

A woman wearing a traditional plaid shawl is walking away from the camera on a dirt path. She is carrying a large basket on her head and a bag on her hip. The background is a bright, hazy landscape.

Migration and changing settlement patterns

Multilevel data for policy

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Pali Lehohla
Statistician-General

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Authors: **Mark Collinson** (Agincourt MRC/Wits University Rural Public Health & Health Transition Research Unit), **Pieter Kok** (Human Sciences Research Council) and **Michel Garenne** (IRD & Pasteur Institute, Paris, France)

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Introduction

This report takes a multilayered look at some of the spatial demographic processes associated with internal migration. Migration, i.e. people changing residence, leads to population redistribution and is an under-researched but nevertheless key element of population dynamics. Importantly, it is a study of movement in *time* and *space*, both of which are sensitive to the scale of observation, i.e. they look different depending on one's perspective. The challenge is made harder by a lack (or limit) of data available for the study of migration. Census '96 started to fill the data gap [1] and Census 2001 built on this foundation. This report starts with an analysis of Census 2001 data to examine changing settlement types on a national scale. Then a second data source is introduced that will enable us to move to smaller scales than those accommodated by the national census. This additional data set, is the Agincourt Health and Demographic Surveillance System (HDSS)¹, a twelve-year-old study based in Bushbuckridge in the Bohlabela district of Limpopo. This offers not only higher resolution at smaller scales of settlement change, but also, through its longitudinal nature, provides an expanded, i.e. a *de jure*, household definition. This enables us to account for temporary migration as a component of settlement change, as well as reflect on links between settlement types that may account for the persistence of dense rural settlements, despite massive metropolitanisation and rural poverty.

This linking of national census data with district-level population surveillance data is a form of data triangulation that looks at the same phenomenon from different angles, or in this case, different spatial and temporal scales. It is an analysis involving the categorisation of space in three different ways: a 'broad-brush' national picture (section 3); a subprovincial level typology of moves (section 4) and a household level analysis (section 5). Thus, we are telescoping down from the national picture and settlement types that are linked by migration to the subprovince level and village level, and ultimately the household level. At the household level we will describe the phenomenon of temporary migration. The phenomena of migration and settlement change need to be explained as social processes involving people's motivations and expectations, experiences and consequences. This important literature is inadequately examined in the report due to space constraints.

Three questions that can be addressed on this framework are: which places are growing due to migration in South Africa; are rural areas depopulating due to migration; and, what is happening with 'labour migration'?

¹ The Agincourt Health and Population Surveillance System was initiated in 1992 by the Agincourt Health and Population Unit of the School of Public Health, University of the Witwatersrand, now known as the Medical Research Council/Wits Rural Public Health and Health Transitions Research Unit

Literature review

Both migration and urbanisation involve the redistribution of populations. Early debates in the field of settlement change and migration in sub-Saharan Africa concerned 'whether or not migration is a force for development, at both source and destination' [2], or 'the existence of a mobility transition to mirror the demographic transition' [3]. A summary of the findings, in a phrase, is an 'overall settlement concentration', through urbanisation, but also through other means like villagisation programmes in rural areas of Ethiopia, Tanzania, Mozambique, Zimbabwe [2], and also in South Africa through the 'segregationist', 'internal colonisation' policies of the apartheid state [4].

Hania Zlotnik reported on an 'Expert Panel' meeting in 1994 on settlement change and migration [5]. The report stated clearly that in recent times there has been, and still is, an unprecedented level of internal and international migration in human populations. Migration as a component of urbanisation has been a major emphasis of research and policy. Oucho notes that rural-to-urban migration was the main area of interest in the last three decades. But, other directions and flows have also received important policy attention, like urban-to-urban or rural-to-rural migration[2].

Kok and Gelderblom point out the need for adequate planning for urbanisation. This should incorporate a widening from the technical aspects like availability of land for housing, to the human component of the urbanisation process. This includes involving people in the planning process voluntarily and willingly [6]. However, the scale is enormous. Zlotnik quotes the Secretary General of the Expert Group Meeting on Population Distribution and Migration saying that urbanisation was an integral part of the development process but that there were considerable differences between the urbanisation process being experienced by developing countries during the second half of the 20th century and those experienced by the developed world countries a century earlier. In particular the numbers of people involved in the current situation were orders of magnitude higher and the urban areas had smaller productive (i.e. economic) bases than the developed world counterparts in the 19th century [5].

Forces that drive migration are discussed in the literature. There is a key role played by global market forces that concentrate economic opportunity in particular places and not in others, but as powerful as economic forces are, it is not only money and employment that drive migration. Other drives include relative deprivation, which is a form of personal aspiration [7]; and a key concept is migrant networks [8]. Knowing a person in the destination is the mechanism of migrant network [1, 8]. More formally it is a connection of people over space that can be used to facilitate migration. The mechanism of migration has its own momentum and becomes a self-feeding process, renamed by Doug Massey,

‘cumulative causation’. The propensity to migrate grows over time through expansion and intensification of the migrant network [9].

A book that examines the empirical picture of population redistribution and urbanisation based on the Census '96 is Kok et al, ‘Post Apartheid Patterns of Internal Migration in South Africa’ [1]. The basis for this empirical work was national data from Statistics South Africa, primarily the Census '96. In this sense the findings are a precursor to this report, which reports on the same population five years later using a similar data source.

Three fundamental points (among others) arise from the Census '96 work that seem highly informative on population redistribution, namely metropolisation, strength of migration from former homeland areas, and the high levels of temporary migration. These are elaborated below.

Metropolisation: The dominant role of metropolitan areas in urbanisation is highlighted by the fact that (by some measures) three quarters of internal migration is to metropolitan areas. This work stresses the need to look at patterns of migration between non-metropolitan areas and metropolitan areas in South Africa [1].

Long-distance migration from former homelands: Migration flows to Gauteng indicate that distance between the place of origin and destination is a cost incurred by the migrant, and that the distance is essentially a disincentive to migration. However, for residents of the former homeland areas the relationship is a looser one and migrants appear to overcome the distance factor readily [1].

Discriminating migration (proper) and temporary migration: These two types of migration are discriminated as different phenomena because the patterns, the type of people involved and the outcomes are different.

Literature, for example [2], describes that administrative and structural arrangements in a country have a direct and pervasive influence on migration. For this reason, an analysis of settlement patterns in South Africa must reckon with the impact of the apartheid policy, called, by Pieter Kok [6], the ‘Apartheid Urban Regime’. This entailed the following policy approaches now etched in South Africa’s history: ‘the restriction and control of the influx of Africans to towns; attempts to restrict the right of Africans to settle permanently in town; attempts to manipulate the distribution of the population of South Africa by using regional development to attract and keep Africans in the ‘homelands’; purposeful neglect of areas of African urban settlement in order to make them as unattractive as possible for permanent settlement – this extended to destroying areas where Africans enjoyed freehold rights in town and the relocation of urban African settlements behind homeland boundaries’ [6].

What types of settlements exist in the residential profile of the population today? Vibrant, though crime-ridden metropolises, towns ranging in size from 5 000 to 900 000 people experiencing an incredible diversity of development levels, informal urban areas and townships, former homeland areas, ranging from urban to rural through a continuum of population densities, with a high proportion living in remote but densely settled rural communities (a product of forced resettlement). Lastly, farms are a lower density but highly populated settlement type.

A point amplified in the Expert Panel and reported by Hania Zlotnik is that urbanisation is an intrinsic part of economic development [5]. The last two decades have been momentous in the history of South Africa. Major changes have taken place in the arena of politics, with the repeal of the pass laws occurring in 1986 after political struggle was waged against them for over a century [10]; the birth of democracy in 1994; and in macroeconomics, the liberalisation of markets, which, together with a plummeting gold price, have led to a net loss of jobs in the mining sector over this transition period. These changes must have impacted on the settlement patterns in the country. It is important to investigate these changes if we are to understand how they are linked to economic development and how they impact on the health and well-being of the population. The patterns of settlement change are examined in this report using census 2001 and the Agincourt Health and Demographic Surveillance System data.

Triangulation

The difference between the national and the subdistrict picture is not just one of scale. The subdistrict scale allows a longitudinal study design to be developed, which in turn enables a more complex definition of the household in the database. Such households are continually revisited so that data can be continuously updated and corrected. Also, both the respondents and the fieldworkers learn what the definitions mean (in some of the readily encountered complex situations).

The Agincourt household definition is a *de jure* one which means that linked, non-resident household members, i.e. those who have not out-migrated because they are still part of the household, are included on the household roster. Thus it is the smaller scale and longitudinal picture that can enable the monitoring of sub-district migration trends.

Technically, the changing in levels of analysis involves moving from one kind of household definition (*de facto*) to another (*de jure*), replacing national level with subdistrict-level data, and moving from cross-sectional to longitudinal data.

Definitions and data sources

In this section key definitions and data sources are described that underpin the data presented in the report. A further ‘methods’ paragraph is included in each analytic section of the report.

Definitions

The following definitions are described here:

Settlement typology

Migration: permanent and temporary

Households

Settlement typology (*Metropolitan formal; other urban formal; urban informal; former homeland area; commercial agriculture*)

Until 1986, it was government policy to discourage the permanent rural-urban migration of black Africans in South Africa. This contributed significantly to the settlement pattern of the present-day country.

In 1986, JF de V Graaff developed a typology of rural settlements at the Department of Sociology at Stellenbosch University [11]. This formed the basis of a seven-category typology developed by the Urban Foundation [12] that divided South Africa outside the ‘homelands’ into: ‘metropolitan’, ‘small towns’ and ‘rural industry’; and the homeland areas of the time into: ‘rural’, ‘closer settlements’, ‘homeland urban’ and ‘homeland fringe’.

For this report we had to construct a settlement typology that was applicable in the South Africa of 2001, where the homelands had been out of business since 1986. Since democratic freedoms were gained in 1994 the economy also underwent a structural transformation, and the increase in unemployment and under-employment (e.g. informal selling) has influenced the spatial distribution of opportunities and therefore also the people.

The typology had to be constructed with existing data, but pass the following two validity tests: 1) Is each settlement type a part of the settlement pattern of South Africa? and 2) Are there cultural and structural perspectives unique to each settlement type in the typology?

We built a five-point settlement typology and applied it to both current place and previous place of residence. Each of the places were categorised into one of the following categories, which are defined on page 10 of this report.

1. Metropolitan formal
2. Other urban formal
3. Urban informal
4. Former homeland area
5. Commercial agriculture

To compute the settlement type to which each place belonged we required the Census 2001 variables ‘geotype’ and ‘municipality’. The details of the data processing are given in section 3 below.

The links with the Urban Foundation’s classification should be done carefully and against the background of settlement changes that have occurred since 1986. A rough first attempt yields the following:

Our ‘urban informal’ must capture the Urban Foundation’s ‘homeland fringe’, which includes the townships in the former homelands that have pressed towards the metropolitan areas.

The Urban Foundation’s ‘homeland urban’ will fall into ‘tribal area’, which is a simplification, since in our typology ‘tribal areas’ includes a ‘rural-to-urban’ continuum. The data sets used here can support a further breakdown of the ‘tribal area’ into ‘rural’ and ‘urban’, and this is recommended for future work.

‘Other urban formal’ will include ‘small towns’.

Otherwise the fit with the Urban Foundation seems to be fairly good, especially ‘metropolitan’, and ‘formal rural’ settlement types, but these will depend on the definitions of the categories.

There are dangers of oversimplification when working at the national level, but as a ‘broad-brush’ picture we can imagine each of these settlement types having distinct features and each having some policy relevance as a settlement type in its own right.

Migration – permanent and temporary

In their ‘Post-apartheid Patterns of Internal Migration in South Africa’, Kok et al, (2003) suggested a typology of spatial mobility encompassing both circulation and more ‘permanent’ moves [1]. Their typology incorporated more flexible approaches to defining migration, in particular with the inclusion of temporal and spatial elements in the definitions of migration. There were three categories of spatio-temporal mobility which they advocated get serious policy attention in South Africa. These were: ‘short-term labour migration’, ‘long-term labour migration’, and ‘permanent migration’. Similarly, John Oucho and William Gould working for the National Academy of Sciences in the U.S.A, in 1993,

developed a typology of moves that categorised internal migration in sub-Saharan Africa [2]. Essentially, moves were divided into temporary moves (or circulation) and permanent moves (or definitive). The ‘circulation’ occurred at different periodicities, namely periodic, seasonal and long-term. The last axis in the Oucho/Gould typology is the ‘direction’, namely ‘rural-rural’, ‘rural-urban’, ‘urban-rural’, and ‘urban-urban’. Note that dividing settlement categories into the binary typology (urban versus rural) produces four (2x2) categories of direction. This binary division is correctly challenged in the literature as being too simplistic [13]. Our five-point settlement type category improves on this, but the number of ‘directions’ in this slightly more complex typology is 25 (5X5). Along each of these ‘directions’ are definitive and circular moves of different periodicities.

The categories of temporary and permanent migration can be matched by the Agincourt definitions, given below:

Permanent migrant: A person who enters or leaves a household with a permanent intention (more detail given on page 18 of this report), i.e. out-migrating from an Agincourt household or in-migrating into an Agincourt household.

Temporary migrant: A household member who is away the majority of time, but retains a significant link (more detail given on page 27 of this report). This implies that the person is a *de jure* member of the household, but absent for more than six months of a year.

Households – de jure and de facto

The household definition determines who is recorded in the household during data collection. The household data sets had a *de facto* definition in the Census 2001 and a *de jure* definition in the Agincourt HDSS.

The ‘*de facto*’ household definition is a household that includes people physically present at the time of the survey, but excludes linked household members who are not present (Census 2001).

The ‘*de jure*’ household definition is a household definition that includes people physically present at the time of the survey plus linked household members who are not present at the time of the survey. In the AHDSS a household is defined as: ‘The group who reside and eat together, plus the linked temporary migrants, who would eat with them on return.’

Data sources

Census 2001

Census 2001 was the South African national census conducted by Statistics South Africa in October 2001. A migration community profile was obtained based on census data, which contained the 'main place' of residence (2935) and previous 'main place' (2942). This data could inform an analysis of migration and changing settlement patterns by categorising the places of origin and destination into 'settlement types'. The variables used to categorise 'place' into settlement types were 'geotype' and 'municipality'. The details are provided under 'method of analysis' below.

Agincourt Health and Demographic Surveillance System

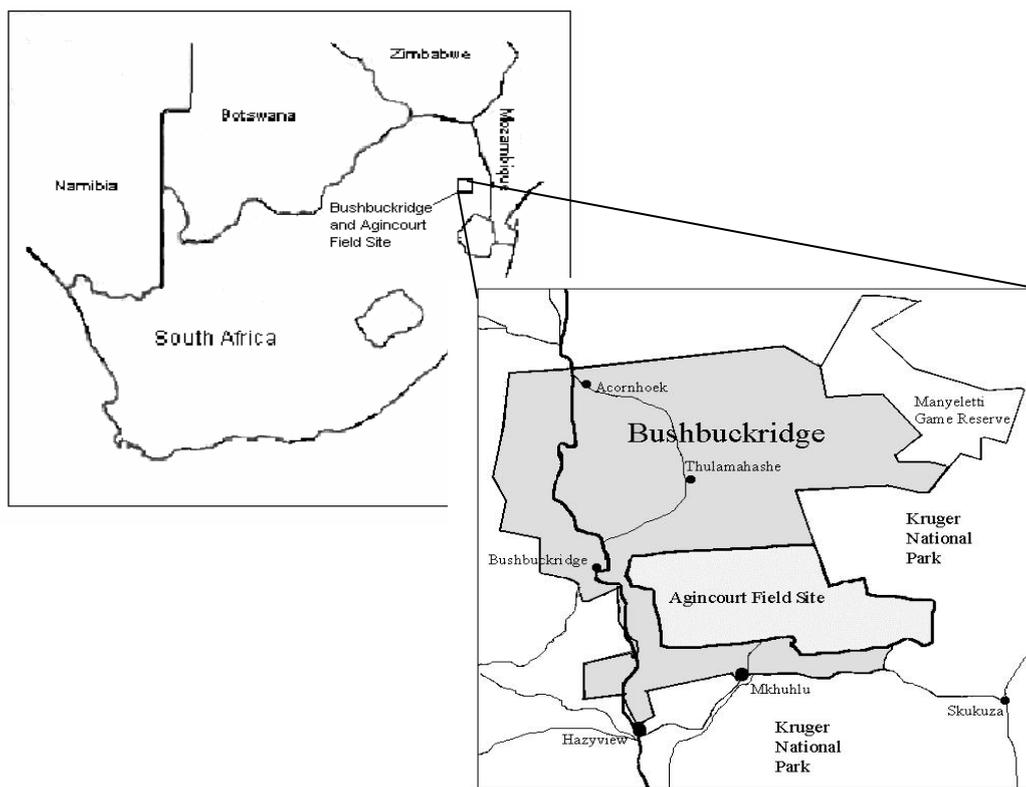


Figure 1: Map of South Africa with Bushbuckridge and the Agincourt Field Site highlighted

The Health and Demographic Surveillance System

The study population is located in Bushbuckridge in the Bohlabela district of Limpopo, South Africa, some 500 km north-east of Johannesburg. See Figure 1 for a map of the area. As the map indicates, the study population is adjacent to the Mozambique border and therefore the area can also be considered a border region of rural South Africa.

The primary tool of the HDSS in Agincourt is a rigorous annual update of the demographic status of every member of the population in 21 defined villages. This involves a household visit and a systematic updating of records. The interview includes verifying existing records, recording new individual or household data, and recording every vital event, namely births and/or other pregnancy outcomes, deaths, in-migrations and out-migrations, that had occurred since the preceding year's census. In this way a longitudinal database of demographic events is developed over time. The baseline census was conducted in Agincourt in 1992. The original population under surveillance was 57 509 persons in 8 896 households. At the time of the study, there were 11 305 households, and a population of 68 599 individuals.

Census modules

In each census round, one or two detailed modules are conducted to provide information on socially relevant topics to supplement analyses within the modalities of the Unit's research programme. These include labour force participation (2000 and 2004), household asset status (2001 and 2003), health-care utilisation (2003), temporary migration (2002), child-care grant uptake (2002), and food security (2004). The data collection modules are workshopped and piloted with community members and Agincourt staff before the data collection begins, and data quality procedures are interwoven into the process of the field operation. Although the data are cross-sectional, repeated modules enable some trend analysis and cross-sectional modules can be used to calibrate longitudinal indicator variables.

Community Relationships

A partnership between the Agincourt HDSS, the study communities and the local health services has been a priority from the outset. Before any project commences a series of meetings are held in each village with community members and leadership. Information from the HDSS and related research initiatives are disseminated in the study communities by printed 'village fact sheets' and by community meetings. Information is also disseminated to district and regional health service managers, as well as to the Limpopo and national Department of Health. The principles of informed consent are respected, and so is the right of refusal to be interviewed at individual household level. Fieldworkers are trained

to carefully explain their purpose to the residents of the household and, where a respondent declines to participate, to accept this graciously.

Findings at national level: changes in settlement patterns recorded in 2001 census

Introduction

To see how settlement distribution is changing within and between settlement types, we need data from at least two points in time. The first step is to present the pattern of settlement at a national level, as recorded in the 2001 national census. We then classify the settlement type of previous place of residence. Then we compute the probability of moving from one settlement type to another. Some migrations between settlement categories are causing a shift in the settlement type distribution. This will be explored in the transition matrix described below.

Settlement types represented in the analysis are as follows:

1. Metropolitan formal: The strongly emerging concept of metropolitanisation was described above. Metropolitan areas represent the ‘chambers of the economic heart of any country’ [1].
2. Other urban formal: These are the non-metropolitan urban areas that fall in an urban municipality, and will therefore include many townships.
3. Urban informal: The settlement type that is known as an informal settlement. It may also be thought of as a semi-urban or peri-urban fringe.
4. Former homeland area: This category is highly simplified since it contains a rural-urban continuum.
5. Commercial agriculture: This category contains the rural industry settlement type, which provides residence for a surprisingly large proportion of the rural population.

The settlement type where a person resides can have an influence on the demographic behaviour (fertility, mortality, migration, nuptiality) at an individual and family level. Research work has been done in cities (particularly in the USA) to examine the effects of living in particular neighbourhoods. The hypothesis is that ‘place’ is a critical indicator of the characteristics or qualities of a person’s life. Living in the city will have unique influences and challenges, as will living on a farm or in a rural village. The place of residence provides the staging grounds upon which social and environmental interactions take place. Personal networks provide the circuits of interaction through which information and

resources flow. There is good reason to think that neighbourhoods, networks and social capital can exert a great deal of influence on demographic behaviour [14]. Also, the roles assumed by institutions differ in the contexts of the different settlement types.

These ‘place’ effects reflect the situation in local contexts, which also occur within wider social and economic structures, and the influence of these broader structural factors is crucial to consider. The structure of the economy is an important factor. Migration can be seen as a behavioural response to spatial differences in income and consumption opportunities. Urban economic structure can for example affect women’s wage rates, and through wages the opportunity costs of time spent in child care. Fundamentally, economies are bound to cluster in agglomerations because there are increasing returns to scale, i.e. a doubling of input yields more than a doubling of output [2]. Firms have additional motivation to concentrate their production spatially. As long as transport cost is not negligible, this will tend to concentrate the labour force; but in the case of South Africa the settlement system was altered by the segregationist policies. Thus, even though cost of transport is not negligible the main pattern involves temporary migration to work rather than bringing the family along.

Method of analysis

We built a five-point settlement typology from census 2001 data and applied it to both ‘current place’ and ‘previous place’ of residence. Places were coded using the two census 2001 variables: ‘geotype’ and ‘municipality’. The codes used for ‘geotype’ were: ‘urban formal’, ‘urban informal’, ‘tribal’ area’ and ‘rural formal’. The codes used for ‘municipality’ were ‘metropolitan’, ‘other city’ and ‘local municipality’.

The places were categorised into one of the following:

1. ‘Metropolitan formal’
2. ‘Other urban formal’
3. ‘Urban informal’
4. ‘Former homeland area’
5. ‘Commercial agriculture’.

The coding was derived as follows:

1. Metropolitan formal: ‘a place located in a settlement that was registered in Census 2001 as a metropolitan municipality.’ And geotype is not ‘informal urban’.
2. Other urban formal: ‘a place located in a settlement that was registered in Census 2001 as a ‘geotype’ = ‘urban formal’, and municipality was not metropolitan.
3. Urban informal: ‘a place located in a settlement that was registered in Census 2001 as a ‘geotype’ = ‘urban informal’.

4. Former homeland area: 'a place located in a settlement that was registered in Census 2001 as a 'geotype' = 'tribal area'.
5. Commercial agriculture: 'a place located in a settlement that was registered in Census 2001 as a 'geotype' = 'formal rural'.

Method of constructing the transition matrix of settlement types

The migration community profile obtained from Statistics South Africa provided the data on 'main place' of residence and previous 'main place'. The settlement typology was applied to both 'main place' of residence and previous 'main place', with the frequency of people in each cell summed from the original weighted frequency variable that had been provided. To obtain the national level settlement transition matrix, a cross tabulation was computed of 'main place' of residence and previous 'main place' by settlement category. Each settlement type of origin was broken down into the number of migrants leaving for each destination type.

All moves captured in the national census 2001 are represented in the first five rows of numbers. The row heading represents the type of settlement from where the move occurred, while the column heading represents the type of settlement to where the move took place. The number in each cell is represented by 'N', and the percentage of the total national population in each cell is given in the shaded columns. The sixth row of numbers is the people for whom no move was registered in Census 2001. The seventh row, labelled 'Total', gives the settlement breakdown of the total population in 2001.

Tabulation of findings

Migration Origin settlement type of migrant	Destination settlement type of migrant											
	Metropolitan formal		Other urban formal		Urban informal		Former homeland		Commercial agriculture		Total	
	Per cent of total population	N	Per cent of total population	N	Per cent of total population	N	Per cent of total population	N	Per cent of total population	N	Per cent of total population	N
Metropolitan formal	2,8	1 234 714	0,5	212 113	0,1	40 740	0,1	58 552	0,1	51 301	3,6	1 597 420
Other urban formal	0,9	404 244	2,8	1 261 336	0,2	86 189	0,4	193 155	0,6	284 652	5,0	2 229 576
Urban informal	0,1	51 366	0,2	68 415	0,1	48 844	0,0	18 935	0,0	16 150	0,5	203 710
Former homeland	0,4	177 375	0,6	260 471	0,1	51 453	0,6	266 492	0,2	90 270	1,9	846 061
Commercial agriculture	0,1	55 401	0,1	60 887	0,0	8 241	0,1	27 142	0,1	24 256	0,4	175 927
Non-movers	21,3	9 522 763	23,0	10 246 667	3,8	1 674 977	34,5	15 384 573	6,1	2 726 196	88,7	39 555 176
Total	25,7	11 445 863	27,1	12 109 889	4,3	1 910 444	35,8	15 948 849	7,2	3 192 825	100,0	44 607 870

Table 1: National level settlement type transition matrix, 1996–2001

Discussion on changes in settlement patterns at national level

What is happening?

The category of current main place 'metropolitan formal' is a highly frequent destination category. People have moved to a 'metro formal' settlement type from 'other urban formal', 'urban informal', 'tribal area' and 'formal rural' settlement categories. The reverse flow is substantially less, i.e. there is very little migration from the 'metro formal' settlement type to any of the other settlement types. The 'metro formal' category thus seems to be a very strong net population attractor.

This pattern is not so precise in the 'other urban formal' settlement category. There was evidence of more than the expected amount of population movement out of this category *into the rural areas*, both the former homeland settlements and commercial agriculture areas. And in reverse there was movement into the 'other urban formal' settlement types from the other three 'less urbanised' categories: 'urban informal', 'former homeland' and 'commercial agriculture'. 'Other urban formal' places seem to have more dynamic links with the rural areas, when compared to the 'metropolitan' places.

The cell on the diagonal of 'urban informal' places shows evidence of important movement within the informal urban settlements. Similarly former homeland areas experienced a lot of intra-category moves (i.e. from one place in a former homeland area to another).

There is also movement from commercial agricultural places into former homeland areas. Some of the dynamics occurring between these rural categories are explored in the next section.

Which places are growing due to migration in South Africa?

The evidence from the national level indicates that the metropolitan areas are growing due to migration.

Are rural areas depopulating due to migration?

This question arises readily from data like these. At the rates shown here there is a substantial shift from all settlement categories at origin to a formal metropolitan destination. The data support that approximately 12% of the whole population had undergone a move in the intercensal period, and a large proportion of the moves were to formal metropolitan areas.

What should also be noted is the evidence of cycling of people, in bidirectional migration streams between the informal and rural categories: 'commercial agriculture', 'former homeland' settlements. At this macrolevel, this may represent an important population dynamic linking these settlement types over space.

What is happening with 'labour migration'?

At national level the temporary migration is mostly mixed in with the permanent migration in the census enumeration. This must add to the trend of metropolisation, since temporary migration seeks out where the opportunities are, and these are more concentrated in the urban areas.

However, it is likely that they are caught up in the streams that link 'informal urban', 'former homeland area' and 'commercial agriculture'. We see people mostly in their destination states and the 'family left behind' are not brought into the picture. But, in these three categories of destination, the settlement type transition matrix shows migration streams moving in both directions between these settlement types .

Findings at sub-provincial level: definitive migration systems

Introduction

This section reports the same issues, i.e. urbanisation and population redistribution, but on a narrowed-down scale, namely at subprovincial level, spanning the commercial heartland and the provincial interior with its small towns, formal agricultural areas and former 'homeland' areas. Zooming in to this level will give us a different perspective on the mobility patterns, and the longitudinal HDSS affords a unique opportunity to observe population movement and settlement formation at this level. With its format of a baseline census followed by routine census and vital events updates, the data collection can be sufficiently frequent to reflect the population dynamics caused by migration. This section describes how the out-migration from former homeland rural areas is changing settlement patterns in this part of the world. Key issues include: 1) the expansion of small towns with families moving from rural villages; 2) dynamic two-way flows between larger urban areas and rural villages; 3) evidence of movement of Mozambican refugees back to Mozambique; and 4) the recent emergence of net international out-migration.

The settlement types represented in the Agincourt data are surprisingly varied. 'Former homeland area' is the base category from which the data presented are records of movements out (viz. out-migrations) and in (viz. in-migrations). Both the extent and direction of migration flows can be seen, as well as the geographic spread reached through out- and in-migration. It should be recognised that this is only a focus on one part of a network of movement and there are other parts of the population flows that are not presented in this data.

The dynamics and selectivity of migration in post-apartheid society were examined in the 1996 census by Kok et al in 'Post Apartheid Patterns of Internal Migration in South Africa' [1]. The age/sex profile reported seems to follow a typical (predicted) migration pattern, with a peak in children, which follows from them either accompanying their parents, or migrating along care channels (with or without parents alive). The 5–9-year category has low migration, then migration starts to increase in the 10–14-year category. The most migrant age group is 15–34 with a peak at around age 25, where men peak at around 20% and women at around 16% of the population being a migrant. It declines steadily for both sexes to around 5% at age 69, with males still slightly higher than females. From the above discussion it should be noted that the Census '96 picture presented here includes both permanent and temporary migration.

The picture emerging proves complex, with urbanisation occurring differently at different phases of a rural-urban continuum. Also, circular migration shades into

permanent migration as rural dependents move to join breadwinners in their urban situation [11].

Simon Bekker and Catherine Cross note two trends that challenge routine assumptions. Firstly, that migration among the black population is highly prevalent; and secondly, that the primary direction of these migration flows is not to major urban areas, but to rural towns [15, 16]. These migrant groups are mostly made up of families with a higher ratio of women to men.

There is also evidence that a large proportion of rural residents do not move. These are typified by poverty, low levels of education and unemployment, and do not have the information and resources to initiate migration [17, 18].

Urban-to-rural movement is also described in the literature. Many migrants are forced back to traditional rural areas by high levels of unemployment in urban areas [18]. People from rural areas are poorly equipped with educational qualifications and unable to compete with urban counterparts in the employment queue [16]. Thus, many migrants fail to achieve the ends intended. Furthermore, there is evidence that increasing numbers of circular labour migrants of prime working age are becoming ill in the urban areas where they work, and coming home to be cared for and eventually to die in the rural areas where their families live [19].

The Agincourt definition of permanent migration closely follows the classic definition that migrants are people who experience a change in residence [20]. This includes people who leave the index household and establish a household or join a household elsewhere. A key feature is that the destination household becomes the new home base for the migrant. The main reasons for migration were described in the report on migration and urbanisation. For permanent migration these are: 'the formation or dissolution of marital unions'; 'families moving to a better situation' and 'household fragments entering and splitting off'.

Method of analysis

This section describes the migration dynamics in the north-eastern interior of South Africa. Empirical data are used from the Agincourt HDSS, which has been monitoring in- and out-migrations, along with births and deaths, in all households of the Agincourt subdistrict between 1992 and 2003. Migrations are categorised by place of origin or destination, and tabulated against a number of migration indicators, namely, number of moves, proportion of all moves, volume and net migration, and the ratio of net to out-migration.

The origin/destination typology was developed to simplify the data set of place names that were recorded in the Agincourt migration database. Other typologies could be made which may emphasize other aspects of the migration patterns.

Migration indicators are presented as columns in the table below. The indicators are used to show the flows of people to and from the origin/destination typology. They are as follows: '*Out-migration*' is the number of migrants who out-migrated to a destination in the typology. The table also shows the percentage distribution in each category; '*In-migration*', is the number of people who in-migrated into an Agincourt subdistrict household from an origin category during the observation period; again the distribution is presented as percentages; '*Sum of moves*', is the sum of in- and out-migrations in each category; '*Net migration*', is the number of in-migrants minus the number of out-migrants in each category. The last migration indicator is important for the analysis – the '*Ratio of Net migration to Out-migration*'. This indicator can be summarised as the propensity of a place to attract and retain a population through migration.

Permanent migration data

A 'permanent' migrant is a person who enters or leaves a household with a permanent intention. A feature of these migrants is that they leave the index household and establish a new household or join a household elsewhere. The new residence then becomes the adopted home base. This process differs from a temporary migrant who remains a member of the original household.

The salient details of the event, e.g. 'date of move', 'origin' or 'destination', and 'reason for move' are captured in the HDSS.

An occasional problem with the household concept used in Agincourt is that the respondents sometimes don't recognise or declare an in-migration event in the expected way and a new household member may be declared to have always been resident. This probably arises from household members having less strict boundaries for household membership than is used in the HDSS. An outcome of this is that if the event is not reported it may lead to an undercount in the migration data.

Another problem is that a temporary migrant may never return, thus theoretically becoming an out-migrant by breaking the link with the rural household. The family, however, may not readily accept this and expect the HDSS to retain the out-migrant on the household roster in anticipation or hope of their return.

Tabulation of findings:

Destination/origin category	No. of out-migrations	%	No. of in-migrations	%	Sum of in- and out-migrations	Net migration	Ratio of net migration to out-migration ²
Internal migrants ³	37 709	67%	38 037	75%	75 746	328	1%
Other Bushbuckridge village ⁴	2 748	5%	2 253	4%	5 001	-495	-18%
Bushbuckridge town ⁵	6 067	11%	2 686	5%	8 753	-3 381	-56%
Other Limpopo place ⁶	1 335	2%	1 125	2%	2 460	-210	-16%
Other Mpumalanga place ⁷	1 615	3%	1 603	3%	3 218	-12	-1%
Town along the N4 road ⁸	1 720	3%	1 284	3%	3 004	-436	-25%
Gauteng ⁹	2 298	4%	1 550	3%	3 848	-748	-33%
Mozambique ¹⁰	1 503	3%	545	1%	2 048	-958	-64%
Other SA province ¹¹	231	0%	256	1%	487	25	11%
Other foreign ¹²	668	1%	75	0%	743	-593	-89%
Unknown	594	1%	1 481	3%	2 075		
Total	56 488	100%	50 895	100%	107 383	-5 593	-10%

Table 2: In- and out-migration by category of origin or destination. Agincourt: 1993–2003

² Ratio of net migration to out-migration is an index of the propensity of a place to attract and retain migrants. The negative sign depicts negative migration flow.

³ The 'Internal migrants' category represents moves where the origin and destination of the move are in a field site village.

⁴ 'Other Bushbuckridge village' represents moves to or from a village outside the subdistrict, but within Bushbuckridge.

⁵ The 'Bushbuckridge town' category represents moves to or from a Bushbuckridge town.

⁶ 'Other Limpopo' represents places of destination or origin outside Bushbuckridge, but still in Limpopo.

⁷ 'Other Mpumalanga' represents places of destination or origin in Mpumalanga, but not situated on the N4 road.

⁸ The 'N4 road' category represents towns along the Johannesburg–Maputo transport route (N4 road) in Mpumalanga.

⁹ The 'Gauteng' category represents places in Gauteng, i.e. the major metropolitan area of South Africa.

¹⁰ The 'Mozambique' category represents the whole country (Mozambique) over the national border to the east.

¹¹ 'Other SA province' category represents places lying outside Limpopo, Mpumalanga and Gauteng, but within South Africa.

¹² The 'Other foreign' category represents places outside of South Africa and Mozambique.

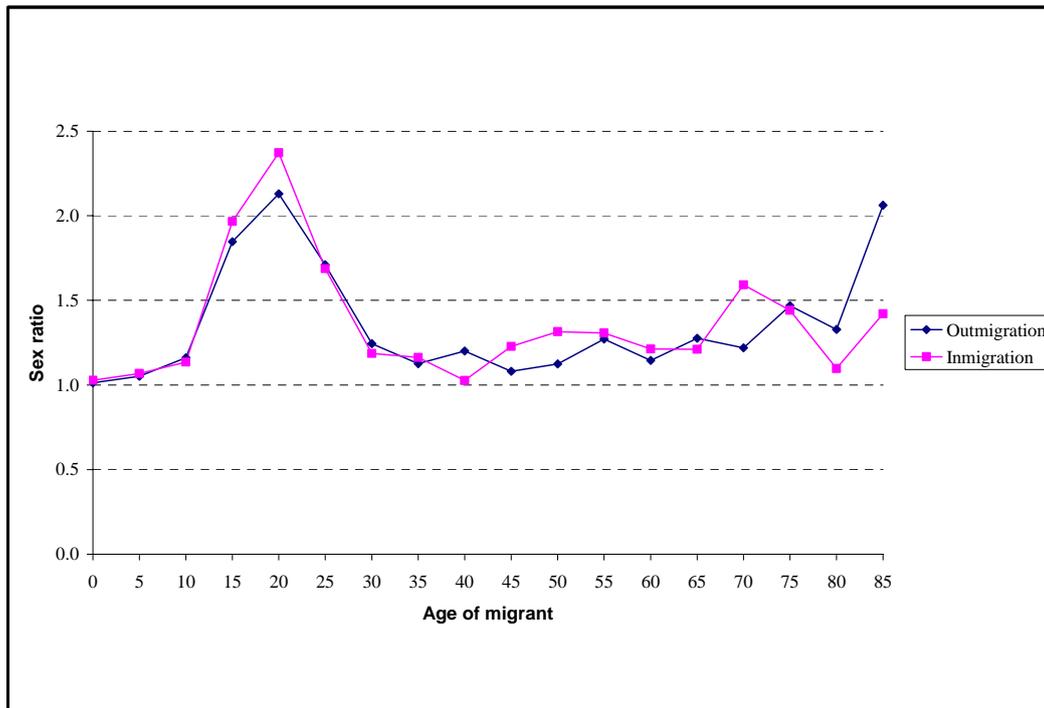


Figure 2. Sex ratio by type of move and age of migrant (All destinations). Agincourt: 1992-2003

Discussion on changes in settlement patterns at sub-provincial level

What is happening?

In table 2 some important patterns emerge. Firstly, there is a high proportion of moves within and between rural villages. Secondly, there is a pronounced one-way migration between rural villages and nearby small towns. Thirdly, a dynamic interaction is suggested between rural and urban areas. Lastly, the prominence of women is noted as the protagonists in contemporary, permanent migration.

Permanent migration destinations and origins

There was a wide range of destinations and origins, both local and further afield. Migration from rural village to rural village made up 71% of out-migrations. Migration related to urbanisation was as follows: 15% of out-migrations were to rural towns and 6% to a city. Nearby towns was an important destination. Pronounced one-way migration to rural towns occurred in 1994/5, after the onset

of democracy. This related in part to the change of government, in particular the decline in authority of traditional structures who controlled movement on the past. Migration to larger urban centres, in the other hand, occurred almost equally in both directions [21].

Age-sex prevalence of permanent migration

The most mobile age-sex category across all permanent migration was women aged 15–25. This followed from marriage customs that a woman usually moves into the man's family. The most important units of move were 'woman alone', 'woman with children', then 'woman with man and children'[21].

Migration to Mozambique

Due to the geographic location of the triangulated data set we also see an out-migration to Mozambique. In 2000, more than a quarter of the population (29%) of the subdistrict were of Mozambican origin. This follows from the fact that the civil war in Mozambique in the 1980s resulted in many Mozambican refugees fleeing into South Africa. This data suggest that there was some ensuing return migration. In this case it was facilitated by non-government organisations in the form of voluntary repatriation.

Which places are growing due to migration in South Africa?

From this perspective it is the small towns. The links to the metropolis are large and important but there is a two way stream so this migration is not changing the actual numbers of people in each settlement category. Thus, remarkably, metropolisation does not feature as much as rapid small town growth. The metropolitan areas and the rural areas have strong networks linking them together. Hence there is already a two-way flow between the rural villages and the nearest metropolitan area.

Are rural areas depopulating due to migration?

The main, net, permanent, out-migration streams (using the index of net migration to out-migration) were threefold. The main stream was from rural villages to nearby towns. This seems to be the stream that is creating most settlement change through the emptying of the tribal rural areas. The second was a small emerging international out-migration stream that first attracted attention in 2003. The third was the movement back to Mozambique described above.

The Agincourt data shows an overall net out-migration of around 1% per year over about a decade. Thus at this perspective the rural areas do not appear to be depopulating.

What is happening with ‘labour migration’?

Owing to the Agincourt definitions of migration each move has been classified as either temporary or permanent. In short, an Agincourt fieldworker will not classify a temporary migrant as an out-migrant. Therefore this data set does not include temporary migrations. In reality however, there is likely to be some mingling of temporary and permanent migration, e.g. in the movement of children between families for care arrangements. There is, however, a deliberate scientific effort to discriminate the two and due to the separate features and well-known nature of the temporary migrant system in this population, the classification works reasonably well for adults. There should, however, be a validation exercise done (through qualitative research) to evaluate the division of movement into permanent and temporary. The temporary migration results are portrayed in the next section.

Findings at household level: Temporary migration as a household strategy

Introduction

By triangulation of Census 2001 with the Agincourt data we are bringing in a representation of the former homeland areas as a settlement type in the manner of a case study. Agincourt represents a former homeland area (Gazankulu) because it is a subdistrict population that originated through forced migration committed under the 'segregationist' legislation of the apartheid government in the period 1940–1970.

This section aims to focus on the settlement and migration patterns that emerge at a household and individual level of analysis. The facts that emerge at this level point out a major gap in the internal migration picture that we observe at national level. The temporary migrants have slipped through this gap because of the household definition that is used in the national census. The *de facto* definition is used, which is critical in determining who is enumerated. It guides the respondents when they determine which individuals are included in the count, and thereafter it reflects where these individuals are physically represented based on this household definition. Using a *de jure* household definition, Agincourt is able to describe the temporary migration trends, in other words, fill some of this gap, at least in the context of this particular subdistrict and its linked places. The temporary migration analysis thus arises from the expanded information obtained by the *de jure* household definition about the existing links between resident and non-resident household members. This enables the analysis of male and female temporary migration trends as given below, and it fills out our conception of settlement type to include mobility between settlement types, and important concepts such as multilocal¹³ households and migrant networks can follow from this.

Settlement type and migration pattern are strongly related concepts and this emerges more clearly at the analytic level of the household. These two concepts can be seen to represent two complimentary modes, namely stability and mobility, or 'place of residence' and 'migration'. In particular we see households and individuals strategising to maximise their existence. Households may strategise to invest in the migrant as a group. Individuals may strategise to balance their talents, opportunities and obligations across space. Thus at the

¹³ A multilocal household is a general concept whereby a household is spatially divided into different components across two or more places for members to utilise the benefits of the different places, while staying linked as a household.

household level of analysis we see that changes in settlement and movement pattern should be observed as a configuration.

Temporary migrants represent a portion of people who reside only in their *de facto* residence for some portion of their time. The members of this subpopulation are only temporarily settled in the *de facto* household and usually keep two or even more homes as part of a network of residential possibilities. For these people, the settlement type and temporary migration status are closely interrelated.

In developing world countries, rural-urban linkages often take the form of temporary migration, also known as ‘oscillating’, or ‘circular’ migration [22]. Temporary migration involves the periodic movement of individual household members, usually to major urban centres, to work or look for work, but who retain major and continuing links with the rural home [7, 23]. Other reasons for temporary migration include education and child fostering. Family networks are an important factor that facilitate temporary migration between city-based and village-based households [9]. If there are only two places involved the migration may be referred to as bipolar, of which conventional labour migration would be a good example. However, current research in South Africa describes a fluency of movement between rural and urban bases not properly reflected in conventional bipolar models of labour migration [23]. Migrants may travel between multiple residences where they could be resident for a range of time periods.

Two areas of literature contribute to expressing the link between rural home and temporary migrant. These are ‘the new economics of labour’ [7, 24], which advocates migration as a household strategy; and ‘transnational migration’ [25, 26], which addresses the tendency for migrants to choose the most socially expedient destinations, including those with a high concentration of past migrants from the same community and those that favour quick earning opportunities over longer-term settlement [27]. Stark formally describes the household strategy of maintaining both a rural and an urban base as a means of maximising expected income, minimising economic risk, and increasing exposure to social resources like culture, education and health services [7]. This model suggests that household members spread themselves over rural and urban places to experience the particular utility each has to offer with the facilitation of kin and extended kin [11]. The social ties between migrants and their families are dealt with in theories of cumulative causation and the presence of dynamic migrant networks that feed the process of migration [9].

The strong links between rural and urban households in South Africa were described in a study by Warren Smit in 1998 [28]. He sampled households in five representative low-income settlements in metropolitan Durban. The results showed that 57% of the 244 household heads interviewed had migrated from

rural to urban areas. The primary reason given for this settlement type was to look for work, to escape political conflict and to avoid personal conflict at home. Of these, 48% had strong links with a rural area, defined as coming from a rural area, still owning a rural home, visiting there once a month, sending money back, and/or having children still living there. A further 32% had weak rural links, where the head of the household came from a rural area and visited there during holidays, and 18% no longer had any rural links. Another way of describing these mobility patterns is to say that 39% of household heads belonged to 'multiple-home' households. The typical picture was of a household located in the urban area, where the economically active members and most of their children lived, and a rural household where the non-economically active members lived.

One theory is that temporary migration is a household strategy. At the household level we encounter the social unit as a commonly-felt, bondage of mutual relationship. At a household level there are obligations and mutual supports. The economist, Oded Stark, put the case for household investment in the career of the migrant as a household strategy, and the migrant remitting income back to the rural household [24].

Dorit Posel expresses an important objection to this formulation, since frequently the control of household resources are not evenly, nor fairly, distributed in the household. Gender norms have been oppressive on this level and women have struggled to access resources. Posel and Casale explain that more women are entering the labour market since the 1990s and also more women are becoming household heads. Thus, the role of women is changing in this society and this is a powerful force for change. Curran and Saguy demonstrate the importance of gender in understanding how migrant networks operate. Also, that migration itself is a driver of cultural change, including, fundamentally, gender relations within the household, in the workplace and in society [8].

Using data from the 1993 Project on Living Standards and Development and the 1995, 1997, and 1999 October household surveys, Dorit Posel has shown that there was a net increase in the proportion of South African rural households containing at least one migrant worker [29]. Overall, in the national population, there was little change in the percentage of adults reported as migrant workers. However, among *rural adults* specifically there was a net increase in labour migration over the period. This was driven by the rise in *adult female migration*. In 1993 women made up 30% of the African adult labour migrant population, but by 1999 this had increased to 34%. Posel and Casale explain these changes by reporting changes in household composition, change in women's marital status and the increasing need for women to enter the labour force in the 1990s [29].

In 2000, Victoria Hosegood and Geoff Solarsh from the Africa Centre conducted in-depth interviews with members of 60 rural households to inform the

development of the Africa Centre Demographic Information System in KwaZulu-Natal, South Africa [30]. They confirmed that rural areas of South Africa were characterised by highly mobile populations with high rates of circular migration. Migrants were reported to constitute 35% of the total household population, with 41% of the adult and 29% of child members not co-resident with their rural household. Among the adults this constituted 55% of the males and 28% of the females who were temporary migrants from these households [30].

The details of the household structure of these rural households revealed a large presence of temporary mobility among adults and children. Households with a resident adult constituted 98%, i.e. nearly all households. Households with a non-resident adult were a remarkable 88%. Households with a non-resident child were 53%. Households with a male head constituted 72% and households with a resident head, 68% [30].

The changes described by Posel and the high levels of female migration (thirty per cent of the adult female population) described by Hosegood are not surprising considering the historical context of the South African black population. This includes such factors as the subordinated role of women in rural society, a history of gender imbalance in terms of access to urban opportunities, an increase in the proportion of female headed households, scarcity of land and employment opportunities in rural areas, better economic opportunities in urban areas, and the rise of political freedom in the 1990s.

So, the pattern we should expect is a high level of temporary mobility. In the first instance, we expect to see oscillation between former homeland areas, farms, informal urban, formal and urban areas. This movement still selects strongly for men but the proportion of rural African women undertaking temporary migration may be increasing. The example examined here is the Agincourt subdistrict of Bushbuckridge in Limpopo.

Method of analysis

Data were drawn from the Agincourt HDSS to present the empirical trends of temporary migration in the population. The data source is described under the data methods section.

The following questions are addressed:

- 1) What is the age:sex trend of temporary migration in this population?
- 2) What are the destinations of temporary migrants?

Temporary migration data

A temporary migrant is a household member who is away the majority of the time, but retains a significant link to their base household. In analysis, a six-month-per-year cut-off point was chosen to differentiate 'temporary migrants' from 'local residents'. Thus, people who are referred to as temporary migrants were absent from the household for more than six months of the year preceding observation, but who considered the index household to be their home base.

Temporary migration status is based on 'resident months' status which records the amount of time each person is physically present in the household during the year preceding the census interview. The fieldworker hears the account of a person's residence pattern and adds the residence episodes together, rounds this up to a whole number and records this as the number of months that a person was present in the previous year. This variable, i.e. 'resident months' has been updated in successive census rounds in 1992, 1995, 1997, 1999, 2000, and annually since then. Based on the 'resident months' variable a fieldworker also records a 'residence status' variable. This is derived from 'resident months' but contains slightly more information. 'Resident status' has four categories, namely: 'local resident', if 'resident months' is between six and twelve months; 'temporary migrant', if 'resident months' is less than six and the reason for absence is work-related; 'other temporary migrant' if 'resident months' is less than six and the reason is not work-related; and lastly, a 'visitor' is if a person was present at the census but should not be considered part of the household. A child born or in-migrated in the year prior to the census is considered a 'local resident' if the household informant considered the child to be a permanent resident.

The proportions portrayed in the graphs are the number of temporary migrants as a proportion of the current population (rates were computed by single year age groups) at each census round. In this way it is, since 1999 an annually-repeated cross-section of the entire population giving residence status at the time of the census. The denominator is thus the current population at each census round.

There are uneven intercensal periods in the earlier years of surveillance. The system became more institutionalised in 1999 and the period between the censuses became a regular one-year period.

Findings

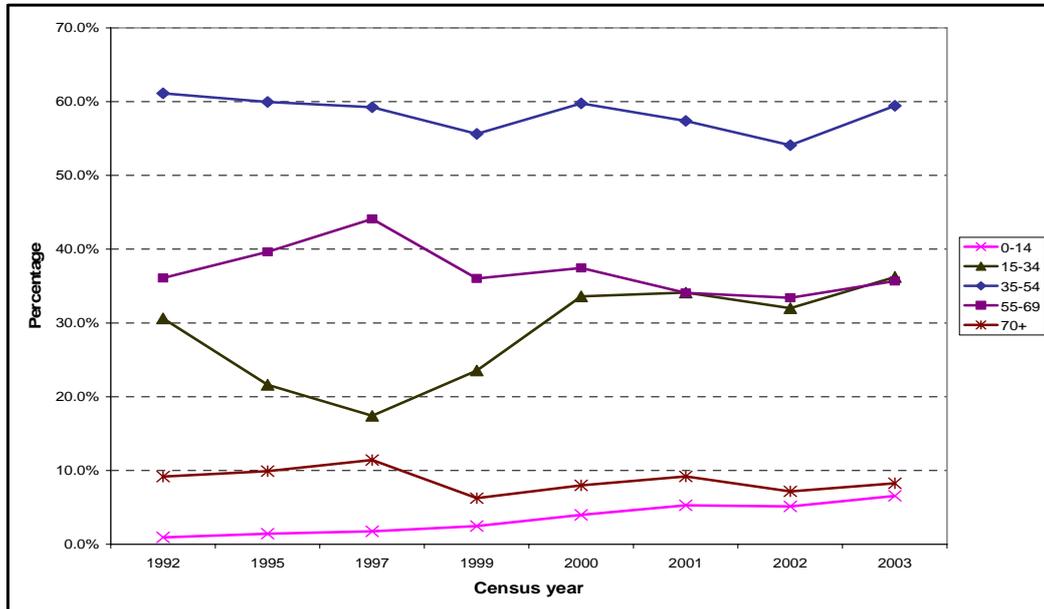


Figure 3: Proportion of males among temporary migrants, by age category and census year: Agincourt 1992-2003

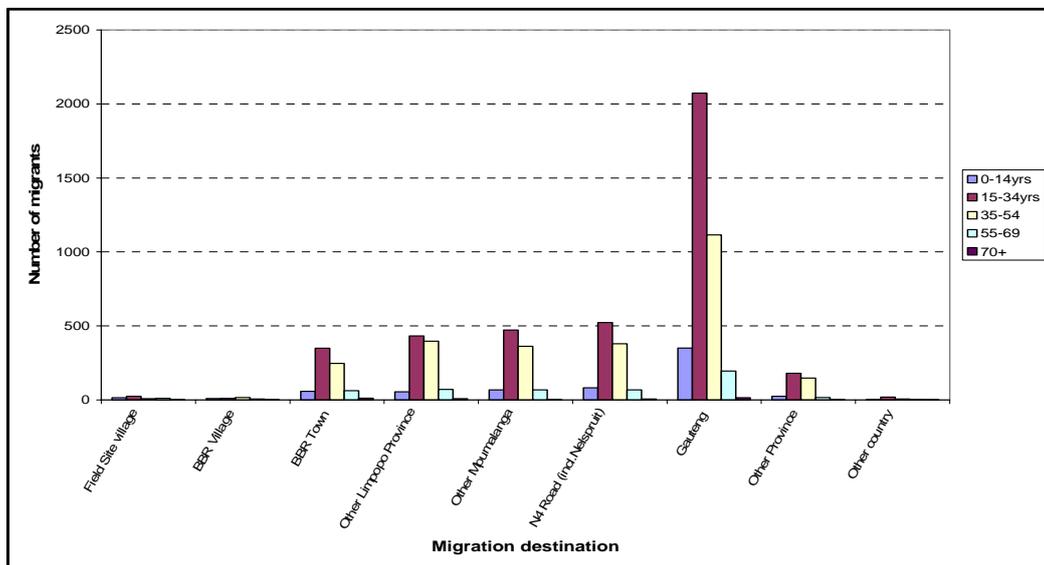


Figure 4. Male temporary migrants by age category and migration destination. Agincourt: 2002

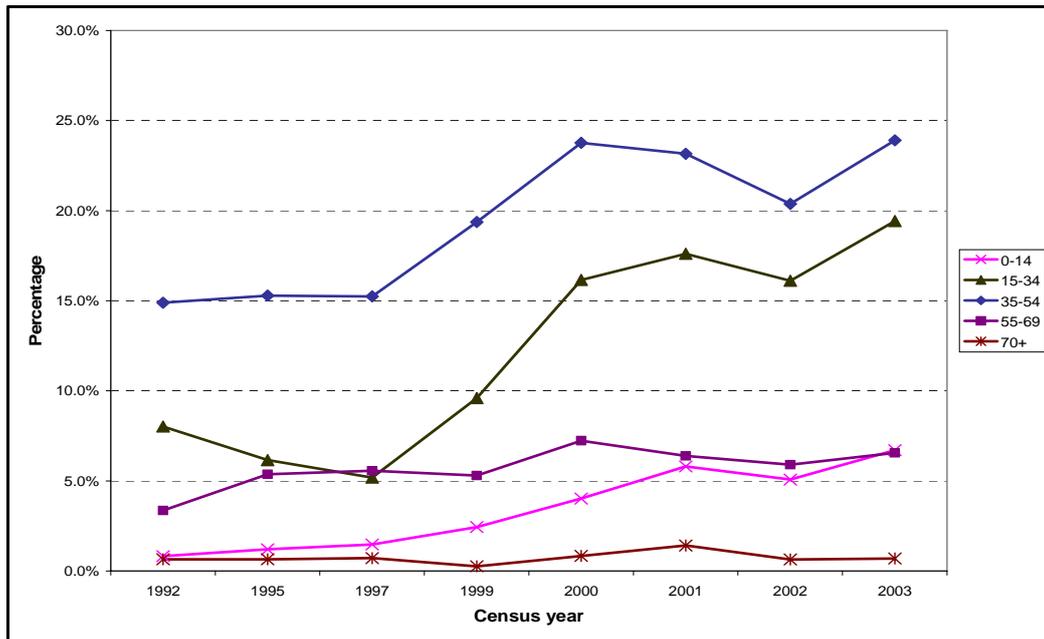


Figure 5: Proportion of females among temporary migrants, by age category and census year: Agincourt 1992-2003

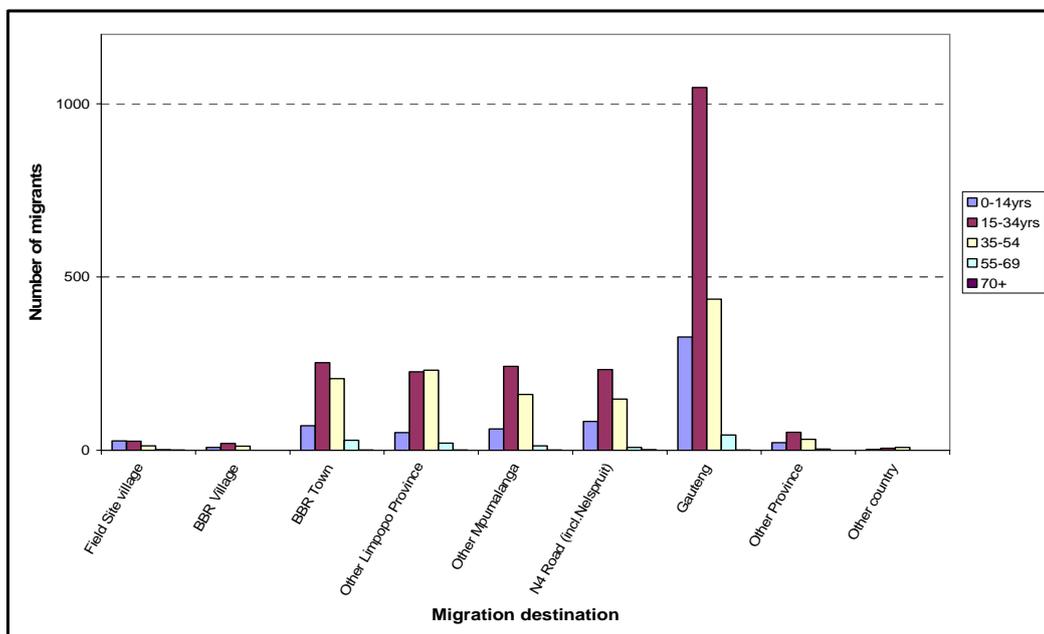


Figure 6. Female temporary migrants by age group and migration destination. Agincourt 2002

What is happening?

The data display highly prevalent temporary migration in this profile. This is a key observation and must add to the way we perceive population in developing world settings.

Figure 4 shows the remarkable prevalence of temporary male migration by age group that has been more or less stable for the past four years (albeit a small increase in 0–14 year-olds). The most absent age group was the 35–54 year-olds, whose absence remained intractably high at around 60%. This group was strongly involved in wage labour in particular in mining, industry, construction, security, and driving. The 15–34 and the 55–69 year-old groups are at the same level of around 35%, or a little over a third of the population. Job opportunities and migration in search of work were primary motivations which underpin the adult male categories. As mentioned there may be an increase in the proportion 0–14 year-olds who are temporary migrants (around 7% in 2003).

The data presented in Figure 5 show an unequivocal upturn of adult female temporary migration in the late 1990s and sustained deep in to the next decade. At the onset of surveillance, levels were lower and stayed remarkably constant, then a dramatic turning point was reached in 1997 in all three adult categories, and in children. The most striking were the older adult women who moved from 15% to almost 25% in three years, and the younger adult women who showed a threefold increase in the same three-year period. In 2003, approximately 24% of older adult women, 19% of younger adult women (which may also be increasing annually), and 7% of 55–69 year-olds were absent for the majority of the year. Regarding children there are higher levels of temporary migration among girls compared to boys. The proportion child migrants may also be increasing year by year.

Regarding destinations of males and females the pattern displays the prominence of Gauteng as the destination of temporary migration.

There is a striking number of young adult men migrating to Gauteng. However, there are other prominent destinations, but there is a wider spread of destinations and age groups. Other important destinations for the Agincourt male temporary migrants are towns along the N4 road, other towns in Mpumalanga and Limpopo. Older adult men have a similar distribution on a slightly lower scale.

For females, the temporary migration picture is dominated by one pattern which is young adult women migrating to Gauteng. Migrating older adult women and

female children are also mostly moving to Gauteng. Other destinations which receive female temporary migrants are towns along the N4 Road, towns in Mpumalanga and Limpopo, including local Bushbuckridge towns.

Children under 14 years of both sexes migrate to Gauteng. School is the most prevalent cause of this flow.

Which places are growing due to migration in South Africa?

Gauteng is a popular destination for temporary migration. The numbers of temporary migrants leaving Agincourt but staying linked and frequently returning to their homes is remarkably high. This stream must therefore make an important contribution to the settlement pattern seen in the national picture using census data (in section 3).

Are rural areas depopulating due to migration?

The empirical evidence presented here shows that although the rural areas seem to be depopulating at the national level of analysis, there are in fact movements and bonds linking families and other networks between and within the settlement types. In the areas like Agincourt there are strong links between many of the metropolis-bound migrants and their homes in the rural area. Thus, if everybody was at their main home at the time of the census the metropolisation would not look so extreme. Furthermore, the removal of the migrant from the rural area does not necessarily change the ratio between households in rural areas and households in urban areas.

Temporary migration is one of the dynamic links between settlement types that keeps the rural settlement types from dying out. Other links between settlement types must occur in other 'directions' of settlement transition.

Summary

There is an innovation in the methodology presented here because the triangulation of the national and subdistrict data set has enabled a multilevel investigation. This must reward us with a more complete picture. Using the triangulation methodology, the lens has been adjusted to the different population levels: national, subprovincial and household. The result was that different migration and settlement phenomena came into focus at each level.

The findings in short, can be summarised as follows: the metropolitan populations are growing from migration, but not all the growth is permanent. Strong links exist between a large proportion of city and rural dwellers. These may be unusually enduring due to the history of segregationist settlement policies of the past and the entrenched patterns of labour migration. The experience of temporary migration acts as a precedent and migrant networks have developed through 'cumulative causation'. These links are strengthened daily and continue to grow.

Small towns emerged as key development nodes in the migration analysis at subprovincial level. Small towns are attracting populations which do not return to the rural villages. This is a different pattern to links between the rural village and urban areas from which robust flows of people move in both directions, namely, 'rural-to-urban' and 'urban-to-rural'. Women are on the move, taking families out of the rural villages and into the small nearby towns.

The household level analysis highlights the startling prevalence of temporary migration as an individual and household strategy linking the rural areas of with larger settlements. The case study shows remarkably high levels of temporary migration among rural men and increasing trends among rural African women.

This study places these current trends in settlement and mobility patterns in the social, political and economic context of apartheid's demise. National level reporting tends to obscure the reality of the temporary migration. This occurs because it is mixed with permanent migrants in the *de facto* population on census night. It is important to acknowledge temporary migrants because the level of this phenomenon in some sections of the population is very high. Also, there can be unexpected negative effects in the domains of health, household or district-level economics and family unity. For example, it is affirmed in scientific literature that temporary migration is associated with an increasing incidence of HIV infection in southern Africa [31, 32] and other parts of sub-Saharan Africa [33-35].

Circular migration is a means of survival for households facing the pressures of modern living, but it results in further inequity in the rural areas. While circular migration does bring some economic benefits to the particular families engaged in it, those who are extremely poor are excluded from this process. They lack the economic and social capital to initiate and sustain migrations which reduce the inequality experienced by communities like the Agincourt community. Such poverty is hard to relieve through intervention because the poorest are the most remote and least connected to possible means of support or amelioration.

So, are rural areas depopulating due to migration? There is resettlement towards the larger urban conglomerations, but there are dynamic ties that keep the rural areas linked to the cities, both the former homeland areas and formal agricultural areas. At first glance the metropolitan areas are receiving a large population of in-migrants from other settlement types in the country. However, the permanence is challenged by the subdistrict-level data, and the ties between urban dwellers and the rural population may ensure the sustained existence of rural settlements, despite poverty and out-migration.

References

1. Kok P, O'Donovan M, Bouare O and Van Zyl J, 2003. *Post-Apartheid patterns of Internal Migration in South Africa*. Pretoria: HSRC Publishers.
2. Oucho JO and Gould WTS, 1993. *Internal migration, urbanisation and population distribution*. In Foote KA, Hill KH and Martin LG (eds), *Demographic Change in Sub-Saharan Africa*. National Academy Press: Washington D.C.
3. Zelinski W 1971. *The hypothesis of the mobility transition*. *Geographical Review*, 61(3): 219-249.
4. Wolpe H 1980. *Introduction*. In Wolpe H (ed), *The articulation of modes of production*. Routledge & Kegan Paul: London. p. 1-43.
5. Zlotnik H, 1994. *Expert Group Meeting on Population Distribution and Migration*. *International Migration Review*, 28(1): 171–204.
6. Kok P and Gelderblom D, 1994. *Urbanization: South Africa's challenge. Volume 2: Planning*. Pretoria: HSRC Publishers.
7. Stark O and Levhari D, 1982. *On migration and risk in LDCs. Economic Development and Cultural Change*, 31: 191–196.
8. Curran SR and Saguy AC, 2001. *Migration and cultural change: A role for gender and social networks*. *Journal of International Women's Studies*, 2(3): 54-77.
9. Massey DS, 1990. *Social structure, household strategies and the cumulative causation of migration*. *Population Index*, 56(1): 3-26.
10. Wilson F, 2001. *Minerals and Migrants: How the Mining Industry has Shaped South Africa*. Daedalus: The Proceedings of the American Academy of Arts and Sciences, 130(1): 99–122.
11. Gelderblom D and Kok P, 1994. *Urbanization: South Africa's challenge. Volume 1: Dynamics*. Pretoria: HSRC Publishers.
12. Urban Foundation, 1990. *Population Trends. Policies for a New Urban Future (Urban Debate 2010, No. 1)*. Johannesburg.
13. De Bruijn M, Van Dijk R and Foeken D (eds), 2001. *Mobile Africa: Changing patterns of movement in Africa and beyond*. Brill: Leiden.
14. Montgomery MR, Stren R, Cohen B and Reed HE, 2003. *Cities Transformed: Demographic Change and its implications in the developing world*. Washington D.C.: National Academies Press.
15. Bekker S, 1999. *Migration and its Implications for Rural and Urban Development in South Africa*. In *Third African Population Conference, Durban*.
16. Cross C, Mngadi T, Mbela T, Mlambo N, Kleinbooi K, Saayman L, Pretorius H and Bekker S, 1998. *An Unstable Balance: Migration, Small Farming, Infra-structure & Livelihoods on the Eastern Seaboard: Part One – KwaZulu Natal*. Development Bank of Southern Africa: Halfway House.

17. Bekker S, 1991. *Demographic Scenarios. Monitoring Migration*. Indicator SA., 8(2): 36-37.
18. Roux N, 2000. *Patterns of Internal Migration in South Africa*. In *International Seminar on Migration in relation to Economic Change, Woman's Status, Reproduction and Health in Countries Undergoing Change*. Brown University.
19. Clark SJ, Collinson MA, Kahn K and Tollman SM, 2005. *Returning Home to Die: Urban to Rural Migration and Mortality in Rural South Africa*. Scandinavian Journal of Public Health. (submitted).
20. Bilsborrow RE, 1993. *Internal Female Migration and Development: An Overview*. United Nations: New York. pp. 1–17.
21. Collinson M, Garenne M, Tollman S, Kahn K and Mokoena O, 2000. *Moving to Mkhuhlu: Emerging patterns of migration in the new South Africa* in Working paper of the Agincourt Health and Population Unit, School of Public Health, University of the Witwatersrand; Medical Research Council/ Wits Rural Public Health and Health Transitions Research Unit.
22. Mabin A, 1990. *Limits of urban transition models in understanding South African Black urbanisation*. Development Southern Africa, 17(3).
23. Madhavan S, Tollman S and Townsend N, 2000. *Migration Patterns in Post-Apartheid South Africa: An ethnographic perspective on kin dispersion* in American Anthropology Association Meetings, San Francisco.
24. Stark O and Bloom DE, 1985. *The New Economics of Labour Migration*. American Economic Review, 75: 845-867.
25. Massey DS, Goldring L and Durond J, 1994. *Continuities in transnational migration: An analysis on nineteen Mexican communities*. American Journal of Sociology. 99(6): 1492-1553.
26. Portes A, 1996. *Globalization from below: The rise of transnational communities*, in *The Ends of Globalization: Bringing society back*. In Kalb D et al(eds). Boulder and Littlefield Publishers, inc: Lanham, Boulder, New York, Oxford. p. 253–270.
27. Massey DS and Espinosa K, 1997. *What's driving Mexico–US migration: A theoretical, empirical and policy analysis*. American Journal of Sociology, 102: 939-999.
28. Smit W, 1998. *The rural linkages of urban households in Durban, South Africa*. Environment and Urbanization, 10(1): 77-87.
29. Posel D and Casale D, 2002. *What has been happening to internal labour migration in South Africa, 1993 - 1999?* Division of Economics, University of Natal, Durban.
30. Hosegood V and Solarsh GC, 2001. *Population mobility and household dynamics in rural South Africa: implications for demographic and health research*. Africa Centre for Population Studies and Reproductive Health.

31. Jochelson K, Mothibeli M and Leger JP, 1991. *Human Immunodeficiency Virus and Migrant Labour in South Africa*. International Journal of Health Services, 21(1): 157-173.
32. Lurie M, 2000. *Migration and AIDS in southern Africa: a review*. South African Journal of Science, 96: 343-347.
33. Bassett M and Mhloyi M, 1991. *Women and AIDS in Zimbabwe: the making of an epidemic*. International Journal of Health Science, 21(1): 143-156.
34. Decosas J, Kane F, Anafi JK, Sodji KDR and Wagner HU, 1995. *Migration and AIDS*. Lancet, 346: 826-828.
35. Nunn AJ, Hans-Ulrich W, Kamali A, Kengeya-Kayondo JF and Mulder DW, 1995. *Migration and HIV-1 seroprevalence in a rural Ugandan population*. AIDS, 9: 503–506.
36. Kok P and Gelderblom D, 1994. *Urbanization: South Africa's challenge. Volume 1: Planning*. Pretoria: HSRC Publishers.

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