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AGE AND SEX CHARACTERISTICS OF THE POPULATION OF ZIMBABWE: AN ANALYSIS BASED ON THE 1982 CENSUS

by

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INTRODUCTION

The paper aims to examine the age and sex structure of the population of Zimbabwe, based on an analysis of the 1982 census data. A study of the population based on the 1982 census was carried out by Zinyama and Whitlow (1986), but this was mainly concerned with spatial changes over time. This paper examines the vertical distribution of the population, that is its age and sex structure, at various sub-national levels and the factors that determine these vertical variations. Reference to the spatial distribution pattern is made only where this aids in the explanation of the vertical age-sex variations.

The paper is divided into four main sections. The first part examines some of the theoretical issues involved in age-sex structure analysis. The second and third sections discuss variations in the age and sex structure of the population of Zimbabwe by provinces and local administrative units, respectively, as revealed in the 1982 census data. The final section investigates the socio-economic implications of the current age-sex structure in the light of the development policies of the government.

SOME THEORETICAL ISSUES IN AGE-SEX STRUCTURE ANALYSIS

Population structure can be analysed in the context of population growth and socio-economic development. The vertical distribution, commonly known as the age-sex structure, records changes in the demographic (fertility, mortality and migration) and socio-economic development of the population. For example, Pressat (1972) has argued that the structure of any population represents a balance between the processes of fertility, mortality and migration. Udo (1982) further argued that age structure reflects the major social, economic and historical processes a population undergoes. Kay (1970, 1971) has provided similar arguments in relation to the Zimbabwean population based on the 1962 and 1969 censuses. Zanamwe (1989) has also argued for a close link between demographic processes

captured in the age-sex structure and the social and economic development of a population.

The age distribution represents the fertility history of the population and, in developing countries like Zimbabwe, the broad base of the population pyramid illustrates this. Mortality shapes the age-sex distribution of the population through the different probabilities of dying among successive age groups and between the sexes. In developing countries, such differential mortality is shown by the tapering of the pyramid as age groups get older. Developed countries exhibit rather different structures which capture the vast improvements in mortality and life expectancy and the dramatic falls in fertility since the eighteenth century (Jones, 1990; Weeks, 1986). Falling fertility and improved life expectancies have combined to produce bell-shaped or even inverted pyramids which are almost the opposite of the typical pyramids for the developing world.

Migration mainly acts to modify the effects of mortality and, to a certain extent, those of fertility. In areas of out-migration, mortality and migration act to reduce the size of successive age groups, especially those that are actively engaged in the migration process (mainly the 15–34 age groups). Since these are the age groups which are most productive in fertility terms, it can be expected that their loss will eventually lower the fertility of the sending areas. Van de Walle (1979) showed that male out-migration had resulted in lower fertility in the Ticino region of Switzerland. However, other evidence suggests that under circulatory labour migration, fertility reduction due to out-migration might be minimal.

In areas of in-migration, fertility and migration will act in the same direction i.e. enhancing population growth and therefore increasing the size of successive age groups while mortality will tend to reduce the size of successive age groups. The high fertility noted in some African urban areas is partly a result of this (O'Connor, 1983). Newell (1988) has suggested that fertility and migration have greater impact on the age-sex structure of a population than mortality. The former act more rapidly than mortality in bringing about changes in the age-sex structure, except perhaps in epidemic situations. However, having said this, rapidly declining mortality has had a remarkable impact on the age-sex structure of the population of Africa and other developing regions.

PROVINCIAL AGE AND SEX STRUCTURES

In a study that is comparative, it is necessary to establish first the national framework for the analysis and description of age-sex structures at the local authority level. This is achieved through a discussion of the national and provincial age-sex structures. The national structure is compared to

other countries while the provincial structures are compared among themselves.

Demko *et al.* (1970) and Yaukey (1985) have described the population of developing nations as consisting of a youthful or expanding age structure. This structure is a result of the decline in mortality, especially infant and child mortality, with constant but high fertility (40–50 births/1000 persons). Zimbabwe fits well into this picture as illustrated by the national pyramid (Figure 2d) and the provincial structures in Table 1 ranked by median age. A large proportion of Zimbabwe's population is under 15 years of age, reflecting both falling mortality and high but falling fertility in the recent past. A small proportion of the population is above 65 years, reflecting higher mortality in the past as well as increased probabilities of dying as persons age. The proportion of the population under 15 years is 47.7% compared with a mean of 45% for the whole of Africa, 23% in North America, 37% in Asia, 24% in Europe and a world average of 35% for the period 1980–1984 (Yaukey 1985).

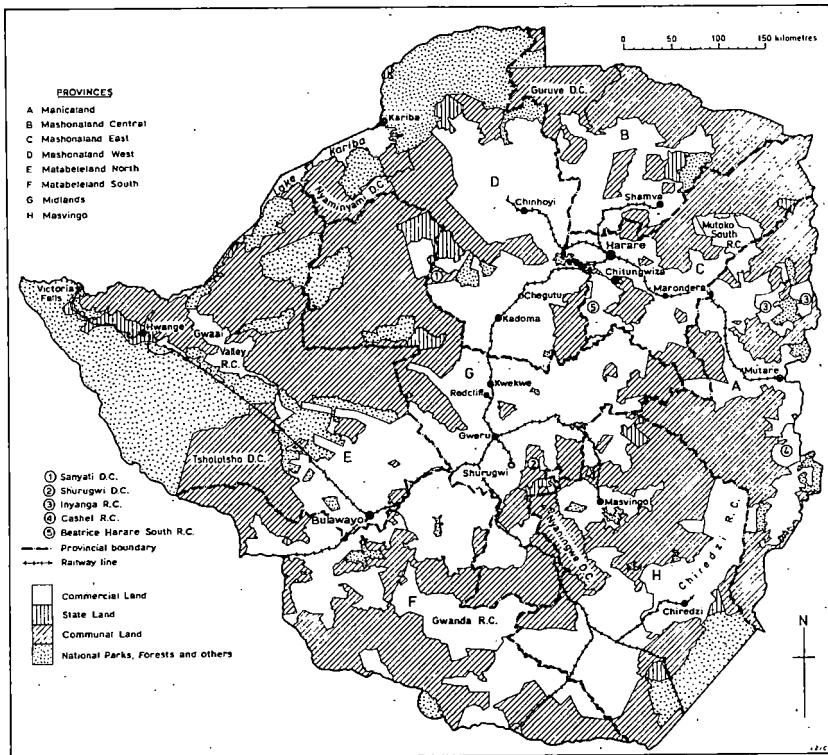


Figure 1: Zimbabwe, showing provincial boundaries and local authority areas mentioned in the paper

TABLE 1:
SELECTED POPULATION FEATURES FOR ZIMBABWE AND
THE PROVINCES, 1982 CENSUS

Province	Population characteristics						
	Broad age groups			Dependency Ratio		Sex Ratio	Median Age
	0-14 %	15-64 %	65+ %	1	2		(yrs)
Mash. East	41.6	55.5	2.9	80.2	75.0	103.7	18.7
Mat. North	42.3	54.2	3.0	84.5	78.9	101.6	18.2
Mash. West	47.3	49.9	2.9	100.4	94.7	103.1	16.3
Mash. Central	49.3	47.9	2.8	108.9	103.0	94.8	15.3
Midlands	49.7	47.0	3.3	112.6	105.6	91.8	15.2
Mat. South	50.9	44.5	4.6	124.6	114.4	90.2	14.7
Manicaland	51.3	45.6	3.3	103.5	112.8	89.5	14.6
Masvingo	51.3	45.3	3.4	120.7	113.3	90.8	14.5
ZIMBABWE	47.7	49.1	3.2	103.5	97.0	95.9	16.3

Notes: 1 = dependency ratio.

2 = child dependency ratio.

Dependency ratios are per 100 economically active persons while sex ratios are males per 100 females.

Mash. = Mashonaland.

Mat. = Matabeleland.

Source: C.S.O. (1985), Table 2A; Zanamwe (1989) Table 3.7.

The dependency ratios, shown in columns 5 and 6 of Table 1, lend further weight to the youthful structure of the Zimbabwean population. The dependency ratio measures the burden to the working age population of supporting the non-productive population (children under 15 and persons aged 65 and above). For the 1980-1984 period, the mean dependency ratio for African countries was 93.4 persons per 100 economically active ones (United Nations, 1985), with a world mean of 70.6 per 100 persons. Zimbabwe's dependency ratio of 103.5 persons per 100 economically active ones implies a heavy dependency burden for the working age population, above both the continental and the global means.

Support for children under fifteen is the main burden for Zimbabwe's workforce. The population aged 65 years and over is fairly small (2-4%) compared with that in developed countries such as the United Kingdom and Sweden where 15 to 18% of the population is 65 years and over with only 18-20% under 15 years (Jones, 1990; United Nations, 1990).

The national median age, another useful indicator of the population structure, was 16.3 years in 1982 (Table 1), implying that 50% of the population were below this age. Five out of the eight provinces have even more youthful structures. Median ages for these are mostly below 16 years and even below 15 in the case of Manicaland, Masvingo and Matabeleland South, supporting the contention that fertility has been high in the recent past.

The sex ratio, a measure of sex structure, relates the number of males in a population to their female counterparts. In general, there is a deficit of males over females though at birth the sex ratio is in favour of males (Newell, 1988; Pressat, 1972; United Nations, 1983). The deficit in later life indicates differential mortality between the sexes as well as sex selectivity in the migration process.

The United Nations (1985) mean sex ratio for Africa during the period 1980-1984 was 98.3 males per 100 females. The world mean was 100.6 males while that of Latin America was 100.0, North America 95.3, Europe 95.2 and South Asia 104.8 males per 100 females. The sex ratio for Zimbabwe was 95.9 males per 100 females, down from 101.4 per 100 in the 1969 census. The 1982 figure seems much closer to Europe and North America than the rest of Africa. Migration and mortality might have combined to produce a sex structure for Zimbabwe which is nearly similar to Europe and North America despite observed differences in age structures and mortality conditions.

Three provinces of Mashonaland East, Matabeleland North and Mashonaland West have structures that are different from the other five provinces. Their median ages are at or above the national mean (Table 1). They have more favourable dependency ratios and their sex ratios show a deficit of females rather than males. The extent of commercial farming and urban development within these provinces provide clues to these differences. Mashonaland East and Matabeleland North are the most urbanised provinces in the country (Table 2).

For the purposes of the 1982 census, the term urban referred to any settlement with a population of 2 500 persons regardless of its functions i.e. it was a size definition rather than a functional definition (CSO, 1984, 1985). The provinces in Table 2 are ranked by level of urbanisation. Mashonaland East contains the largest and third largest cities, Harare and Chitungwiza, respectively. The second largest city, Bulawayo is located in Matabeleland North. Besides being the third most urbanised province, Mashonaland West is the principal area for commercial farming and agricultural employment, with 42.9% of its population living in rural council areas. The process of migration in search of employment in these provinces is mostly responsible for their modified age-sex structures.

TABLE 2:
POPULATION BY PROVINCE AND LOCAL AUTHORITY
AREA, ZIMBABWE 1982 (percentages).

Province	Local authority area			Total
	District Council	Rural Council	Urban Council	
Mashonaland East	31.2	13.5	55.3	100
Matabeleland North	38.4	9.6	52.0	100
Mashonaland West	36.8	42.9	20.3	100
Midlands	71.6	8.9	19.5	100
Mashonaland Central	60.8	30.0	9.2	100
Manicaland	72.9	18.4	8.7	100
Masvingo	81.2	12.0	6.8	100
Matabeleland South	85.8	10.1	4.1	100

Notes: Urban = centre with 2 500 or more persons

Source: CSO (1984) Table 2; Zanamwe (1989) Table 7.4.

LOCAL AUTHORITY AGE AND SEX STRUCTURES

Having defined the age-sex structure at the national and provincial level, the local authority can now be examined. Zimbabwe has three types of local authority areas. These are (a) the district council areas which, under the colonial settler government, were known as African reserves or Tribal Trust Lands; (b) the rural council areas which were formerly known as European land; and (c) the urban councils which run the affairs of urban areas (towns and cities). The local authority areas chosen for study in this paper have been selected on the basis of their being representative of the different types of age-sex structures found in these areas.

Kay (1971) has provided a framework for the description of age-sex structure which can be used at the local authority level. The framework, based on the 1969 census, recognizes five types of age-sex structures for the African population. These are: the European rural area structure (now rural councils), the urban area, the African Purchase Area (rural councils without small towns), the African area (district councils) and the alien structures (labour migrants from neighbouring countries found in European rural and urban council areas). He argued that the age-sex structure in each area resulted from a combination of selective migration and the economic opportunities available within the area. For example, the availability of employment opportunities within the European rural and urban areas caused

selective migration of indigenous Africans and aliens into these areas. The result was that more than 50% of adult African males were found outside the areas reserved for Africans in 1969. This created unbalanced sex ratios and age structures. The areas of employment became areas of young men and, to a limited extent, women, while the out-migration areas became areas of children, women and the aged (Mzite, 1981).

Kay (1971) noted that some variations existed at the sub-national level in these structures. However, at the time of his writing there were no suitable data for an analysis of such variations and hence the generalisation. This section attempts to explain these demographic variations at the sub-national level using the 1982 census which was more disaggregated than that of 1969. It builds on Kay's observations about the role of migration and employment opportunities in differentiating between the age-sex structure of given areas.

Variations in urban age-sex structures

Economic opportunities and the resultant rural-urban migrations explain the workforce bulge associated with the population structures of urban areas. Data from the 1982 census show that not all urban centres exhibit similar features, with some urban areas lacking the workforce bulge (Figure 2a). Indeed, they are similar to the national pyramid (Figure 2d), i.e. tapering in successive age groups, though such tapering is less marked than in the national or provincial pyramids. These age-sex structures seem to indicate that there was a relative loss of population in the working age groups which is quite marked for males in Kadoma. Reasons associated with such losses of the male population might have to do with the decade prior to 1982. The unilateral declaration of independence by the white settler regime in November 1965 led to the imposition of economic sanctions and the waging of the liberation struggle by the African population from 1972 (Mutambirwa and Potts, 1989). The sanctions hurt mining and agricultural production especially in small towns such as Shurugwi, Kadoma and Chegutu. Mutare, located in the eastern border area, suffered from the negative impact of the liberation struggle and the closure of the border with Mozambique in 1976. Both the Europeans and Africans fled the city as industry was hit by sanctions and the war. By 1982 post-independence economic recovery had not taken place on a scale to produce the more characteristic workforce bulge arising from rapid rural-urban migration. However, their capacity to intercept migration flows from rural areas is still evidenced by the more gradual reduction in successive age groups compared to the national pyramid.

Figure 2b shows those towns which display the characteristic workforce bulge in the adult working age population. In general, the workforce bulge starts in the 15–19 age group, though for females in Masvingo this only starts

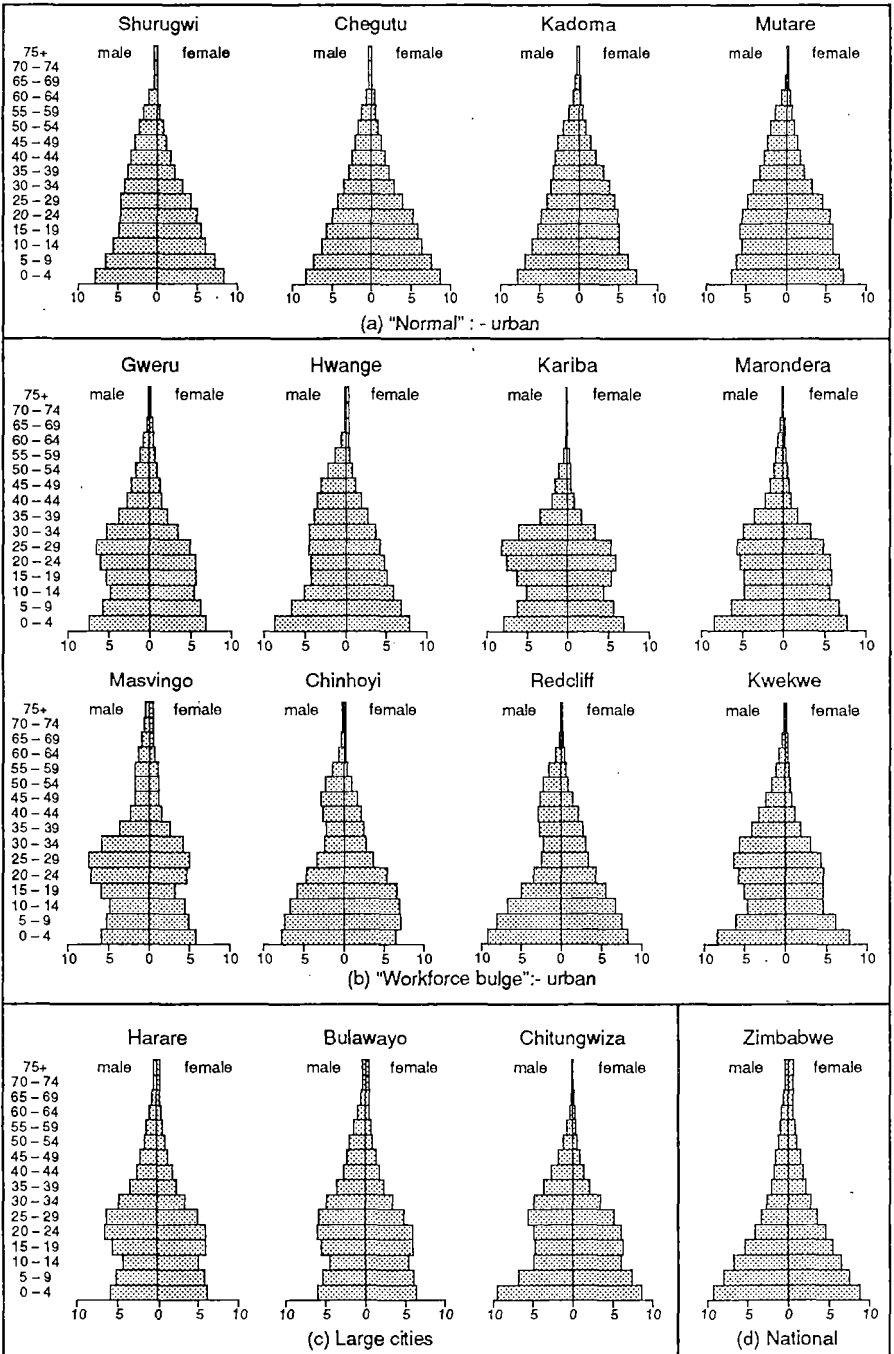


Figure 2: Age-sex pyramids for selected urban councils in Zimbabwe, 1982 Census

in the 20–24 age group. For some small agricultural and mining towns like Chinhoyi and Redcliff, the bulge is most apparent in the 40–54 age groups. The reasons for such variations in the age-sex structures are difficult to establish without detailed field investigations. What is apparent is that small towns like Chinhoyi, Redcliff and Hwange are failing to attract or intercept fully the population in the young adult working age groups. This might reflect their narrow economic base as either mining or agricultural towns. The larger towns like Masvingo and Gweru have a much broader economic base and therefore are in a better position to attract people of all working age groups.

The largest towns, Harare and Bulawayo, show the workforce bulge typically associated with urban centres (Figure 2c), reflecting a broad economic base and high attractiveness or interception capability. Chitungwiza, the third largest city, has a more varied age-sex structure mainly because it is a fairly recent town. It was created in the early 1970s to serve as a dormitory town for Africans working in Harare. The high fertility rate in Chitungwiza is shown by the broad base where children under five make up nearly 18% of the population (Figure 2c). Its median age of 18 years compared with 23.7 for Harare or 24.3 for Masvingo shows its youthful population structure.

Chitungwiza's structure, because it has had less time to evolve, shows more variation than most other towns. For example, the 15–29 age groups show more females than males, while the 30–34 age group is nearly balanced with subsequent age groups showing more males than females. It also displays a severe lack of old age people, with less than 1% of the population in retirement age. It would seem that females in their late teens and twenties maybe move into the town as lodgers while the house-owners are predominantly males in their forties and fifties. It is also possible that young males move out of the parental home earlier than young girls to escape parental dominance. Such moves might result in relocation into the suburbs of Harare.

There is great variation in the age-sex structures of the urban council areas. The size of the town and its economic diversity, especially during the 1970s, seem to have influenced its capacity to intercept and hold migrants in the early adult working age groups. Small towns like Chinhoyi, Chegutu and Shurugwi tended to grow more slowly while the larger towns tended to retain and even attract more population during the era of economic sanctions.

Variations in district council age-sex structures

Lack of employment and economic opportunities make these local authority areas sending regions for migrants into rural and urban council areas. This is shown by the marked absence of males especially in the young

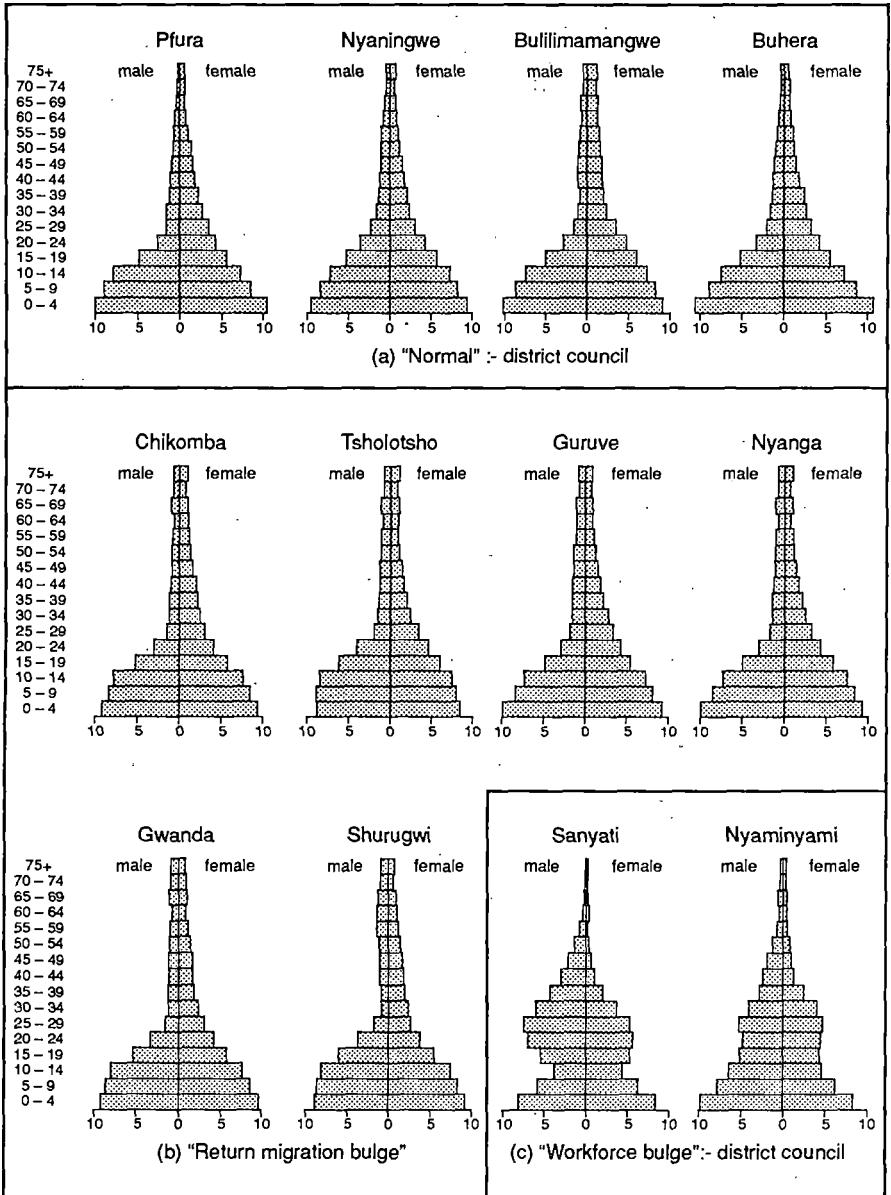


Figure 3: Age-sex pyramids for district council areas in Zimbabwe, 1982 census

adult working age groups, the presence of large numbers of females and the existence of a large pool of children in the school going age groups (Figures 3a and 3b). Mzite (1981) described them as areas of women, children and old age people while Kay (1971) highlighted that they lacked any significant development potential because of their location on the periphery of the development axis defined by the former European areas.

One can distinguish at least three different age-sex structures for district council areas. The first are those that appear 'normal' (Figure 3a); the second are those that show a 'return migration bulge' (Figure 3b); and finally those that display a 'workforce bulge' more in keeping with that found in urban or some rural council areas (Figure 3c).

The normal age-sex structure of the district council areas are only 'normal' in the sense that they show tapering in successive age groups. However, they still show a severe loss of the male population in comparison to the national pyramid. This latter statement is also true of the second age-sex structures showing the return migration bulge. The second category shows the effects of colonial legislation that made Africans sojourners in European areas by picking up return migration by retirees in the over 60 age groups. In these areas, the retired population constitutes 4% to 5% while children under 15 years constitute more than 50% of the total population (e.g. Tsholotsho 5.2% and 50.2%; Guruve 5.2% and 50.7%; Shurugwi 5.3% and 51.3%; and Nyanningwe 4% and 51.7% respectively). This supports the observation made by Kay (1971) and Zanamwe (1989) that the areas have high dependency ratios, mainly the support for children. The support burden falls mainly on women though remittances from males working in urban and rural council areas do alleviate the problems somewhat (Permanent Sample Survey Unit, 1984, 1985).

Departures from the normal age-sex structures of district council areas can arise through attempts to improve their poor economic resource base. This is true of Sanyati district (Figure 3c) whose age-sex structure is similar to that of Chitungwiza (e.g. both have median ages of 18 years) because of the existence in the area of a nascent urban centre in the form of Sanyati Town. Unfortunately, no distinction can be made between the rural and the urban components of the district population. However, the location in Sanyati of the pilot scheme for the establishment of growth centres in rural areas in the early 1970s would seem to explain the workforce bulge in the age-sex pyramid of that district council area (Hanratty and Heath, 1984; Sibanda, 1985). The workforce bulge evident in Nyaminyami might be linked to fishing and safari activities. The existence of fishing, hunting and tourism along the shores of Lake Kariba, e.g. at Bumi Hills, Danhahwa and Charara, explain this workforce bulge. The existence of a broader economic

base seems to increase the migration interception capacity of a district council area.

Variations in rural council age-sex structures

The rural council age-sex structures would seem to vary on the basis of whether they have small towns within them or not (Figures 4a and 4b). The presence of migrant workers from neighbouring countries increases the observed variations in rural council age-sex structures. Kay (1971) argued that the observed sex ratio of 288 males per 100 females in 1969 showed the marked influence of young unmarried aliens in the population of some rural council areas, resulting in much more varied age-sex structures.

The councils with small towns within them (Figure 4a), which mainly act as rural services centres for the surrounding commercial farming communities, display the workforce bulge associated with any centres offering employment. Such rural councils tend to be fairly large in terms of population or are based on estate agriculture (e.g. Chiredzi). Thus, they are a destination area for migration streams from district council areas. However, the workforce bulge can sometimes come fairly late in the age structure as for Beatrice Harare South (45–59 age groups). This might reflect limited ability to attract young migrants or the stability of the labour force in such rural council areas. Definitely, some of the council areas have fairly high median ages, e.g. 24 years in Inyanga, which are comparable to those of Masvingo and Harare urban councils.

While the workforce bulge might exist, high fertility rates are also common in some rural council areas as evidenced by the broad bases of their pyramids. For example, Beatrice Harare South has nearly 19% of its population in the 0–4 age group while Gwaai Valley and Chiredzi follow closely at 18% each.

The rural council areas without small towns exhibit features similar to some of the district council areas. Very few exhibit the workforce bulge while a few, such as Cashel, show a dominance of females and children. Cashel might be an extreme case because of its location in the eastern border area and the impact the war in the 1970s had on such areas. Before then, it used to be an area of large-scale market gardening supplying the city of Mutare (Nhandara, *et al.*, 1989), which might also help to explain the presence of women and children in the area.

Two rural council areas, Gwanda and Mutoko South, show what can be termed excessive workforce bulges (Figure 4c). Gwanda has a sex ratio of 164 males per 100 females showing male dominance. Ranching activities carried out in the rural council areas of Matabeleland might explain the large male workforce bulge in Gwanda. Also, analysis of lifetime migration trends

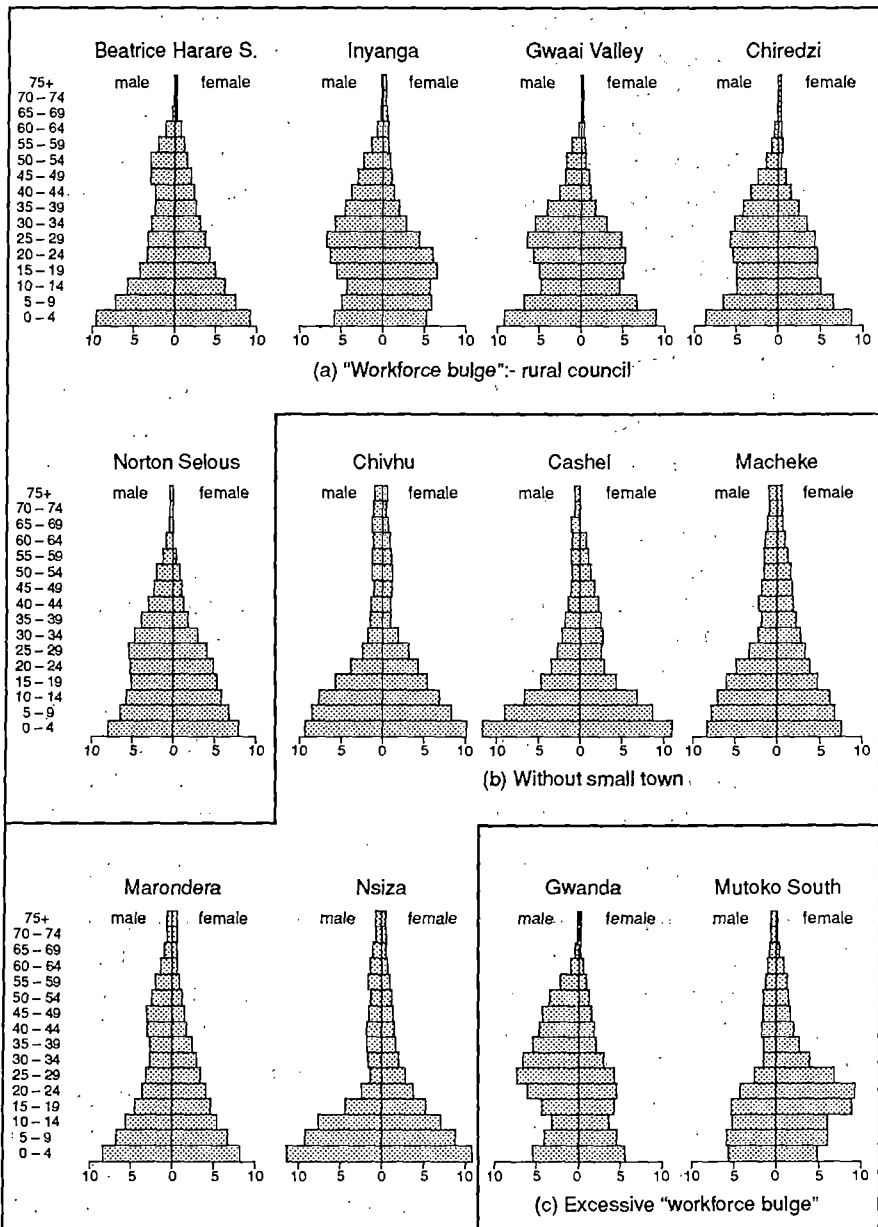


Figure 4: Age-sex pyramids for selected rural council areas in Zimbabwe, 1982 census

by Zanamwe (1989) showed that female migration in Matabeleland areas was towards urban areas whereas for males it was split between rural and urban council areas.

The excessive workforce bulge in Mutoko South is in favour of females. The sex ratio is 59 males per 100 females and there is an unusually small proportion of children under 15 years. This is somewhat more difficult to explain. The widespread existence of squatters on abandoned European farms during and just after the war of liberation might provide an explanation for this unusual age-sex structure.

Variations between local council age-sex structures

The age-sex selectivity of the migration process is shown in the deficit of males over females in the broad age group 20–60 years in district council areas. The surplus of males over females in rural and urban council areas is the reverse side of the migration process. This reflects variations in economic opportunities between the various local authority areas.

The dominance of males in areas of economic and employment opportunity reflects the higher propensity of males to migrate (Woods, 1982; Zanamwe, 1989) and the societal role assigned to males as breadwinners. The societal norms were reinforced by colonial legislation (Mitchell, 1969) which led to the emergence of towns as areas of young working male adults, district council areas as regions of children, women and the aged, while the rural council areas occupied a somewhat intermediate position in terms of interception capacity for migration streams from the district council areas.

IMPLICATIONS OF THE AGE AND SEX STRUCTURES

Various inferences can be drawn from the age and sex structures discussed above. District council structures confirm the role of these areas as labour reserves for the urban and rural council areas and retirement areas for those who are past their active working life, at least up to 1982. The dominance of children, women and the aged raises grave questions as to the viability of socio-economic development in the district council areas. As already noted by Kay (1971) and Zinyama (1988), these areas have limited development potential which is further constrained by the presence of women, children and the aged as the main labour force. Zinyama (1986) has argued that age selective male absenteeism means that much of the agricultural work and routine decision-making is left in the hands of women who, in the absence of husbands, are the effective household heads. The unfortunate aspect is that agricultural development agencies often tend to overlook women in the provision of credit and extension services. The role of women as producers is, thus, constantly underplayed.

The migration of the youth into the urban and rural council economy hinders agricultural development in the district council areas. Agriculture in the latter areas is labour intensive and lack of young vigorous males would seem to be one of the major constraints to increased agricultural productivity (Zinyama, 1986, 1988). While government has targeted these areas for development priority (Government of Zimbabwe, 1986; Simon, 1986), future success will depend partly upon the improvement of their population composition and partly on the acknowledgement of the role of women in agricultural development.

The district council areas also suffer from inadequate provision of social infrastructure such as education and health services (Zanamwe, 1988, 1989). Improved access to health and education are likely to lead to lower fertility in the long run. The broad bases of the national, provincial, district councils and even some of the rural and urban councils pyramids show the great potential for growth that the population had in 1982. Continued high population growth rates, both natural and through rural-urban migration, imply the need for increased investment in social infrastructure just to maintain the *status quo* (World Bank, 1985). This is despite the fact that at the 1982 census the crude birth rate of 39.5 births per 1000 persons represented a 14–16% drop in fertility from the 1969 level (CSO, 1985; Zanamwe, 1989). More recently, the Central Statistical Office (1989) has reported a 21% decline in fertility between 1982 and 1988. This would seem to indicate that fertility is declining and that the decline has accelerated during the past decade. However, for sustained fertility declines, improved access to health, education and information are a prerequisite, as happened in China (Findlay and Findlay, 1987; Lappe and Schurman, 1988; World Bank, 1985).

CONCLUSION

The paper has described and analysed the vertical characteristics of the population of Zimbabwe as at the 1982 census. The vertical distribution of the population is a response to the demographic processes of fertility, mortality and migration and their interaction with the forces of socio-economic and political development. Main political influences include colonial legislation that divided the country into European and African areas and made the Africans sojourners in the former areas. Inequitable development resulted from this and was further compounded by the imposition of sanctions and the war of liberation in the 1970s. These developments acted to modify the overall composition of populations in the various local authority areas causing some to depart from their expected norm.

For example, certain urban council areas fail to display the characteristic workforce bulge associated with areas of economic opportunity and employment. On the other hand, certain district council areas where attempts have been made to develop their economic resource base show such workforce bulges. In the rural council areas, the existence of small service centres also tends to influence the vertical distribution of their populations. Overall, one can view the rural and urban councils as areas that provide employment and are therefore fairly attractive to those migrants seeking employment, especially young adult males. The district council areas generally remain areas of women, children and the old.

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