in rural areas ultimately
reduces the number of potential migrants to urban areas. More immedi-
ately, an implication of migrant selectivity for low fertility at origin is that
these migrants may also have relatively low fertility at the urban destination,
if their low fertility at origin is due to low desired family size, and is not the
result of reproductive constraints (e.g., absence of spouse, poor health or
nutrition). Recent long-term migrants to African cities may, in fact, have
contributed to the urban fertility decline now being observed in many
African countries, which will ultimately reduce the rate of urban, and
perhaps national, growth. Moreover, one must consider the psychological
factors underlying migration in assessing the fertility-migration relation-
ship. To the extent that lower fertility women move to the city to escape
cultural or religious constraints against small family size and modern
contraceptive use, government commitment to expanding family planning
services in rural areas could actually contribute to lower rural to urban
migration.

The finding in all countries that unmarried women are much more likely
to migrate than married women and that most unmarried migrants to urban
areas probably move for nonmarital reasons, also supports the notion that
female migrants make only a moderate immediate contribution to urban
growth in Africa through their fertility. The predominant migration of
single women in the 1980s also suggests that long-term female migration
in Africa may now be more autonomous than is commonly believed, and
perhaps as independent as in other developing regions. On the other hand,
the common assumptions that female migrants to African cities are much
more educated than women who remain in rural areas, and as adults are
most likely to migrate for long periods while in their twenties, are strongly
confirmed by this analysis of DHS data. Enormous disparities in economic
opportunities between urban and rural areas in all African countries ensure
that female rural to urban migrants will continue to be selected along these dimensions.

REFERENCES

Adepoju, A.

Amin, S.

Blanc, A. K. and C. B. Lloyd

Browning, H. L.

Caldwell, J. C.

Connell, J. et al.
1976 Migration from Rural Areas. Delhi: Oxford University Press.

Davis, K.
1963 "The Theory of Change and Response in Modern Demographic History," Population Index, 29.

Department of Statistics, Ministry of Economic and National Planning, Republic of the Sudan

Federal Office of Statistics, Lagos, Nigeria

Findley, S.


Findley, S. et al.

Friedlander, D.

Goldscheider, C.

Goldstein, S. and A. Goldstein

Gugler, J. and W. G. Flanagan

Hamer, A.

Hart, J.

Herry, C.

Hill, A. G. and P. H. David

Little, K.

Locoh, T.

Mhloyi, M.

Morokvasic, M.

Nabila, J.
1975 "Depopulation in Northern Ghana: Migration of the Frafra People." In *Interdisciplinary*

O'Connor, A.

Page, H.

Peil, M.

Podlewski, A.

Sow, F.

Sy, M.

Thadani, V. N. and M. P. Todaro

United Nations


Watts, S. J.

Zachariah, K. C. and J. Conde