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RURAL-URBAN INTERACTIONS AND HIV/AIDS IN EASTERN AFRICA

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From Health Crisis to Development Crisis: the issues for population analysts
It is now widely acknowledged, even by medical scientists, that the HIV/AIDS pandemic is much more than a health issue for all countries and populations that are affected. It has become a major concern to governments, analysts and affected communities and households for the process and practice of development. Furthermore, it has to be acknowledged that the development issues are even more prominent and pressing where the HIV/AIDS prevalence rates are high and levels of development are low, as i the 'AIDS belt' of Eastern and Southern Africa. There are certainly major health issues to be addressed here, but a critical focus of attention throughout this region is clearly on the range of very severe developmental impacts of the disease (Barnett and Whiteside, 2002). UNAIDS estimates that in this region, in the 13 countries from Ethiopia south though Eastern and Central Africa to South Africa there may be 18 million people who are HIV+, nearly half of the world total, and that there may be nearly 1.6 million deaths per year from AIDS (Table 1). National sero-prevalence rates range from 5 per cent (for the celebrated and thus far unique case of Uganda) to over 35 percent in Botswana and Swaziland, and the highest absolute numbers (400,000 million Aids deaths and nearly 1.3 million HIV+ in 2001) in South Africa.

What then are the implications for population scientists of this clear need to shift emphasis from health to development? Clearly it is not a matter of 'either/or', but rather of balance, evident in the following three respects that are relevant here:

- *Epistemology*: There is a major shift in approach from a bio-medical, scientific paradigm to a social science paradigm, with all that means for modes of explanation and levels of certainty and risk. The social sciences are inherently less positivist, much more open to alternatives and behavioural considerations, in both explanations and outcomes of the epidemic. The disease therefore presents a methodological challenge to social scientists that seems to require a 'mixed-methods' approach with the integration of qualitative and qualitative approaches to data collection and subsequent analysis (Gould and Woods, 2003).

- *Range and 'mainstreaming'*: The social science of HIV/AIDS encompasses a much broader range of concerns. To the concerns for causes, epidemiology, controls and therapies that are integral to the health concerns, must be added issues of impacts, and not only on those directly afflicted, but also on all those affected, even if they are not themselves carriers of the virus. In policy terms this is the rationale for the widespread model of 'mainstreaming' HIV/AIDS into all development programmes. HIV/AIDS in this context is seen to be like 'gender', or 'environment', or 'governance' or 'social exclusion' as a cross-cutting issue that is relevant to all aspects of social and economic development and individual well-being, and must therefore be given explicit consideration in all areas of development strategy. This is the approach of multilateral and bilateral development organisations, principally the World Bank in its national Poverty Reduction Strategy Programs (PRSP). The focus is therefore more appropriately on whole populations, at whatever scale, rather than on particular groups, such as those at 'high risk' of being affected.

- *Data*: Early studies of HIV/AIDS depended largely on data from health sources, notably from the development of sentinel surveillance sites, typically based on clinics and hospitals, and identifying prevalence rates, patterns and trends. These

involved taking blood samples from women in ante-natal clinics, supplemented by samples from other groups, including blood donors, to include men, but clearly these were not necessarily representative of whole population. Data that are more representative and more appropriate to social science and developmentalist approaches, need to be derived from whole populations, whether from censuses or from surveys. Given the problems of identifying HIV/AIDS (necessarily dependent of having a blood test, and not depending on individual self knowledge and responses) this is only realistically available in surveys, and for a national sample from national surveys such as the Demographic and Health Surveys. Three African countries (Zambia 2001/2, Mali 2002, and Kenya 2003) have now included sero-testing of the national samples in their most recent DHS. In all three cases the recoded prevalence from the DHS has been lower than the estimated from the sentinel survey sources (Table 2 for the Zambian case).

Taken together these three changes oblige analysts to review the ways in which they approach the study of HIV/AIDS. It needs be inclusive, rather than focusing on particular groups, whether or not they are affected or at various levels of being 'at risk'; it needs to be broad as well as directed, seeking to identify broad impacts and trends as well as specific problems; and it needs to be systematic rather than particular, considering whole populations and not only those that seemed to be of particular importance at the earliest stage of the epidemic, whether they are most likely to be affected or most likely to be responsible for the spread of the disease.

With these important methodological considerations in mind, we can now turn to consider our approaches as population scientists to the study of migrants and migration and the role of population mobility in the spread and trends of HIV/AIDS, both generally but more specifically in the case of Eastern Africa.

Migrants, migration and the epidemiology of HIV/AIDS
In the earliest years of the epidemic, before 1990 in Eastern Africa, at a time of basic identification of the biology and epidemiology of the disease, it was almost inevitable that disproportionate attention would be given to migrants and migration in the spread of the disease. Notwithstanding some disputes about the ultimate origins of the disease, early foci were identified to the west of Lake Victoria, in south-west Uganda, especially Rakai District, north-west Tanzania, especially Kagera region, and west into Rwanda and Democratic Republic of Congo (then Zaire) (Map 1). From there it seemed that the virus spread initially along the main long distance truck routes through Uganda to Kenya, through Kampala and Nairobi to Mombasa and the Indian Ocean coast. The main groups involved in this spread were the truckers themselves and the sex workers and bar girls along the route, and early on these groups were identified as experiencing high prevalences, most vulnerable as a result of their frequent sexual encounters with multiple partners. This phenomenon was famously epitomised by Ted Conover's classic journalistic article in *New Yorker* in 1993, *Trucking through the AIDS belt,* but also sustained by early more academic views (e.g. Barnett and Blaikie, 1991). In southern Africa too, there was extensive early discussion of the role of truckers and truck routes, and migrants in general, including the military and mine workers, and also refugees, in the early spread of the disease (Webb, 1997, pp.99-112: *HIV and transport networks).*

Views about the importance of migrants and mobility quickly became the basis for much modelling of the disease, and most notably by the American geographer Peter Gould, in his chapter on Africa in the *The slow plague* (1993). Building on the experience of hierarchical diffusion of the disease though airline and other transportation networks in USA, he saw the epidemiology of the disease in terms of contagious as well as hierarchical diffusion in Africa, spreading out through population movement in its various forms in all directions from the main towns and main transport arteries to engulf the whole continent, and moving from high risk populations, mostly highly mobile groups, into the population as a whole. Migrants are the main agents in HIV spread because they are seen to be those most likely to have non-regular sexual encounters in periods of absence from their regular partners.

We can now see with hindsight that this early modelling based on assumptions of a fairly pure spatial diffusion process led by migrants could not be sustained. In particular the sociologist Jack Caldwell and colleagues (1993) identified the spatial patterning of HIV/AIDS in Africa, and how the spread has not been in all directions, but has been constrained by major ethnographic and cultural factors to have its greatest prevalences in the AIDS belt. He hypothesised, amongst other features, the role of male circumcision, subsequently confirmed by medical epidemiological analysis (Halperin et al., 2002), as one cultural constraint affecting the patterns and rates of spread. What is clear is that this early focus on particular groups, especially migrants, which dominated the early epidemiological literature, gave a particularity that brought the discourse dangerously close to a presumption of 'blame': migrants become familiar and easy scapegoats throughout the world and throughout history, whether for economic decline, crime, social disruption or, as in this case, disease.

However, some of these patterns of the disease were also confirmed by more systematic whole population surveys. Kirunga and Ntozi (1997) report on longitudinal data for Rakai, Uganda, in the original heartland of the disease, up to 1993. They clearly identify difference in sero-prevalence between the trading centre and villages on major routes, and the rural population in general, with rural prevalences typically half those of the trading centres. Amongst other differentials they record major differences by the travel status of the respondents and their partners: the more mobile have much higher prevalences (Table 3). However, they also record higher prevalences among the rich than among the poor, and among the well educated than among the less well educated. The rich and educated are also the most mobile, and at that time, i.e. before the spectacular turn-round in HIV/AIDS prevalence in Uganda from the early-mid 1990s, they were the most vulnerable to the virus, primarily as a result of their more extensive sexual networking.

As the disease spread in Eastern and Southern Africa, prevalence rates have been consistently rising, but differentially. The assumptions of the diffusion model that the pool of infectives would expand to cover the whole population of susceptibles almost equally has proved to be unfounded, as spatial differentials seem to be sustained. In particular there seems to be a consistent rural-urban difference that has been sustained over time and in most African countries. Tim Dyson (2003) shows that in most countries in eastern and southern Africa rural prevalence rates are generally about half those of urban rates, regardless of the overall level, which ranges from less than 10 percent to over 30 percent. Recent surveillance data for Uganda indicate that rural and urban rates have fallen in equal proportions since the 1990s: rural rates of 4.2 per

cent were still at about half the urban rates of 8.8 per cent in 2001, and a estimated national rate of 6.8 per cent (Gould, 2004).

Such a consistent pattern of rural-urban differentials in the region over time does not seem to support the presumption of a migration-led epidemiology. Given the contemporary national migration systems of the region, dominated as they are by temporary or periodic rural-urban movement to large primate cities rather than rural-rural movement, temporary or permanent (Gould, 1995), then a narrowing of the rural-urban gap would be expected if the epidemic were to be migration-led. Migrants returning from the early urban foci of the disease move to rural areas would be more likely to be HIV+ as a result of their having been in living and working or seeking work in town. They return to their rural homes and then infect their regular and other sexual partners. While it does seem to be the case that migrants are more likely to be HIV+, e.g. from Kitunga and Ntozi's data (Table 3), this does not seem to be critical in spreading the disease disproportionately away for the urban foci.

In part this continuing rural-urban gap will be due to the fact that migrants are more likely to know about HIV/AIDS and to adjust their behaviour accordingly – i.e. to use condoms or to have fewer sexual partners. Many DHSs have asked questions on knowledge of and attitudes to HIV/AIDS, and these can be indirectly differentiated by migrant status through questions on place of residence when they are young and place of residence at the time of survey. In Nigeria, for example, rural-urban, urban-rural and urban-urban migrants are more likely than urban or rural natives to know the causes of HIV/AIDS and how it can be avoided, and are more likely to use condoms and to have fewer sexual partners (Table 4) (Ekaka, 2004). Using data from Northern Province, South Africa, an area of very high rates of circular migration, Wolff (2002) his demonstrated that migrant and non-migrant men were little different in their sexual behaviour (number of non-regular partners, use of condoms), as well as their knowledge of and attitudes to the disease. In this mature stage of the epidemic, the pool of infectives is much broader than mainly migrant groups. The epidemiology of the disease is structured by rather different processes than it was at its earlier stages.

A typology of mobility generated by HIV/AIDS

HIV/AIDS has become so all-encompassing for individuals, household and communities in the region that it seems to generate new forms and different mixes of population mobility. This section of the paper briefly identifies and synthesises the various forms of mobility that seem to have been associated with HIV/AIDS in Eastern and Southern Africa. The synthesis invokes general typology of population mobility that differentiates between circular and permanent moves on one axis and combinations of rural and urban destinations on the other (Gould and Prothero, 1975). It does so separately for those directly afflicted by the virus and those household and kin members affected by the disease condition of their kin (Table 5).

There are two very distinctive forms of mobility generated by persons with HIV/AIDS: the mobility generated in their health seeking behaviour to deal with and seek to alleviate or eliminate is effects, and the mobility generated near or after death by people returning to their home areas (Table 5a). The first of these in the progression of the disease will be when symptoms are first evident or a test had proved positive. For most people in Eastern and Southern Africa living in rural areas, the initial health seeking and testing will involve journeys to clinics, themselves in

rural areas in the first instance, but increasingly in rural-urban movement for more specialist testing and treatment to larger centres and towns where the more specialist treatment is available, either from individual medical practitioners or else, and an increasingly important distributional issue, where ARV or HAART therapies are available. Since urban populations generally enjoy much better access to good facilities and treatment, health-seeking behaviour becomes increasingly a form of circular movement to and among urban centres. However, since in Africa there is still considerable recourse to traditional healers and traditional medicines in the range of possible perceived therapies, this may generate some urban-rural reverse circulation as the traditional healers will be disproportionately available in rural areas.

As the disease progresses from relatively symptomless HIV positivity into full-blown AIDS and individuals are no longer able to work or to carry on with their established livelihoods, their mobility may cease. For most people this will mean retreat into their own homes. However, for those who are already migrants, especially in urban areas and therefore living away from where they consider 'home', there may be a wish to return to that rural 'home' where they can expect to have better domestic care and where they would wish to die. The strength of cultural norms throughout Eastern and Southern Africa is such that 'home' is a traditional rural source area, even though that person may bay lived and worked in town for many years. Urban-rural retirement migration has become very commonplace throughout the region, and so migration at or near death is a logical extension of this established practice. This may involve substantial expense, but urban churches and other community organisations typically provide credit and support for taking bodies 'home' to rural areas or to some other town for burial and traditional funeral rites, e.g. in Tanzania (Mbonile, 2004).

Funerals are major cultural occasions in Africa, and, despite the great growth in the number of adult funerals brought on by the HIV/AIDS epidemic, they remain strongly felt significant indicators of respect for kin. For household members and other kin of someone who has died of AIDS a burial at a rural home may occasion substantial temporary circular migration of kin, often from the major towns, perhaps where the deceased lived, and other centres to the place of burial for a period of celebration and traditional ceremony. Many economic studies of the effects of HIV/AIDS record the economic effects of frequent absenteeism often for as much as one week to attend funerals, often at several days distance from place of work.

Partners and dependents of those who die or who move back to rural areas when they are too ill to survive in town may also have a permanent move to the rural 'home'. They may spend a period as a primary carer of an ill person. However, many carers will be other kin, often younger girls or orphans, who may not be migrants, but inhabitants of the rural home area (Robson, 2000; Young and Ansell, 2003).

One clear focus of mobility associated with the households of those who die from HIV/AIDS is the prospect of substantial changes in composition of households: some households lose their cohesion on the death of the household head and may dissolve, with spouse and children of the deceased having different social obligations; others may gain labour to replace the loss of one member, perhaps with the 'fostering' of the much increased number of orphans. These are likely to be 'permanent' moves, in that there is no sense of the timing or direction of any future move into another household,

and those who move into existing households establish their niche within the household economy.

Overall it is apparent that there are new mixes of forms of movement in HIV/AIDS affected populations. The funeral industry is booming everywhere in the region, in urban as well as rural areas, and coffins are now a very familiar feature in long-distance travel. The mobility generated by the excess mortality is clearly of major economic as well as social importance. However, on a smaller and more local scale the mobility generated by household collapse and restructuring will be a major coping mechanism to ensure social survival in the face of the potentially catastrophic economic effects of increased adult mortality.

The rest of this paper now turns to identify two quite different sets of activities being undertaken on mobility and HIV/AIDS relationships in Eastern and Southern Africa associated with the Department of Geography in the University of Liverpool. The first of these reports on one of the initial research proposals of a network of scholars from the region established by the Commonwealth Geographical Bureau; the second summarises the results of a project on the impacts of HIV/AIDS on the demand for schooling in Tanzania and how that demand is differentiated by type of area.

Rural-urban interaction and behaviour change
Individual scholars from the 12 Commonwealth countries of Eastern and Southern Africa (Uganda, Kenya, Tanzania, Malawi, Mozambique, Zambia, Zimbabwe, Namibia, Botswana, Swaziland, South Africa, Lesotho), together with the present author as initial facilitator, have been brought together under the aegis of the Commonwealth Geographical Bureau to seek, in part, to develop a research agenda for the social sciences on HIV/AIDS. Members of the network have all produced country papers, synthesizing HIV/AIDS research in the social sciences in their country, and these will soon be available on web-site format, as will the *Statement of Best Practice in HIV/AIDS research in the Social Sciences* that the group formulated during discussion at its two workshops (in Pretoria, South Africa, June 2003, and in Machakos, Kenya, May 2004). Various initiatives of the group as a whole and sub-groups within it are proposed, but of particular relevance to this discussion is the development by a sub-group of seven of these scholars (Prof. Elias Ayiemba, Univ. of Nairobi, Kenya; Dr Gideon Rurtaremwa, Makerere Univ., Uganda; Prof. Milline Mbonile, Univ. of Dar es Salaam, Tanzania; Dr Jacob Malungo, Univ. of Zambia; Dr John Kadzandira, Univ. of Malawi; Dr Carlos Arnaldo, Eduardo Mondlane Univ., Mozambique; Dr Nomcebo Simelane, Univ. of Swaziland) of proposals for research on *Rural-urban interaction and behaviour change in Eastern Africa.*

The seven countries that will be the focus of this work (Uganda, Kenya, Tanzania, Zambia, Malawi, Mozambique, Swaziland) have many relevant features in common, such that they provide a strong context for comparative integrated work:
- They are all high HIV/AIDS prevalence countries, and all publicly acknowledge the current severity of the epidemic, to the extent that HIV/AIDS is explicitly 'mainstreamed' into the development effort in all of them, with strong National AIDS Commissions directing programmes. In all urban prevalence rates remain substantially in excess of rural rates.
- They are all poor countries, among the 40 poorest in the world on both World Bank GNP and UN Human Development Index rankings. Infrastructure,

including health care is seriously weak, and development prospects, even without the HIV/AIDS epidemic, are not bright.

- They are all countries characterised by high population mobility, disproportionately circular and temporary rather than permanent. While in the 1960s and 1970s, there was substantial rural-rural movement in government-sponsored resettlement schemes, movement is now dominated by very high rates of rural-urban migration. The majority of the population are still living in rural areas (Zambia, 36 per cent urban, is the most urbanised, but most others have less than 20 per cent urban), with substantial urban growth, with urban employment growth largely in the informal sector. The major cities can no longer been seen primarily as cities of migrants, in that more than half their inhabitants are urban-born. However, there is still a great deal of rural-urban interaction and temporary urban residence, especially in the face of continuing rural population growth (typically at over 2 per cent per year) and a seriously depressed rural economy.

Given this substantial rural-urban interaction, with constant interflow of migrants, disproportionately young, both men and women, it is indeed surprising that the gap between rural and urban HIV prevalence rates remains high, and has not fallen, even in Uganda where there has been a substantial fall in overall prevalence rates from over 10 percent in 1992 to an estimated 5 per cent in 2004. Spatial diffusion theory might have predicted a narrowing of the gap as the large pool of urban infectives affected the large number of rural susceptibles, who in their turn would affect other rural inhabitants.

That this has does not seem to have happened is hypothesised by the CGB group to be largely due to behavioural differences between urban and rural populations, and between migrants and natives of both rural and urban areas, in matters of sexual behaviour, in sexual networking, in condom use and in age of sexual debut. We now know that the major cause of the fall in prevalence rates in Uganda was primarily due to a sharp decline in the number of sexual partners, rather than an increase in use of condoms, though there has been a rise in age of sexual debut. Rates of sex with a non-regular partner fell dramatically in Uganda from 1989 (34 per cent males; 16 per cent females) and 1995 (13 per cent males, 5 per cent females) (Stoneburner and Low-Beer, 2004). Had condom use been the critical variable, and we know that condom availability and use are distinctly urban biased (Kirunga and Ntozi, 1997), then the outcome might have been different.

Here, as elsewhere in the region, there is strong social as well as economic interaction between rural and urban areas. This is manifest not only in population mobility in its various forms - to seek work, to retire to rural areas, to live out long periods of illness supported by family care, and to die – but also in economic and social exchanges – of knowledge, attitudes and cultural norms. Since rural areas in much of Uganda are not culturally isolated or 'traditional', to be juxtaposed against an urban 'modern' sector, falling rural prevalences are indeed consistent with falling urban prevalences, driven by the change in sexual networking in rural as well as urban areas. The rural/urban 'geography' of HIV/AIDS does not mean a binary divide during substantial overall decline in prevalence; urban rates have remained about twice the rural rates.

Behavioural change elsewhere seems much more elusive. Knowledge of HIV/AIDS may not be as high as it is in Uganda, despite many campaigns and media messages,

and there may be social and political constraints on its having public prominence as a national issue for open discussion. The knowledge/behaviour gap remains wide. The proportions of the populations having sex with non-regular partners remained high in Kenya, Malawi and Zambia into the mid 1990s (Stoneburner and Low-Beer, 2004). If any of these countries were to follow Uganda into a substantial decline in sero-prevalence rates, would a parallel decline in rural and urban rates also be expected? Given the functional integration between the 'rural' and the 'urban' in southern Africa, as in Uganda, the answer might be expected to be positive.

In order to address issues of differential behavioural change on a comparative basis, the CGB group is seeking to develop an internationally transferable methodology for exploring migrant/non-migrant differentials in prevalence and knowledge and behaviour, to examine risk behaviour and coping strategies of the various groups. It will seek to identify patterns of movement and sexual networking of carriers of the virus, including their health-seeking behaviour, in order to assess the 'risk' of mobility and migration as factors in the spread of the disease.

This will require a quantitative methodology for collecting data in a national sample survey, but with samples clustered in order to separately identify rural and urban populations and migrants. This will need to be complemented by in-depth qualitative investigations from a purposively sampled small sub-group of this larger sample. Such a methodology will allow the research results to rise above the particular cases of specific migrant groups, as identified in the opening section of this paper, to systematically explore whether and to what extent migrants have distinctive knowledge and behaviours that will affect the rates, patterns of spread of the disease.

Local impacts and local geography: the case of orphans and schooling
The impacts of HIV/AIDS are wide-ranging where prevalence rates are high, and are likely to be related in their intensity to that rate: the higher that rate the greater the economic and social impacts. However, it can be expected that for any given overall prevalence, the impacts can vary geographically. The local impacts are generally felt economically through their effects on labour and production, and these can expected to be different, for example, between rural agricultural areas in eastern Africa, where family and communal labour predominates, and urban areas, where wage labour and a cash economy predominates. They are generally felt in social terms within the household, in changing gender and generational relationships with HIV/AIDS, for caring and for domestic work. These too may differ between different milieux: in rural areas, source of most migrants in the region, households are generally larger, and caring relationships more likely to be underpinned by traditional cultural norms; in urban areas, the destination of most migrants, households are more likely to be nucleated or single generation with less scope for sharing the economic support and caring burdens associated with HIV/AIDS.

Orphans, and especially AIDS orphans, are widely seen as being singularly disadvantaged in most respects: orphans are more likely to live in poorer households, are more likely to be 'abandoned' or become street children, are more likely to drop out of school, and more likely to need to become economically self-sufficient at an early age, and to themselves become migrants, the most apparent component of the household disintegration and reintegration process identified above. This caricature has been the subject of much research, including how this picture of systematic

impoverishment might differ between rural and urban areas. The evidence of some research findings, gathered in conjunction with Dr Ulrike Huber, derived from our larger DFID-funded study of the impacts of HIV/AIDS on the demand for schooling in Uganda and Tanzania (Gould and Huber 2002, 2003; Huber and Gould, 2003) is directly relevant to the broader rural-urban and migration focus of this paper.

The data were gathered from a sample of 12 primary schools, six each in Iringa and Dodoma districts, but structured to select two urban schools, two roadside schools and two rural schools in each district. The sample was also structured by school attendance category (regular attenders, irregular attenders, dropouts and never attenders) to address the problems assessing of social demand for schooling. We have no direct information on HIV/AIDS prevalence patterns, but these were expected to conform to the expectation from national sentinel data sources of higher rates in towns, with lower prevalence in the roadside settlements and lowest in the rural areas, and to be related to HIV rates in the number of orphans.

Initial exploration of the association between orphanhood and primary school attendance yielded inconclusive results. Orphans were found to be more likely than non-orphans to be irregular attenders, dropouts and never attenders, but none of the associations were statistically significant. However, the pattern became clearer when children who have parents who are alive, but who live only with one or none of their parents, identified as 'children from disjointed households', were separately identified. Disproportionately, these are children living in households with absent, migrant parents.

Table 6 examines children's attendance status by whether they live with both parents, whether they are part of a disjointed household or whether they are orphans, and by whether they reside in a rural, roadside or urban settlement. It shows that there is indeed a significant association between orphanhood and school attendance. However, it also shows that children from disjointed households are also a problem group. Being the child from a migrant household brings as high risk of absence overall as being a child from an orphaned household. Table 6 also shows that this varies strongly between geographical areas. The positive relationship between orphanhood and children living in disjointed households and dropout and never attendance is much stronger in roadside settlements and urban areas than it is in rural areas. Children from disjointed households in rural migrant source areas are likely to have a regular attendance record. Absence of a parent as a migrant elsewhere may generate fees for schooling. However, this does not hold for orphans, who still display a weak positive association in rural areas. In urban areas, by contrast, children living in disjointed households are worse off educationally than orphans. School attendance patterns of these two groups seems to vary strongly by their place of residence.

That orphans and children from disjointed families are struggling with their education in roadside settlements and urban areas more than that are in rural areas is initially surprising, since in the country as a whole urban school enrolment rates are much higher (and increasingly so) than rural ones. However, table 7 describes differences in household relationships and educational supports of the children, and also differences in livelihood structures between rural and urban areas.

It is evident from this brief – but inconclusive - discussion of the impacts of HIV/AIDS on orphans and school attendance in two regions of Tanzania that the impacts are far from uniform across different types of geographical areas. The orphan/disjointed household/school attendance relationship is different in rural, roadside and urban locations, but the differentiation is related to how households manage the new social and economic relationships in these areas when faced with HIV effects and AIDS deaths.

Conclusion

It is clear that there has always been a systematic link between mobility and the spread and distribution of HIV/AIDS in Eastern and Southern Africa. However, the strength and relative importance of the link, very clear in the earliest phases of the epidemic, have been changing as the epidemic 'matures' and becomes more generalised across whole populations. These changes present new challenges to the community of population studies scholars for their methodology and approaches that are only now beginning to be addressed. Given the virulence and consequences of the current epidemic and the prospects for it continuing and expanding, it is important that they are urgently addressed. We need to know how migration and migrants are continuing to affect the epidemiology of HIV/AIDS, and how, if at all, our understanding of migrant behaviour can lead to effective interventions to assist control and management of the epidemic and alleviation of its traumatic effects.

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Table 1: National HIV/AIDS comparative data: Eastern and Southern Africa

	HIV+ adults (15-49)	HIV+ women (15-49)	HIV+ children (0-15)	AIDS deaths 2001	*Orphans*	Adult prevalence rate
Ethiopia	1,900.000	1,100.000	300,000	160,000	1,000,000	7.3%
Uganda	510,000	280,000	110,000	84,000	880,000	5.0%
Kenya	2,500,000	1,400,000	220,000	190,000	890,000	15.0%
Tanzania	1,300,000	750,000	170,000	140,000	810,000	7.8%
Mozambique	1,000,000	630,000	80,000	90,000	420,000	12.0%
Malawi	780,000	440,000	65,000	80,000	470,000	15.0%
Zambia	1,000,000	590,000	150,000	120,000	570,000	21.5%
Namibia	200,000	110,000	30,000	13,000	47,000	22.5%
Zimbabwe	2,000,000	1,200,000	240,000	200,000	780,000	33.7%
Botswana	300,000	170,000	28,000	26,000	69,000	38.8%
Swaziland	150,000	89,000	14,000	12,000	35,000	33.4%
South Africa	4,700,000	2,700,000	250,000	360,000	650,000	20.1%
Lesotho	330,000	180,000	27,000	25,000	73,000	31.6%
Total	**16,670,000**	**9,639,000**	**1,684,000**	**1,5000,000**	**6,694,000**	-

Source: UNAIDS, 2002, National Epidemiological Fact Sheets

Table 2: HIV prevalence estimates by data source: Zambia, c.2001

HIV Prevalence rates	Sentinel Survey System (c. 2001)	Demographic and Health survey (2000/1)
Adults	21.5%	15.6%
Males	-	12.6%
Females	31.0%	17.8%
Urban	32.0%	23.1%
Rural	14.0%	10.8%

Source: UNAIDS, 2003, and Zambia DHS, 2001/2

Table 3: Percentage of respondents who are HIV positive by selected criteria: Rakai District. Uganda, 1993

	Number	%	Total
A) by Place of residence			
Trading centre	209	31.3	667
Trading village	135	17.0	794
Rural village	45	13.9	323
B) by Wealth status			
Low	70	16.9	414
Medium	199	22.2	898
High	120	25.4	472
C) by Respondent's travel			
Outside Uganda	36	27.7	130
Outside Rakai	311	23.8	1307
Within Rakai	42	12.5	336
Not travelled	0	0	11
D) by partner's travel			
Outside Uganda	32	36.4	88
Outside Rakai	221	23.4	944
Within Rakai	59	17.3	342
Not travelled	1	9.1	11

Source: Kirunga and Ntozi, 1997

Table 4: HIV/AIDS Knowledge and prevention behaviour by Migrant status, percentages: Nigeria, 2000

	Migrant status						
	Urban natives	Rural natives	R-R migr.	R-U migr.	U-R migr.	U-U migr.	Total
A) Knowledge							
Heard of AIDS	77	58	66	82	84	88	70
AIDS can come through sexual intercourse	44	49	61	59	56	53	52
AIDS can come though sex with multiple partners	43	34	33	36	35	48	38
AIDS can come with not using condoms	5	3	3	9	5	11	5
AIDS can come through mother-child transmission	51	42	50	63	60	64	52
B) Behaviour							
Abstained from sex after haring about AIDS	14	14	16	21	16	18	16
Started using condoms during sex	12	8	8	20	13	22	12
Limit contact to only one partner	45	40	49	45	51	52	46
Avoid sex with prostitutes	19	15	11	16	12	17	15
Ask spouse to be faithful	21	22	27	31	24	28	42

Source: from Ekaka-A, 2004, several tables

Table 5: A typology of HIV/AIDS related mobility

A) Persons living with HIV/AIDS

	Circulation	Migration
Rural-rural	health seeking	
Rural-urban	health seeking	
Urban-rural	health seeking	near death/at death
Urban-urban	health seeking	near death/ at death

B) Household members and kin of persons living with HIV/AIDS

	Circulation	Migration
Rural-rural	Carers; for funerals; household adjustments	Household disintegration and renewal
Rural- urban	Health seeking; testing	Household disintegration
Urban-rural	For funerals	Return with ill/dead partners
Urban-urban	For funerals	Household disintegration and renewal

Table 6   **Primary school attendance by place of residence, parental living arrangement and parental survival status**

		regular attender	irregular attender	drop out	never attender	total
rural	**a) child living with both parents**	40 51.9%	10 52.6%	9 52.9%	7 50.0%	66 52.0%
	b) child in disjointed family	18 23.4%	3 15.8%	3 17.6%	3 21.4%	27 21.3%
	c) orphan	19 24.7%	6 31.6%	5 29.4%	4 28.6%	34 26.8%
	b) and c)	37 48.1%	9 47.4%	8 47.1%	7 50.0%	61 48.0%
	total rural	*77 100.0%*	*19 100.0%*	*17 100.0%*	*14 100.0%*	*127 100.0%*
roadside settlement	**a) child living with both parents**	37 63.8%	10 45.5%	17 38.6%	5 21.7%	69 46.9%
	b) child in disjointed family	**6 10.3%***	**6 27.3%***	9 20.5%♣	**8 34.8%****	49 33.3%
	c) orphan	15 25.9%	6 27.3%	**18 40.9%***	**10 43.5%****	49 33.3%
	b) and c)	21 36.2%♣	12 54.5%♣	**28 62.2%***	**18 78.3%****	79 53.4%
	total roadside settlement	*58 100.0%*	*22 100.0%*	*45 100.0%*	*23 100.0%*	*148 100.0%*
urban	**a) child living with both parents**	30 52.6%	7 43.8%	17 26.2%	6 31.6%	60 38.2%
	b) child in disjointed family	13 22.8	6 37.5%	**26 40.0****	7 36.8%	52 33.1%
	c) orphan	14 24.6%	3 18.8%	**22 33.8%***	6 31.6%	45 28.7%
	b) and c)	27 47.4%	9 56.3%	**48 73.8%****	13 68.4%♣	97 61.8%
	total urban	*57 100.0%*	*16 100.0%*	*65 100.0%*	*19 100.0%*	*157 100.0%*

Notes:

1. ♣, * and ** means significantly different from reference group (child living with both parents) at the 0.1, **0.05** and **0.01** levels respectively (Pearson chi-square).

2. In the tests regular attenders were compared with irregular attenders, and drop outs and never-attenders with attenders (i.e. regular and irregular attenders).**Source: Tanzania Social Demand Survey, Huber and Gould, 2003**