

SURVEY RESEARCH IN AFRICA

ITS APPLICATIONS AND LIMITS

edited by

**William M. O'Barr
David H. Spain
and Mark A. Tessler**

NORTHWESTERN UNIVERSITY PRESS

EVANSTON

1973

Studying Rural-Urban Ties: A Matched Network Sample from Kenya

Thomas S. Welsner

Current models of the effects of urban migration on the African family often explicitly include both rural and urban variables. Such models are most effectively tested by comparing families, or migrants and nonmigrants, in both rural and urban settings. However, surprisingly few studies provide data contrasting rural and urban settings at the same point in time and employing comparable methods of data-collection. This paper discusses one comparative sample, its rationale, and some techniques used in its definition and study.

There are four methodological advantages in using a comparative rural-urban study. Such a study (1) provides a baseline for studying urbanization, which helps to avoid inaccurately imputing characteristics to rural or urban communities; (2) provides opportunities for employing comparable methods of data-collection; (3) makes it possible to control for differences and similarities between urban and rural residents by the use of matching or other techniques; and (4) allows the anthropologist to participate in

My deepest appreciation goes to the people of Kariobangi Estate and the Kisa area for their cooperation and hospitality; they must here remain unnamed. My wife and son, Susan M. Welsner and Jeffrey "Aswani," sustained and helped us all in and out of the field. John Biya Muyesu, Charles Imbwaga Litsalia, Edwin Luchemo, and Jolustone Alela all worked with us as assistants in the network study. Professor John Whiting first suggested the feasibility of a rural-urban comparison; he and Dr. Beatrice Whiting provided much of the generous research support I had in the field as a part of the Child Development Research Unit of the University of Nairobi and Harvard University. The CDRU is supported by the Carnegie Corporation. Support has also come from NIMH Fellowships 3F01 MH32936-02A1S1 and 5F01 MH32936-03. Earlier versions of some portions of this paper were presented in Welsner (1969 and 1970), and some data there have been revised and recast.

Studying Rural-Urban Ties

and observe the interaction between town and country. In the planning of the particular sample discussed here, however, the main reason for designing a comparative rural-urban study was theoretical. I conceived of migration in Kenya as a process which creates a network of social ties linking rural homes and urban work places. Migrant men and their families move back and forth between farm homesteads and urban quarters. It was this rural-urban system which was sampled.

THE RURAL-URBAN NETWORK¹

The nature of rural-urban interaction is partly determined by a wage labor system common in much of Africa, a system largely controlled from urban, mining, and plantation export enclaves, which are in turn heavily influenced by international economic constraints produced by the European and American economies. Rural communities provide a critical resource as a sector within this system: they export men to towns to seek employment. Jobs are scarce, however, and not every man who would like to work in town can do so. Most men, therefore, spend part of their working lifetime as residents of a town, and the rest as potential migrants residing within a traditional farm homestead. At any one time, then, there is a group of actual migrants living in town, and a group of potential migrants in the country. These two groups together can be thought of as a "migrant pool."

Men from the same rural home areas who are part of such a pool typically maintain close ties with one another through visiting and mutual

1. My use of the term *network* to describe the rural-urban system is deliberate, and emphasizes that the migrant pool is not a named, formally constituted group. Rather it represents a set of morphological and interactional characteristics which have proved useful in describing the behavior of a set of men and families. Mitchell defines these properties of a network: "The morphological characteristics of a network refer to the relationship or patterning of the links in the network in respect to one another. They are *anchorage*, *density*, *reachability*, and *range*. The interactional criteria on the other hand refer to the nature of the links themselves and are the *content*, *directedness*, *durability*, *intensity*, and *frequency* of the interaction in the links" (1969:12). Mitchell points out that "face to face interaction is not a necessary condition for the obligations entailed in a relationship to be honoured" (1969:28). The men and women in my study understood the concept of a rural-urban network very well although it was not named or formalized. (Jacobson has also described some urban networks in East Africa [1968 and 1970].)

arts of Kenya. The area is fertile, and can support two crops a year. It is a beautiful place with pleasant and friendly people. It is green, rolling country, dotted with dispersed homesteads separated by fields of maize, millet, peanuts, sugar cane, potatoes, and other vegetables. The men in Kariobangi from Kisa were employed as drivers, clerks, machine operators, laborers, and artisans; like the other estate residents, they were not professionals. Their incomes were equal to or slightly below the average for Nairobi as a whole, and several of the twenty-four men were unemployed. Kariobangi is not the home of the upper middle class or elite of Nairobi. The men lived in single rooms with other Kisa men, or with their wives and some or all of their children; occasionally they lived alone or with other Abaluyia not from Kisa. The median age of men is thirty-five, median education is four years of primary school, and median income is slightly below fifty dollars a month. All of Kenya's major tribes are represented in Kariobangi; Abaluyia account for about 50 per cent of its 13,000 population. Kariobangi is a new estate, built since 1965, and it has a high turnover of residents. In many respects it is a microcosm of the nonelite, working population of Nairobi.

THE RURAL MATCHED SAMPLE

To select the rural sample, I asked each of the twenty-four men in the urban sample to match himself with a rural man. Each man was asked to use three criteria in this self-matching process: the rural resident should (1) be in the same subclan as the urban resident, (2) be about the same age, and (3) be at about the same educational level. If the urban man suggested several rural matches, the one most closely related to him was selected. A systematic interviewing frame was utilized to direct this matching process. Each urban man was asked, "Do you have any full brothers of about the same age and education as you who are living in Kisa?" If the answer was no, the questioner proceeded to ask for half-brothers, or the father's brother's sons, and so on. Each man was asked these questions relative to privacy and without other sampled urban men present. The result was a set of twenty-four pairs of men, self-matched by age, education, and kin status. These forty-eight men, along with the members of their households, resident both in Nairobi and in Kisa, constitute the rural-urban network sample.

Following the completion of most of the matchings, I traveled to Kisa and began to gather information within the homesteads of the twenty-four matched, rural resident men, and within the rural homesteads of the

Studying Rural-Urban Ties

Kariobangi resident men.³ Similar data-collection procedures were already under way at this point both in Kisa and in Nairobi.⁴ The fifteen-month study period involved a series of visits back and forth between Kariobangi and Kisa to complete the interviewing and to do the participant observation.

THE MATCHING CRITERIA

Why were the urban men asked to match themselves? *Post hoc* matching from census data might have been easier and more precise. The reason this procedure was not followed is that the sample had to incorporate interaction between rural and urban residents in the migrant pool. It is the effects of this interaction between town and country on the family that the sample was designed to elucidate. For this reason, it was essential that men choose counterparts with whom they were in some sort of contact — whether they merely knew each other, visited, exchanged resources, or were close friends. The self-matching procedure, therefore, defined a partially bounded, rural and urban set of acquaintances. Each man in the network was subsequently asked about all the other forty-seven men; 55 per cent of all the possible connections between these men were actually present — i.e., the average man in the network reported

3. It would of course have been impossible to simply arrive in Kisa and immediately commence field work in the area. To aid our entree into the rural community each urban man in the sample wrote a letter to his rural counterpart, introducing us and explaining what we were doing. Such letters and other informal meetings and introductions were invaluable.

4. A variety of data was collected. Much of the data is a part of the Basic Data of the Child Development Research Unit, University of Nairobi. Comparable data on seven rural communities have been collected by field teams from the CDRU over the past six years. These include the following: homestead census, homestead and household maps, genealogical data, employment and residential history, marital history of household heads and their wives, and spouses' contacts with their natal kin. I collected additional data on rural-urban ties through questionnaires on rural-urban contacts, social change and migration, a modernity scale (based on Smith and Inkeles 1966), a psychosomatic stress scale (based on Leighton et al. 1963), sociometric interviews, and systematic observations of children's behavior in natural settings (based on Whiting 1963). The stress and modernity study was done with Dr. P. Herbert Leiderman, Stanford University, and the children's behavior study was done with Dr. Beatrice Whiting, Harvard University, and Susan M. Weisner.

knowing 55 per cent of the other men. Patterns of urban-urban, urban-rural, and rural-rural ties could also be compared. The self-matching design thus reflected social ties as well as creating matched pairs of men in a migrant pool.

Why did the sampling utilize kin status, age, and education as matching criteria? Membership of each pair of men in the same subclan ensured that a limited and specifiable range of kin would be studied, and defined within broad limits the kinds of relationships between each pair. Hence affines, or cross-subclan relations, were excluded for each match. This criterion also ensured that rural matches would reside near each other (since subclans are patrilineal) and near the rural homes of the urban men. Age provides the best index of potential years of urban experience. It also is an index of the position of the man's family in its developmental cycle (the family developmental cycle was clearly an important independent variable in the study). Finally, education is perhaps the best available index of ability to obtain employment in urban areas. It is also a rough measure of "modernity," which is dependent on exposure to the largely European-modeled system of education. Matching by age and education, then, provided the best criteria available in the field to insure that the rural men would be members of the migrant pool — in other words, eligible for wage employment by age and educational standards.

If the concept of a rural-urban system of migrants and families has value, then this matched sample can be seen as a small, nonrandom selection of members from such a system. Evaluation of the sample is possible in three ways. Was there evidence of the hypothesized concomitants of rural-urban ties? How accurate was the matching process? How representative or biased was the sample?

EVALUATION OF THE SAMPLE: RURAL-URBAN TIES

Data from the sample supported the view that rural-urban ties should be seen as the basis of a network, or rural-urban migrant pool. The mobility of urban network members showed up clearly in data on contacts with the home area. Median visits to rural homes were two per year for men, and between one and two for wives. The households of the urban men changed their composition on the average of once every six months. Well over half of these changes involved people arriving from or returning to Kisa; some involved intraurban movement as well. Although rural network residents visited Nairobi on occasion, most of the constant turnover of people was due to movements of urban families.

Studying Rural-Urban Ties

Besides the interchange of people, there were constant exchanges of messages, money, and gifts between town and country.

Prior to formulating the network sample, I began research in Kariobangi with a census in the estate. For purposes of this census, the continuous movement and variability, seen from within the city, was irritating. I often simply could not find people in town when I returned to revisit their urban homes. I could not define stable household types, much less locate many "stable" urban households, in my census data and follow-ups within the estate as a whole. Diversity and flux seemed to rule out any generalizations within the urban sample. But this mobility, far from being an obstacle to successful analysis, was of course the phenomenon to be explained. It was the rule, not the exception. The difficulty in studying "urban families" arose from limiting early samples to Kariobangi alone. The rural community also had to be included. The key to understanding urban familial ties was this constant interaction between town and country.

Extensive sociometric interviewing of the matched men and their spouses was also done. If urban and rural samples had been isolated from each other, interaction between urban and rural network groups should have been significantly lower than that within groups, and members of one group should have had significantly less knowledge of the other group than of their own. This was not the case. Knowledge, visiting patterns, and friendship choices were fairly evenly distributed between rural and urban matched samples. Clanship and rural household proximity, not rural and urban residence, best accounted for the patterns of sociometric choice that were found.

The migrant pool model in its ideal form assumes roughly equivalent migration experience for all its members. Data from the network matches allowed a more differentiated view of migration patterns. Not all the matched pairs consisted of men likely to divide their working lifetimes equally between rural and urban residence. Some matches were between men with long, stable urban employment histories and rural men who had given up urban work-seeking, or had never been very successful in finding work, or had perhaps found some steady work in the Kisa area. Three subgroups were found in the network: (1) a large group of interchangeable, or men closely matched who had similar work histories; this group comprised about 75 per cent of the network sample; (2) urban residents in the network who may have visited Kisa often but who had retained urban employment for some time; and (3) rural men with little or no successful urban employment experience who were unlikely to return to town.

THE SUCCESS OF THE MATCHING

Were the rural men selected by urban men sufficiently comparable to their matches to justify the claim that age and education had been held constant? Table 11.1 shows medians, Wilcoxon test statistics, and sign scores for the matched pairs of men and their wives. Neither age nor education differed significantly for men; the age difference for wives reached the .05 level on the Wilcoxon but not on the sign test. Tables 11.2 and 11.3 show the absolute differences for the twenty-four pairs

TABLE 11.1 MEDIANS, WILCOXON TESTS, AND SIGN TESTS FOR MATCHED NETWORK PAIRS

Variable	Median	Wilcoxon T Statistic	Sign Test Difference*
	Urban Rural Total		
Age	Men 32 35 34	T=65.0	+7, -14
	Spouses 23 29 25	T=50.0†	+6, -14
Education	Men 4 4 4	T=89.0	+13, -7
	Spouses 2 0 0	T=34.5	+8, -4

*Urban match minus rural match. For men's ages, for example, "+7, -14" indicates that out of twenty-one matched pairs who had a sign (i.e., were not equal), seven urban men were older and fourteen rural men were older than their respective matches.

†Significant at .05 > P > .02 (two-tailed).

TABLE 11.2 ABSOLUTE DIFFERENCES IN AGE (MEN)

Age Difference	N	Percentage	Cumulative Percentage
None	3	12.5	12.5
1	3	12.5	25.0
2	4	16.7	41.7
3	1	4.2	45.9
4	4	16.7	62.6
5	1	4.2	66.8
6	2	8.3	75.1
7	1	4.2	79.3
8 or more	5	20.8	100.1
Totals	24	100.1	

Studying Rural-Urban Ties

TABLE 11.3 ABSOLUTE DIFFERENCES IN YEARS OF SCHOOL (MEN)

Educational Difference	N	Percentage	Cumulative Percentage
None	4	16.7	16.7
1	6	25.0	41.7
2	3	12.5	54.2
3	5	20.8	75.0
4	4	16.7	91.7
5	2	8.3	100.0
Totals	24	100.0	

of men. Nearly half the men were within three years in age to their match and fifteen of the twenty-four were within four years. Over half the matched pairs were within two years of each other in educational level. There was a definite trend, however, for rural men to be slightly older than their urban counterparts, and for urban men to be better educated. The median scores reflected these small differences. These results were complementary, since older men generally tended to have lower educational levels than younger men. The differences arose largely from the process of matching. Some urban men, in spite of repeated requests, tended to name older rural residents as matches. "Why," asked one urban informant, "would you visit our homes to talk to young men? They know little about our clans. You will need to see the elders!" Wives' years of course varied more than men's, since careful matching of their respective husbands only indirectly affected the scores of women.

The matching process also proved successful in another aspect. Countries were made between city and country samples on variables other than age and education, in order to examine what factors vary regardless of network participation, as well as to evaluate the importance of the network for other independent measures. The results of this analysis are beyond the scope of this paper. In general, the rural and urban network samples proved very similar on a series of measures which typically are thought to differentiate between rural and urban populations. Median number of years in outside wage employment was the same for Asia and Kariobangi network men; the median size of men's farms did not differ, nor did household type vary when both city and country network populations were merged within each sample. The two sets of matched pairs had similar scores on a measure of modernity and in number of children in school. Thus the city and country populations were comparable with respect to factors other than those used as criteria in

SAMPLING

the matching process. This similarity argues against the split between city and country as a result of rural-urban migration and separate residences.

THE REPRESENTATIVENESS OF THE SAMPLE

I have concentrated thus far on questions of theoretical, heuristic, and internal validity. But there remain questions of sampling bias and the extent to which the conclusions from the data can be generalized: does not the matching procedure guarantee that the rural matches will be similar to their urban selectors? Furthermore, since migrants are clearly different from Kisa men generally, are not the rural matches also likely to be different and hence unrepresentative of the rural population?

The network sample is not designed to be representative of city and country populations of migrants and their families. The migrant pool and the rural-urban network which it generates are not circumscribed by either city or country locale. I attempted to sample the participants in the ongoing process of rural-urban interaction, rather than city and country residents. Hence the relevant universe of which the network could be considered a sample is the collection of all the varieties of such rural-urban systems in Kenya. These vary by tribe, type of city and rural base, socioeconomic status of participants, and so on. This very important and relevant universe is not well known or understood as yet. It is not possible, therefore, to measure to what extent the particular network existing between Kisa and Kariobangi is representative or typical. Preliminary evidence and other reports, however, indicate that this pattern is a very common one.⁵ An important use of the network sample is precisely in exploring such rural-urban interactions.

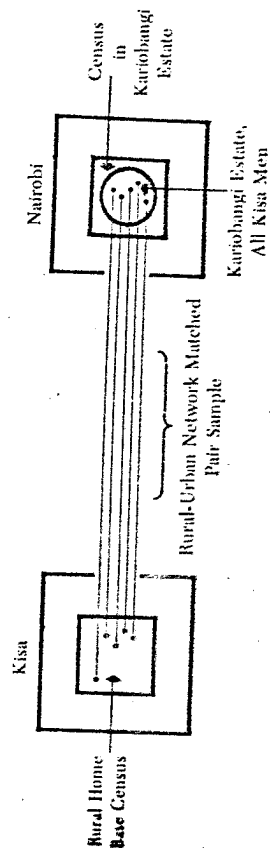
The relationship between the network sample and the city and country populations in which it is imbedded is an important issue, however, even if it is not critical to the problem of sampling bias. Figure 11.1 represents the complete design of the rural-urban study. In addition

5. The men in the Kisa network all held land or in a few cases were to inherit land from their fathers. All the rural men and twenty-two of twenty-four urban men not only held land but farmed it as well. According to Rempel, however, roughly half of a sample of migrants from eight Kenya towns held land or were to inherit some (1971:59-62). Men without land may or may not have rural social economic alternatives to city wage employment; where there is no alternative, a different sampling technique is necessary, and a somewhat different theoretical approach.

Studying Rural-Urban Ties

to the network matched sample, censuses were done in both Kisa and Kariobangi, and these data were compared to those I had obtained from the network sample. In general, differences between these census samples and the network were small, just as the data from the rural and urban network samples were similar. One reason for this is that out-migration from Kisa to urban areas is a pervasive and accepted part of economic and social life; in effect, the entire rural base community participates in the migrant pool. One consequence of this situation is that the median number of years in urban wage employment for the two samples was quite similar: 7.5 for the male households in the Kisa census, compared to 9 years for the urban network sample and 8 years for their rural matches. Household type, household size, farm size, crop production, and other variables were not different in Kisa or the network samples. Of course, the network men were on an average younger by five years, and better educated by two years, than all male household heads in the Kisa census.⁶

FIGURE 11.1 DESIGN OF NETWORK AND CENSUS SAMPLES



These comparisons do not exhaust possible additional sources of bias. Self-selection may have introduced relationships between the matched samples which have not been detected, or which are unknown in their effects on the family or on rural-urban interaction. For example, social isolates may have been ignored, and men with high interaction rates differentially selected by urban men. The matching criteria limited this potential bias by greatly restricting the potential group from which the urban man could select his match; in many cases, urban men could name

6. This age differential between migrants and the adult males in Kisa of course means that when a young migrant member of the network reaches the median age of the Kisa population as a whole, his years in town will be higher than the average number of years for Kisa as a whole at present. This reflects the secular trend toward an increasing number of years spent in town by migrants.

SAMPLING

only one rural man who met all the criteria. Moreover, every urban man in Kariobangi from the Kisa rural base was included in the urban network sample: shy, gregarious, friendly, or unfriendly; this also reduced the possibility of bias. Although some residual effect of self-selection cannot be ruled out, I certainly saw no evidence of this bias in the network sample.

CONCLUSION

In many respects the matched network sample is a compromise. On the one hand, its matching and paired-comparison feature attempts to contrast rural and urban residents of a migrant pool, but the matching is not as precise as it could have been. On the other hand, the self-matching feature of the sample, along with its limitation to a single urban and rural enclave group, attempts to capture the rural-urban interaction within the network, while the matching restrictions delimit the range and kinds of relationships which could be incorporated in the sample. Both of these goals, I believe, were adequately reached by this particular network sample, but the results are clearly limited and exploratory at this point.

Other kinds of samples might have been used. O'Barr (Chapter 10) studied a network of men from the same contiguous rural home lineage, and followed these men wherever their migrations had taken them. His technique of genealogical sampling is especially valuable for examining the rural effects of migration, and for studying the relations between the countryside and a variety of destinations outside it. Another sample could begin with a contiguous, unified rural base (rather than an urban one as in my study) but limit its urban matches to a single city or perhaps to specified kinds of urban settings. There are, of course, many other possible variations;⁷ different research interests can lead to a variety of effective network samples.

7. The people sampled, as well as the origin, structure, and destination of the network, can vary. The network described here, for example, includes wives of matched pairs of men, rather than studying networks of women directly. A separate sample of women would be useful in examining the effects of migrant pools on women.

PART THREE

Measurement