



Ernestina Coast

Local understandings of, and responses to, HIV : rural–urban migrants in Tanzania

Originally published in Social science and medicine, 63 (4) pp. 1000-1010 © 2006 Elsevier B.V.

You may cite this version as:

Coast, Ernestina (2006). Local understandings of, and responses to, HIV : rural–urban migrants in Tanzania [online]. London: LSE Research Online.

Available at: <http://eprints.lse.ac.uk/archive/00000817>

Available online: June 2006

LSE has developed LSE Research Online so that users may access research output of the School. Copyright © and Moral Rights for the papers on this site are retained by the individual authors and/or other copyright owners. Users may download and/or print one copy of any article(s) in LSE Research Online to facilitate their private study or for non-commercial research. You may not engage in further distribution of the material or use it for any profit-making activities or any commercial gain. You may freely distribute the URL (<http://eprints.lse.ac.uk>) of the LSE Research Online website.

This document is the author's final manuscript version of the journal article, incorporating any revisions agreed during the peer review process. Some differences between this version and the publisher's version remain. You are advised to consult the publisher's version if you wish to cite from it.

Abstract

Migration is an important process of change for rural populations in developing countries. Migration is a primary cause of behaviour change – by their very act of migrating, migrants are different from those who do not migrate. The focus of the current study is male rural-urban migration in Tanzania and its interaction with sexual behaviour. The analysis presents results from a comparison with individual-level analyses of two populations, one (composed of recent rural-urban migrants) in an urban area and one in a rural area. Detailed migration histories (n=96 rural-urban migrants) and in-depth interviews (n=96 rural-urban migrants, n=51 rural residents) form the basis of the study. Three key research questions are addressed: How does the sexual behaviour of migrants differ from that of rural residents? How do HIV knowledge levels vary between rural-urban migrants and rural residents? What factors are associated with either intentions of behaviour change or reported behaviour? The results are counter-intuitive: rural-urban migrants – both married and unmarried – are not having sex in town. Despite limited understanding of the nature of HIV, the migrant population studied here regulates its behaviour in a way that reflects local understandings of the disease. This finding is important, not least because it challenges the view that HIV in sub-Saharan Africa is largely transmitted to rural areas by return migrants. Maasai rural-urban migrants in Tanzania – both married and unmarried – are not having sex in town. The policy and service provision implications of the results are explored.

Abstract word count: 241

Keywords: Tanzania, rural-urban migration, HIV, sexual behaviour

Full word count: 6060

Introduction

Migration is an important process of change for rural populations in developing countries. Substantial rural-urban migration occurs throughout sub-Saharan Africa, where over half of the population will live in urban areas by 2025 (Zulu *et al*, 2004). Migration has been identified as an independent individual risk factor for the acquisition of HIV in a wide range of settings (Boerma *et al* 2002; Brockerhoff and Biddlecom, 1999; Hope, 2000; Lagarde, Pison & Enel, 1996; Lagarde, Schim van der Loeff, Enel, Holmgren, Dray-Spira, & Pison *et al*, 2003; Lurie, Williams, Zuma, Mkaya-Mwamburi, Garnett & Sturm *et al*, 2003a, b; MacDonald, 1996; McCoy, Weatherby & Yu, 1999; Nunn, Wagner, Kamali, Kengeya-Kayondo & Mulder, 1995; Pison, Guenno, Lagarde, Enel & Seck, 1993; Simonet, 2004; Soskolne & Shtarkshall, 2002; Zuma, Gouws, Williams & Lurie 2003) and circular migration impacts on the propagation of HIV between communities (Coffee, Garnett & Lurie, 2000).

While the association of migration with patterns of HIV infection is well reported, the factors explaining this relationship are less well understood. A common theme of analyses is the interaction between HIV infection risk and migrant vulnerability. Vulnerability has been operationalised formally elsewhere (see, for example, Tarantola, 1996), and migrant populations rank highly in formal descriptions of vulnerability (Wolffers, Fernandez, Verghis & Vink, 2002). Migration is a two-way process, with implications for the migrant's place of origin, and studies note increased HIV infection risks upon return from migration as a result of improved socio-economic status in the rural area (Poudel, Jimba, Okumura, Wakai, 2004; Chirwa, 1997). Rural partners of migrants have their own sexual networks, the extent and frequency of which might be affected by the duration of the migration (Orubuloye, Caldwell & Caldwell 1993; Lurie, Williams, Sturm, Garnett, Gittlesohn & Abdool Karim, 2000). HIV infection is itself a trigger for migration in a variety of contexts (Hosegood, McGrath, Herbst & Timaeus, 2004; Berk *et al*, 2003; Knodel & Van Landingham, 2003; Young & Ansell, 2003). Rural sending communities can perceive rural-urban migrants to be disease carriers (Castle, 2004; Ososanya & Briger, 1994), and rural-urban migrants are frequently identified as "bridging populations" for HIV transmission between urban and rural areas (Morris, 1997; Nyanzi, Nyanzia & Kalina, 2003), a concept that is not without its critics (Desmond, Allen, Clift, Justine, Mzugu, Plummer & Watson-Jones *et al*, 2005).

The behaviour of individuals vis a vis HIV infection is located within complex socio-cultural settings (Desmond *et al*, 2005; De Jong, 2000) and understanding these complex environments is essential for the development of effective interventions (Luginaah, Elkins, Maticka-Tyndale, Landry & Mathui 2005; MacQueen *et al*, Smith & Watkins, 2005). Migration is one element contributing to socio-cultural complexity, as migrants tend to develop migrant cultures and identities (Bank, 1999; Linares, 2003). Common features of migrant groups include persistent rural-urban linkages (Andersson, 2001), and strengthened kinship or ethnic solidarity (Andersson, 2002; Bruijn & Dijk, 2003, Haan & Rogaly).

There is a paucity of research on pastoralists and HIV/AIDS in Africa (White & Robinson, 2000; Coast, 2002), even though pastoralists account for significant

proportions of the rural population in countries with severe HIV epidemics. Pastoralist livelihood systems are inherently mobile (Bruijn & Dijk, 2003) but until recently most of this migration has been rural-rural. This study focuses on the Maasai, an East African pastoralist population undergoing the same general process of diversification of rural livelihoods that is taking place across sub-Saharan Africa (Bryceson, 1999; Coast, 2002; Ellis, 2000; Iliya and Swindell, 1997; Fratkin, 2001). A recent, but very rapidly growing, rural-urban migration stream for paid employment has been identified (Homewood, Coast & Thompson, 2005; May & McCabe, 2004). The analysis presents results from a comparison with individual-level analyses of two male Maasai populations in Tanzania, one (composed of recent rural-urban migrants) in an urban area and one in a rural area. Most recent behavioural and knowledge research on the effect of migration on the spread of HIV has been based on urban samples, with little data collected on the behaviour of rural men or return migrants, making it difficult to make statements about the relative risk of rural-urban migrants compared to their rural counterparts (see Wolff, Collinson & Tollman, 2002 for an exception).

Three key research questions form the current study:

1. How does the sexual behaviour of migrants differ from that of rural residents?
2. How do HIV knowledge levels vary between rural-urban migrants and rural residents?
3. What factors are associated with either intentions of behaviour change or reported behaviour?

This study does not present data on seroprevalence.

Study context

Male Maasai rural-urban migrants tend to be employed as guards (hereafter, *askari*) partly because they are perceived as fearless and warrior-like by non-Maasai. 90% of Maasai migrants to Dar Es Salaam end up working as *askari*, the remainder work within the tourist industry (Kaunga, 2002). Maasai form a highly visible minority in urban areas and are viewed as an inexpensive and expendable source of labour. Monthly wages range from US\$14 to US\$71 and many Maasai live in unfinished buildings on building sites. 49% of respondents had been in the urban area for less than one year, and 73% less than two years. Men migrated predominantly from the surrounding Arusha region, the longest distance to rural home was estimated at 250km. May & McCabe (2004) suggest that young Maasai men migrate in order to acquire the necessary wealth to marry. Migration for work in the rapidly expanding precious stones mining sector has been documented (Clift, Anemona, Watson-Jones, Kanga, Ndeki, Chungalucha, Gavyole & Ross, 2003).

There is a generally held view among both non-Maasai and educated Maasai that Maasai are extremely traditional and conservative (Rugene & Newbery, 1998). The various conceptualizations of Maasai have tended to rely on images and preconceptions relating to Maasai men, both in historical and contemporary accounts (Hodgson, 1999). Ideas of Maasai traditionalism and conservatism are closely bound together with images of the Maasai male alternately as a fierce warrior or recalcitrant pastoralist. The result is that

service providers (including health and education) tend to consider Maasai as unlikely to accept their services, and therefore tend not to offer services.

Maasai tend to have low levels of HIV/AIDS knowledge (Coast, 2003; Kulzer, 2001), with highly contested language used to describe HIV (Coast, 2003; May & McCabe, 2004). The KiSwahili for HIV is *ukimwi*. The KiMaasai for HIV is *biitia*. Many Maasai believe that HIV is, in fact, an infection of the genitals, *enamuraton*. For KiSwahili-speaking Maasai, the use of the word *ukimwi* appears relatively unproblematic. However, the use of the term *biitia* (literally: to shrink) is highly contested. Many illnesses and diseases are attributed to or described as “shrinking”, and it is assumed by many Maasai that HIV is no different from other diseases that cause weight loss. The role of external perceptions relating to seroprevalence should not be ignored. Talle notes, “locally based rumours of pastoralists being less exposed to HIV transmission, as they are considered to be ‘fresh from the bush’” (1999: 122), noting that “the bush” is generally associated with freedom from disease.

Methodology

Detailed migration histories (n=96 rural-urban migrants), in-depth interviews (n=96 rural-urban migrants, n=51 rural residents) were collected, and all interviews were conducted in KiMaasai by Maasai interviewers. Each interview was tape-recorded, allowing for a more “conversational” style of interview to develop, and for enumerators to reflect on interviews after they were completed. The author was not present at interviews, as the presence of a non-Maasai woman was considered to have potentially jeopardised interview quality and response rates. Any enumerator-administered data collection relies on respondents’ own reports, and attention must be given to the accuracy of reports of behaviours that are extremely intimate and heavily value laden. Issues of validity are of concern, not least because self-reports of sexual behaviour are almost impossible to validate.

Some, largely destitute, Maasai women do migrate to urban areas, but on a much smaller scale compared to Maasai men. Data were only collected from men, and the exclusion of women from the current research is an acknowledged shortcoming. The questionnaire was restricted to heterosexual sexual behaviour, in keeping with strong cultural norms relating to same sex relationships that could jeopardise an interview, and hence completion rates. This cross-sectional research produces a baseline description of the frequency and distribution of behaviours, and for change to be measured, a prospective cohort design would be preferable. Reporting of sexual behaviour to an enumerator will always be fraught with issues of whether the reports are valid (Smith & Watkins, 2005; Herrell, 1991). In this study the levels of reported sexual partners by unmarried men is in keeping with lifetime levels of reported sexual partners for older men, suggesting that the data are reasonably robust. Evidence of behaviour change is examined alongside statements of behaviour change. Reported behaviour change among unmarried men is examined using reports of abstinence and number of sex partners and among married men is examined using reports of extra-marital sex.

The study site for the rural-urban migrants was Arusha municipality and the rural study site was Engare Naibor, a Maasai village served by basic infrastructure and located approximately 30 kilometres from tarred road. The research strategy necessitated purposive rather than random sampling, and the rural-urban migrants were sampled purposively from locations around Arusha. Maasai *askaris* tend to congregate at clearly defined locations during the daytime. Here, they swap news and pass on messages, allowing for news to be passed between the rural and urban areas. By identifying these gathering places, the interviewers were able to recruit Maasai rural-urban migrants to the survey. A completion rate of 94% was obtained. The rural respondents were chosen for interview based upon residence of Engare Naibor, and a 0% refusal rate was achieved. There were no significant differences in the socio-demographic characteristics (marital status [including polygyny], educational level, age distribution and religion) between the urban and rural samples.

Socio-demographic information collected in the questionnaire included respondent's age, religion, years of education, languages spoken, occupation(s), lifetime marital history, sexual history (preceding 12 months) and HIV knowledge (including condom knowledge). Open-ended responses to questions about marriage, sexuality and HIV were tape-recorded and transcribed verbatim. Verbal translation to English was carried out by a KiMaasai-English speaker not involved in the data collection, and the author entered the verbatim translations. Quantitative data were analysed using SPSS (v.13), and qualitative data were organised using N6. A sample of questionnaires (n=10) were re-entered and checked for consistency. The author developed the coding protocol in conjunction with the lead interviewer post-fieldwork, and predominantly reflected the predetermined themes of the interview. The results are presented thematically, integrating quantitative and qualitative data alongside each other. Quotations are used to highlight the themes that were identified in the data: sexual behaviour, HIV knowledge, condom knowledge, condom use, and, behaviour change. The final theme, behaviour change, is analysed in part using logistic regression to examine what factors predict the likelihood that respondents report that they had changed their behaviour in the light of perceived HIV risk. Prior to analysis the independent variables (socio-demographic factors and knowledge indicators) were checked for multicollinearity. The odds ratios presented in Table 5 represent the increase (for values greater than 1.0) or decrease (for values less than 1.0) in odds of a respondent reporting behaviour change relative to no reported behaviour change. The Cox & Snell Pseudo R square value provides information about the percentage of variance explained by the model.

Analyses

The results are presented thematically: sexual behaviour, HIV knowledge, condom knowledge, condom use, and, behaviour change.

Sexual behaviour

Unmarried rural residents reported significantly more sex partners in the preceding 12 months than unmarried rural-urban migrants, and 40% of unmarried rural-urban migrants reported no sex in the preceding 12 months (Table 1).

Of those migrants reporting sex in the preceding 12 months, 95% of all sex partners were located in rural areas, not in town.

“Where I have a girlfriend back home, there is no AIDS, so I don't sleep around with women in town”

(Rural-urban migrant, unmarried, 28 years old, *askari* for 19 months)

“I'm not womanising – at least not in town – home [rural] is different! [Laughs]”

(Rural-urban migrant, 21 years old, *askari* for 13 months)

The giving of gifts or money in return for sex was very rare, and only one rural-urban migrant reported sex with a commercial sex worker (CSW) in the preceding year. The avoidance of CSWs in town was the dominant theme of respondent's discussions about their own personal risk of infection:

“I'm not going to be at risk because I don't like the things that put me at risk, like those women of Arusha Town who like money [*CSWs*]. So I'm not at risk.”

(Rural-urban migrant, married, 1 wife, 32 years old, *askari* for 6 months)

“I've never had sex with a prostitutes, or with anyone who might be a victim of that disease [*HIV*] for that matter, so I can never be at risk of that disease.”

(Rural-urban migrant, unmarried, 35 years old, *askari* for 16 months)

HIV Knowledge

Knowledge of HIV was consistently high (98%) in both rural and urban locations. However, as the contested language surrounding HIV for Maasai demonstrates, simple knowledge “Yes or No” of the disease does not translate into detailed, correct knowledge about its transmission. Unprompted sources of knowledge about HIV (irrespective of knowledge content) revealed significant differences, with urban-rural migrants more likely to have heard radio or seen TV programmes and rural residents more likely to refer to information from friends/relatives (Table 2). The rare reference to written materials (including posters) is not only a reflection of low levels of literacy among Maasai in general, but also the paucity of HIV materials in languages other than English and KiSwahili.

Of respondents reporting it was possible to avoid becoming infected with HIV (80% rural-urban migrants, 69% rural residents), unprompted questioning revealed some significant rural-urban differences in knowledge (Table 3).

21% of those men responding that monogamy was a route to avoid HIV infection were themselves polygynously married at the time of the interview. The high unprompted responses referring to CSWs among rural-urban migrants reflects higher knowledge of and exposure to CSWs. Rural-urban migrants were significantly ($p < .05$) more likely to know that there was no cure for HIV.

Condom knowledge

A series of detailed questions on condom knowledge were asked, from “Do you know what a condom is?” to “Have you ever seen a condom” to “Where have you seen a condom?” to “Can you describe to me in detail how condom works?” The increasing depth of questioning reveals decreasing levels of knowledge (Table 4). For example, whilst 83% rural-urban migrants reported knowing what a condom was, only 20% had seen one and could give a detailed description of its use.

Given the very low penetration of social marketing campaigns into rural Tanzanian areas in general and Maasai areas in particular, it is unsurprising that rural residents are significantly less likely to report ever having seen a condom.

“I’ve never seen nor used a condom, but I’ve heard a lot more about them since I’ve been in town. But when I was in the rural area I heard nothing”

(Rural-urban migrant, unmarried, 17 years old, *askari* for 8 months)

One respondent reported enough curiosity to have bought a packet, and filled a condom with water to see what happened. Several rural-urban migrants had come across condoms as a result of their employer sending them to buy condoms:

“I’ve seen condoms in a packet, because my boss sent me to the shop to collect for him, but I don’t know what’s inside”

(Rural-urban migrant, married, 2 wives, 42 years old, *askari* for 4 months)

Condom use

Most unmarried respondents, both urban and rural report never using a condom. 6% (n=9) respondents report ever having used a condom, and 6 individuals report condom use “always” or “most of the time”. These 6 individuals are interesting to examine in slightly greater depth, although the small sample precludes statistical analyses of correlates of condom use. Their levels of HIV knowledge are high, and all report condom use as a way to reduce infection. All of their current partners were themselves educated – and Maasai – making them relatively unusual for Maasai women. In two cases, where two concurrent partners were reported, condoms were reported as being used with both of the partners. When questioned about their own risk of HIV infection, all regular condom users reported themselves to be at no risk of infection, reinforced by their comments,

“I do what it takes to avoid getting infected. I protect myself”

(Rural resident, unmarried, 24 years old)

“I’m not at risk because I never do sex without a condom. Even my wife I never trust her, because I know that if I am getting out and having sex with other women, then my wife could have another partner outside.”

(Rural-urban migrant, married, 1 wife, 27 years old)

Behaviour change

62% of all respondents reported that they had changed their behaviour since hearing about HIV. Logistic regression analyses (see Methodology above) of predictors

associated with reported behaviour change reveal some significant rural-urban differences (Table 5).

Background socio-demographic factors are not significant predictors of reported behaviour change, with the exception of religion in urban areas, where Roman Catholicism is significantly associated with decreased likelihood of reporting behaviour change relative to traditional religion. References to God – both christian and traditional (*engai*) - are frequent in people's explanations of assessment of personal risk of infection:

“I can't tell you whether I'm at risk or not, because *Engai* is the one who arranges people's deaths. I might be at risk or I might not be. *Engai* knows.”

(Rural-urban migrant, married, 31 years)

Correct knowledge about HIV is strongly associated with reported behaviour change, although the source of that knowledge is not a significant predictor. In both rural and urban settings, the belief that HIV can be cured is significantly associated with a decreased likelihood of reporting behaviour change. In urban areas, knowledge that HIV infection can be avoided is strongly significantly associated with increased likelihood of reporting behaviour change.

Unmarried men reporting behaviour change are significantly more likely to have abstained from sex in the preceding 12 months. When analysed by place of residence, this relationship remains significant ($p < .005$) for rural-urban migrants, but not for rural residents. For those unmarried men reporting behaviour change and sexually active in the preceding 12 months, there is a significant difference in the number of reported sexual partners, ranging from a mean of 2.73 for rural men reporting no behaviour change to 0.87 partners for urban men reporting behaviour change. For married men, both polygynous and monogamous, reporting behaviour change there is no significant difference in the levels of reported extra-marital sex when compared with men reporting no behaviour change. Responses from polygynous men reiterated that the polygynous union was free from infection, even when the respondent himself reported extra-marital sex.

“If my wives stay faithful, then I am safe.”

(Polygynously married man, rural area, reports extra-marital sex)

Discussion

Despite limited understanding of the nature of HIV, the migrant population studied here regulates its behaviour in a way that reflects local understandings of the disease. This finding is important, not least because it challenges the view that HIV in sub-Saharan Africa is largely transmitted to rural areas by return migrants. Maasai rural-urban migrants in Tanzania – both married and unmarried – are not having sex in town. May & McCabe's ethnographic study of rural-urban Maasai migrants in Dar Es Salaam reported similarly low levels of town sex (2004). Comparisons may be drawn with Smith's (2004) research which reveals that young Nigerian migrants do not perceive significant personal

risk of HIV infection because risk of HIV infection is associated with “immoral” non-Christian “others”.

The results draw attention to persistent and strong rural-urban linkages, as evidenced by the high proportion of rural sexual partners reported by migrants, underscoring the blurring of urban-rural boundaries common throughout much of sub-Saharan Africa (Tacoli, 1998; Englund, 2002; Gugler, 2002; Simon, McGregor & Nsiah-Gyabaah, 2004). However, in terms of perceptions of the location of the risk of HIV, the urban-rural interface is clear-cut: HIV is seen as a town problem, not present in rural areas. The choice of sexual partners reflects this cultural logic, evidenced by reports of 95% of sex partners being located in rural areas. Social interactions and group membership are important influences on the speed of reproductive and contraceptive change (Agadjanian, 2001), and migration is itself a powerful social institution (Guilmoto & Sandron, 2001).

The dissonance between people’s knowledge and the extent to which they avoid risk has been described as “one of the most vexing issues for public health workers and social science analysts” (Smith, 2003). In the current study the perception of “risky sex” – itself a complex construction involving both individual- and community-level factors – is being clearly defined by rural-urban migrants. The majority of respondents construct risk at the group level – location and ethnicity – and not at the individual level. Further, risk is reduced to dichotomous values of town versus rural or Maasai versus non-Maasai. This has important implications for the design of intervention programmes, which generally target individuals (Smith & Watkins, 2005).

Sexual behaviour remains the “primary target” of AIDS prevention efforts worldwide (UNAIDS, 1999: 5). However, many authors have argued that sexual behaviour alone is far too narrow a lens through which to examine the experience and behaviour of individuals (Collumbien & Hawkes, 2000; Dixon-Mueller, 1993; MacPhail & Campbell, 2001; Zeidenstein & Moore, 1995). If programmes are to be appropriately designed, there is a need to know the contextual realities of people involved in migration processes, including cultural explanations for and perceptions of morbidity and mortality.

The results underline the importance of developing culturally appropriate HIV policies and interventions for migrants (Poudel *et al*, 2004; Agha & Nchima, 2004; Cheng, 2000; Lagarde *et al*, 2003; Nyanzi *et al*, 2003) that incorporate local understandings of knowledge about HIV (Abril, 2002). For example, the issues that polygynously married men have in problematising polygyny alongside an understanding that an increased number of partners increases overall risk of infection. Issues of access to culturally and linguistically appropriate HIV information are pertinent (Luginaah, Elkins, Maticka-Tyndale, Landry & Mathui, 2005), and the contested vocabulary surrounding HIV/AIDS highlighted here is profoundly important for the development of relevant and appropriate educational materials (see Brenzinger & Harms, 2001 for similar issues in Namibia). However, it is also important to acknowledge the problem of limited institutional capacity to provide services in general for growing urban populations (Zulu *et al*, 2004). Alongside education policies for absent males, there is also a need to take into account

the needs of their partners, who are likely to be rural women (Campbell and Williams, 1999; Hughes, Hoyo, Puoane, Stein & Abdool-Karim, 2000; Upton, 2003).

Gruber and Caffrey suggest, "HIV/AIDS-specific community conflict may become more frequent" (2005:1209). In Maasailand (ole Moono, 2000) and elsewhere (Castle, 2004) the forced testing of rural-urban returnee migrants and the isolation of HIV positive individuals has been suggested. The spatial, temporal, structural and institutional complexities (after Guerny, Hsu & Hong, 2003) of migration add to the complexities of HIV infection prevention in already culturally complex settings and urban migrants are an important target group for national AIDS prevention strategies in many sub-Saharan African countries. This approach is not without its critics, who argue that approaches focussing on individual migrant communities ignore the structural or societal context within which migration occurs (Bloom, Urassa, Isingo, Ng'weshemi & Boerma 2002; Brummer, 2002; Sweat and Denison, 1995; Synergy Project, 2004).

The culturally specific issues identified here are not presented as a barrier to developing strategies for HIV prevention or to behaviour change (Watkins, 2000). Rather, they highlight the need to formulate local prevention policies and strategies that acknowledge local models of sexual behaviour, of which migration is an increasingly important determinant.

References

Abril, D.A., (2002). The involvement of HIV+ migrant workers in the production and distribution of information materials on HIV/AIDS and migration Paper presented at the 14th International AIDS Conference Barcelona, Spain, July7-12th, 2002.

Agadjanian, V. (2001). "Religion, social milieu, and the contraceptive revolution." *Population Studies* 55: 135-148.

Agha, S. and M. C. Nchima (2004). "Life-circumstances, working conditions and HIV risk among street and nightclub-based sex workers in Lusaka, Zambia." *Culture, health and sexuality* 6(4): 283-299.

Andersson, J. A. (2001). "Reinterpreting the rural-urban connection: migration practices and socio-cultural disposition of Buhera workers in Harare." *Africa* 71(1): 82-112.

Andersson, J. A. (2002). "Sorcery in the era of "Henry IV": kinship, mobility and mortality in Buhera District, Zimbabwe." *Journal of the Royal Anthropological Institute* 8: 425-449.

Bank, L. (1999). "Men with cookers: Transformations in migrant culture, domesticity and identity in Duncan village, East London." *Journal of Southern African Studies* 25(3): 393-416.

Berk, M. L., C. L. Schur, et al. (2003). "Migration among persons living with HIV." *Social Science and Medicine* 57: 1091-1097.

Bloom, S.S.M., Urassa, R., Isingo, J., Ng'weshemi, J. & Boerma, T.(2002). Community effects on the risk of HIV infection in rural Tanzania, *Sexually Transmitted Infections*, 78(4), 261-266.

Boerma, J.T. Urassa, M.. Nako, S. Ng'Weshemi, J. Isingo, R. Zaba, B. Mwaluko, G., (2002). Socio-demographic context of the AIDS epidemic in a rural area in Tanzania with a focus on people's mobility and marriage *Sexually Transmitted Infections*, 78 Suppl (1), 97-105.

Brenzinger, M., & Harms, G. (2001). HIV/AIDS threat and prevention in marginalised ethnic groups: GTZ.

Brockerhoff, M. & Biddlecom, A.E. (1999). Migration, sexual behaviour and the risk of HIV in Kenya *International Migration Review*, 33(4), 833-856.

Bruijn, M. d. and H. v. Dijk (2003). "Changing population mobility in west Africa: Fulbe pastoralists in central and South Mali." *African Affairs* 102: 285-307.

Brummer, D., (2002). Labour migration and HIV/AIDS in southern Africa: IOM.

Bryceson, D.F. (1999). 'African Rural Labour, Income Diversification and Livelihood Approaches: A long term development perspective.' *Review of African Political Economy*, (80), 171-189.

Campbell, C. & Williams, B. (1999). Beyond the biomedical and behavioural: Towards and integrated approach to HIV prevention in the South African mining industry *Social Science and Medicine*, 48(11), 1625-1639.

Castle, S. (2004). Rural children's attitudes to people with HIV/AIDS in Mali: the causes of stigma *Culture, health and sexuality*, 6(1), 1-18.

Cheng, S. (2004). "Interrogating the absence of HIV/AIDS interventions for migrant sex workers in south Korea." *Health and Human Rights* 7(2): 193-204.

Chirwa, W.C. (1997). Migrant labour, sexual networking and multi-partnered sex in *Malawi Health Transition Review*, 7(3), 5-15.

Clift, S. Anemona A, Watson-Jones D, Kanga Z, Ndeki L, Chagalucha J, Gavyole A, & Ross, D.A. (2003). Variations of HIV and STIS prevalence within communities neighbouring new goldmines in Tanzania: *importance for intervention design Sex Transm Infect*, (79), 307-312.

Coast, E. (2002). Maasai socio-economic conditions: cross-border comparison *Human Ecology*, Vol. 30 No. 1 (pp.79-105).

Coast, E. (2003). 'Wasting sperm: The cultural context of condom use among the Maasai of Northern Tanzania' Paper presented at The International Union for the Scientific Study of Population Workshop on Taking Stock of the Condom in the Era of HIV/AIDS, University of Botswana, 13-17 July 2003.

Coffee, M. Garnett, G.P. & Lurie, M. (2000). Modelling the impact of circular migration on the rate of spread and the eventual scale of the HIV epidemic in South Africa Paper presented at the 13th International AIDS Conference, Durban, South Africa, 9-14th July, 2000.

Collumbien, M. & S. Hawkes (2000). Missing men's messages: does the reproductive health approach respond to men's sexual health needs? *Culture, health and sexuality*, 2(2), 135-150.

Desmond, N., C. F. Allen, S. Clift, B. Justine, J. Mzugu, M.L. Plummer, D. Watson-Jones, D. & Ross, A. (2005). A typology of the groups at risk of HIV/STI in a gold mining town in north-western Tanzania: *Social Science and Medicine*, (60), 1739-1749.

Dixon-Mueller, R. (1993). The sexuality connection in reproductive health *Studies in Family Planning*, 24(5), 269.

Ellis, F., (2000). Rural Livelihoods and diversity in developing countries. Oxford: University Press.

Englund, H. (2002). "The village in the city, the city in the village: migrants in Lilongwe." *Journal of Southern African Studies* 28(1): 137-154.

Fratkin, E. (2001). "East African pastoralism in transition: Maasai, Boran and Rendille cases." *African Studies Review* 44(3): 1-25.

Guerny, J. du, L. Hsu, N & Hong C. (2003). Population movement and HIV/AIDS: the case of Ruili, Yunnan, China United Nations Development Programme 9UNDP), South East Asia HIV and Development Programme: (pp.28) Bangkok, Thailand.
<http://www.hiv-development.org/text/publications/RuiliModel.pdf>
Accessed 30/12/2004 10:50am

Gugler, J. (2002). "The son of the hawk does not remain abroad: the urban-rural connection in Africa." *African Studies Review* 45(1): 21-41.

Guilmoto, C. Z. and F. Sandron (2001). "The internal dynamics of migration networks in developing countries." *Population* 13(2): 135-164.

Haan, A. d. and B. Rogaly "Introduction: migrant workers and their role in rural change." *Journal of Development Studies* 38(5): 1-14

Herrell, R.K. HIV/AIDS research and the social sciences (1991). *Current Anthropology* Vol. 32, No. 2. (pp.199-203).

Hodgson, D. L. (1999). 'Once intrepid warriors: modernity and the production of Maasai masculinities.' *Ethnology*, (38), 121-150.

Homewood, K. Coast, E & Thompson, M. (2005). In-migrants and exclusion in east African rangelands: access tenure and conflict *Africa*, 74(4).

Hope, K.R. (2000). Mobile workers and HIV/AIDS in Botswana *AIDS Analysis Africa*, 10(4), 6-7.

Hosegood, V.N. McGrath, K. Herbst, I. & Timaeus, M. (2004). The impact of adult mortality on household dissolution and migration in rural South Africa *AIDS*, 18(11), 1585-1590.

Hughes, G. Hoyo, C. Puoane, T. Stein, Z. & Abdool-Karim, S.S (2000). Rural South African women and their risk for undetected sexually transmitted diseases and HIV infection. Paper presented at the 13th International AIDS Conference, Durban, South Africa, 9-14th July, 2000.

Iliya, M., & Swindell, K. (1997). 'Winners and losers: household fortunes in the urban peripheries of Northern Nigeria.' (pp 85-100) in D. Bryceson and V. Jamal Farewell to farms. De-agrarianisation and employment in Africa. Ashgate: Aldershot.

Jong, G. F. de (2000). "Expectations, gender, and norms in migration decision-making." *Population Studies* 54: 307-319.

Kaunga, J. Ole (2002). The living and working conditions of urban-based indigenous peoples: the case of the Maasai of Tanzania *Indigenous Affairs* Vol 3-4:9-15.

Knodel, J. & Van Landingham, M. (2003). Return migration in the context of parental assistance in the AIDS epidemic: the Thai experience *Social Science and Medicine*, 57(2), 327-342.

Kulzer, J. L. (2001). Socio-cultural norms and acceptability of HIV/AIDS prevention strategies among the Maasai of Simanjiro District, Tanzania Unpublished Master's Thesis, University of Washington.

Lagarde, E. Pison, G. & Enel, C, (1996). A study of sexual behaviour change in rural Senegal: *Journal of acquired immune deficiency syndromes and human retrovirology*, 11(3), 282-287.

Lagarde, E.M. Schim van der Loeff, C. Enel, B. Holmgren, R. Dray-Spira, G. Pison, J.P. Piau, V. Delaunay, S. M'Boup, I. Ndoye, M. Cœuret-Pellicer, H. Whittle & Aaby, P. (2003). Mobility and the spread of human immunodeficiency virus into rural areas of West Africa *International Journal of Epidemiology* (32), 744-752.

Linares, O. F. (2003). "Going to the city...and coming back? Turnaround migration among the Jola of Senegal." *Africa* 73(1): 113-132.

Luginaah, I., Elkins, D. Maticka-Tyndale, E. Landry, T. & Mathui, M. (2005). Challenges of a pandemic: HIV/AIDS-related problems affecting Kenyan widows *Social Science and Medicine*, (60), 1219-1228.

Lurie, M., Williams, B. Sturm, A.W. Garnett, G. Gittlesohn, J. & Abdool Karim, S.S. (2000). Migration and the spread of HIV in southern Africa: prevalence and risk factors among migrants and their partners, and non-migrants and their partners Paper presented at the 13th International AIDS Conference, Durban, South Africa, 9-14th July, 2000.

Lurie, M. N., Williams, B. Zuma, K. Mkaya-Mwamburi, D. Garnett, G. P. Sturm, A.W. Sweat, M. D., J. Gittelsohn & S. S. Abdool Karim (2003a). The impact of migration on HIV-1 transmission in south Africa: a study of migrant and non-migrant men and their partners *Sexually transmitted diseases*, 30(2), 149-156.

Lurie, M. N., Williams, B. Zuma, K. Mkaya-Mwamburi, D. Garnett, G. P. Sturm, A.W. Sweat, M. D., J. Gittelsohn & S. S. Abdool Karim (2003b) Who infects whom? HIV concordance and discordance among migrant and non-migrant couples in South Africa. (2003). *AIDS*, (17), 2245-2252

MacDonald, D. S. (1996). Notes on the socio-economic and cultural factors influencing the transmission of HIV in Botswana *Social Science and Medicine*, 42(9), 1325-1333.

MacPhail, C. & C. Campbell (2001). 'I think condoms are good but, aai, I hate those things': condom use among adolescents and young people in a southern African township *Social Science and Medicine*, (52), 613-1627.

MacQueen, K. M., T. Nopkesorn, et al. "Alcohol consumption, brothel attendance, and condom use: normative expectations among Thai military conscripts." *Medical Anthropology Quarterly* 10(3): 402-423.

May, A. and J. T. McCabe (2004). "City work in a time of AIDS: Maasai labor migration in Tanzania." *Africa Today* 51(2): 3-32.

McCoy, V., N. Weatherby, et al. (1999). "The effect of migration patterns on exposure to HIV prevention in a migrant community." *Population Research and Policy Review* 18: 155-168.

Moono, Ole. (2000). HIV/AIDS status and awareness among the Maasai in the Ngorongoro Conservation Area (NCA) Unpublished paper prepared for ERETO.

Morris, M. (1997). Sexual networks and HIV *AIDS* 11(Suppl. A) S209-S216.

Nunn, A. J. Wagner, H.U. Kamali, A. Kengeya-Kayondo, J.F. & Mulder, D.W. (1995). Migration and HIV-1 seroprevalence in a rural Ugandan population *AIDS* (9), 503-506.

Nyanzai, S. Nyanzia, B. & Kalina, B. (2003). Urban husbands with rural wives: migration, employment and sexual health in a high HIV risk areas in Uganda *Urban Health and Development Bulletin*, 6(1-2), 79-86.

Orubuloye, I. O., Caldwell, P. & Caldwell, J. C (1993). The role of high-risk occupations in the spread of AIDS: Truck drivers and itinerant market women in Nigeria *International Family Planning Perspectives*, 19(2), 43-48.

Ososanya, O.O. & Brieger W. R (1994). Rural-urban mobility in south-western Nigeria: implications for HIV/AIDS transmission from urban to rural communities *Health Education Research*, 9(4), 507-518.

Pison, G. Le Guenno, B. Lagarde, E. Enel, C. & Seck, C. (1993). Seasonal migration: a risk factor for HIV infection in rural Senegal *AIDS* , 6(2), 196-200.

Poudel, K.C. Jimba, M. Okumura, J. & Wakai, S. (2004). Migrants' risky sexual behaviours in India and at home in far western Nepal *Tropical Medicine and International Health*, 9(8), 897-903.

Rugene, N. & Newbery, B. (1998). No more sleeping with the enemy. *New Statesman*, Dec: 67-68.

Simon, D., D. McGregor, et al. (2004). "The changing urban-rural interface of African cities: definitional issues and an application to Kumasi, Ghana." *Environment & Urbanisation* 16(2): 235-247.

Simonet, D. (2004). "The AIDS epidemic and migrants in South Asia and South-East Asia." *International Migration* 42(5): 35-67.

Smith, D. J. (2004) "Youth, sin and sex in Nigeria: Christianity and HIV/AIDS-related beliefs and behaviour among rural-urban migrants" *Culture, health and sexuality*, 6(5), 425-437.

Smith, K.P. & Watkins, S.C. (2005). Perceptions of risk and strategies for prevention: responses to HIV/AIDS in rural Malawi *Social Science and Medicine* (60), 649-660.

Soskolne, V. and R. A. Shtarkshall (2002). "Migration and HIV prevention programmes: linking structural factors, culture and individual behaviour - an Israeli experience." *Social Science and Medicine* 55: 1297-1307.

Sweat, M.D. & Denison, J.A. (1995). Reducing HIV incidence in developing countries with structural and environmental intervention *AIDS* 9 (Suppl A):S251-257.

Synergy Project (2002) Keeping up with the movement: preventing HIV transmission in migrant work setting. University of Washington, Center for Health Education and Research pp. www.synergyaids.com

Tacoli, C. (1998). "Rural-urban interactions: a guide to the literature." *Environment and Urbanisation* 10(1): 147-166.

Talle, A., (1999). Pastoralists at the border: Maasai poverty and the development discourse in Tanzania. Anderson, D.M. & Broch-Due, V. The poor are not us: poverty and pastoralism in eastern Africa.. James Currey: Oxford.

Tarantola, D., (1996). Mann, J.M. & Tarantola, D. (Eds) *AIDS in the world II: global dimensions, social roots and responses.* (pp.427-476). New York: Oxford University Press.

Tweedie, I. & Lemba, M (1996). Perceptions of health providers, family planning, and contraceptives in Zambia: Smoke that Thunders. Johns Hopkins School of Public Health, Center for Communication Programs.

Upton, R. L. (2003). "'Women have no tribe" Connecting gender, carework and migration in an era of HIV/AIDS in Botswana." *Gender and Society* 17(2): 314-322.

Watkins, S. C. (2000). "Local and foreign models of reproductive in Nyanza Province, Kenya." *Population and Development Review* 26(4): 725-759.

White, J. & E. Robinson (2000). HIV/AIDS and rural livelihoods in sub-Saharan Africa. *NRI Policy Series* (6)

Wolff, B., Collinson, M. Tollman, S. (2002). Safer at home? Male labour migration and HIV risk behaviour in South Africa from a rural perspective Paper presented at the 14th International AIDS Conference Barcelona, Spain, July7-12th, 2002.

Wolffers, I, Fernandez, I. Verghis, S. & Vink, M. (2002). Sexual behaviour and vulnerability of migrant workers for HIV infection *Culture, health and sexuality*, 4(4), 459-473.

Young, L. & Ansell, N. (2003). Young AIDS migrants in southern Africa: policy implications for empowering children *AIDS Care*, 15(3), 337-345.

Zeidenstein, S. & Moore, K. (eds) (1995). Learning about sexuality: A practical beginning New York: The Population Council.

Zulu, E., Doodoo, F.N. Ezeh, A.C. (2004). Urbanization, poverty and sex: roots of risky sexual behaviours in slum settlements in Nairobi, Kenya in HIV and AIDS in Africa: beyond epidemiology (pp.176-174) (eds.) Kalipeni, E. Craddock, S. Oppong, J.R. Ghosh, J. Blackwell Publishing: Mass.

Zuma, K. Gouws E., Williams B., Lurie M. (2003). Risk factors for HIV infection among women in Carletonville, South Africa: migration, demography and sexually transmitted diseases *International Journal of STDs and AIDS*, 14(12), 814-817.