POPULATION DYNAMICS

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ABSTRACT

This review portrays the demographic dynamics of the coastal region of Kenya by placing emphasis on the three components of population change, notably fertility, mortality and migration. An overview of population distribution, structure and composition is also presented. It is noted that fertility increased between 1962 and 1984 and declined thereafter. Despite a recent slight decline in mortality, the Coast still remains a predominantly high mortality region. The belt-like pattern of population distribution is distinctive and the region remains a prime centre of population influx from up-country provinces.

INTRODUCTION

Kenya has a creditable history of demographic data collection. The past five population censuses — conducted in 1948, 1962, 1969, 1979 and 1989 — indicate that Kenya, like most developing countries, has experienced unprecedented high rates of population growth. The national population has increased fourfold from a total of 5.4 million in 1948 to 21.4 million in 1989 (Kenya 1994b). On average, the total population has been increasing by more than 40% every decade. Further details of the national demographic trends in the recent past and likely direction for the future are provided by a number of national surveys conducted over the last two decades (Kenya 1980; 1984a; 1989; 1994b).

The attention for national demographic levels and trends, however, tends to conceal regional demographic dynamics which have become more significant and central to development planning following a shift from national planning to the district focus for rural development. The coastal region of Kenya forms an important demographic cluster hosting about 9% of the total national population. This review portrays the regional population background by placing emphasis on demographic realities which policy makers and implementors have to take into account. After a brief overview of general population growth since 1948, the demographic trends in the region are traced in terms of the inter-

nal dynamics of the three components of population change namely fertility, mortality and migration. The review concludes with an overview of the population distribution, structure and composition in the coastal region.

POPULATION GROWTH

At the time of the first census in 1948, the population of the whole coastal region was smaller than the present population of Mombasa Municipality and stood at about 445,000. This increased steadily to 728,000 people in 1962 and 944,000 in 1969 (Table 1). Between 1969 and 1989, a period of twenty years, the figure doubled to 1.9 million (Kenya 1994a). Geometric projection, assuming a constant growth rate of 3.2% per annum, places the current population of the region at 2.4 million people. Population estimates, assuming medium fertility decline and negative impact of HIV/AIDS, however, place the current population of the region at 2.3 million people. The latter projection foresees an increase to 2.5 million by the year 2000 (Kenya 1996a).

Table 1 Population change by district, 1948-1996

	population in thousands							intercensal growth rate (%)		
District	1948	1962	1969	1979	1989	1996*	2000*	'62-'69	'69-'79	'79-'89
Kilifi	180	248	308	431	592	750	817	3.1	3.4	3.2
Kwale	113	158	206	288	383	481	519	3.9	3.4	2.8
Lamu	35**	23	22	42	57	75	82	0.3	6.4	2.9
Mombasa	55	180	247	341	462	586	637	5.7	3.2	3.0
Taita Taveta	61	90	110	148	207	240	257	2.8	2.9	3.4
Tana River	-**	30	51	92	128	171	188	3.6	6.0	3.3
Coast Province	444	729	944	1,342	1,829	2,303	2,500	3.5	3.5	3.1

* Projections
** Tana River included in the Lamu figure.
Sources: Kenya 1949; 1964; 1970; 1981; 1994a; 1996a.

The population growth rates tend to vary from year to year and from district to district. Between 1962 and 1969, for instance, Mombasa's population increased at 5.7% per annum due to a high level of in-migration (Kenya 1971). Since then, the municipality has shown a slowing down of growth rates because of the emergence of other urban centres in the region and elsewhere in the country. The population of Kwale District grew at a rate of 3.9% per annum reflecting in-migration which had been taking place from Eastern Province since 1948. This was clearly reflected in the 1962 census (Kenya 1964). Many Kamba moved and settled in the Shimba Hills Settlement Scheme and in the surrounding Trust Land areas of Kikoneni, Mwereni and Shimba South Locations.

With the exception of Tana River, the other districts of the province grew at a slower rate than the national average in the 1960s. This was largely attributable to slackened migration rates, post-independence boundary changes and a lower rate of natural increase associated with high child and adult mortality rates (Kenya 1971). Tana River had an annual average rate of increase of 3.6% (in the 1962-1969 period, the district included much of what is now North-Eastern Province).

Between 1969 and 1979 all districts except Mombasa and Kwale recorded notable

increases in population growth rates. Tana River and Lamu Districts registered dramatic growth attributable to significant in-migration of people from other parts of the country to the newly established settlement schemes at Bura, Galole, Hola and Lake Kenyatta (Wakajummah 1986). By 1989, however, all districts except Taita Taveta and Kilifi had registered declines in the annual rates of population growth. The fall was more drastic in Lamu and Tana River because of the decreasing number of immigrants from up-country.

COMPONENTS OF POPULATION DYNAMICS

In order to appreciate the nature of population growth in the coastal region, one needs to understand the internal dynamics of the components of population change which embraces fertility, mortality and migration.

Levels and trends in fertility

Evidence from the total fertility rate (defined as the average number of live births of a woman at the end of her reproductive life) indicates that between 1962 and 1984 fertility increased from 4.0 to 6.7 and declined thereafter to 5.3 in 1993 (Henin 1979; Anker & Knowles 1982; Kenya 1984a;1989a;1994b). Analysis of birth distribution by women's age reveals a high concentration of births within the 20-29 age bracket (Kenya 1984b). However, there exist considerable differences in fertility levels between more urbanized and rural districts, such that women in Mombasa tend to have fewer children than their counterparts in the rural areas. In 1979, for instance, women in Mombasa had a total fertility rate of 4.8 .

The slight decline in fertility recorded since 1984 is consistent with the increase of age at first marriage, decline in mortality and the rising level of urbanization. In the past, the low median age at first marriage, estimated at 17 years, and prolonged marriage life combined with minimal resort to contraceptive use, caused sustained high levels of fertility in the region. Rising levels of urbanization and in-migration tend to be selective of women who desire fewer children and this has precipitated socio-economic changes accounting for the observed slight fertility decline (Osiemo 1986).

Compared to the high fertility regions of Eastern, Nyanza, Rift Valley and Western Provinces, Coast Province is, on the whole, a zone of relatively low fertility. The current total fertility of 5.3 per woman falls just below the national figure of 5.4. Both polygamy and the prevalence of Islamic tradition have been advanced to explain the below-average levels of fertility at the Coast (Henin 1979). The most recent Kenya Demographic and Health Survey of 1993 established that Coast Province has the highest proportion of polygynous unions (29%) and that there exists an inverse relationship between polygyny and fertility.

Though the inhibiting impact of urbanization on fertility levels is currently being felt in Mombasa, fertility in the more rural districts is set to remain high for some time to come. This is particularly so given the fact that less than 20% of the rural women in the region are currently using any method of contraception and they still find a family size of 5 to 6 children per woman ideal (Kenya 1989a; Wakajummah 1996). Moreover, the age

pattern of fertility indicates that women at the Coast tend to have children early in life. By age 30, a coastal woman would have given birth to almost 60% of the children she will ever have (Kenya 1994b).

Levels and trends in mortality

Despite the glaring mortality declines registered in recent years at the national level, all categories of mortality still remain high in the coastal region. This reflects not only disparities in regional socio-economic development, but also differences in socio-cultural beliefs and practices among the various ethnic groups. Moreover, the high child and adult mortality rates in Coast Province also reflect the effects of the physical environment which plays a major role in sustaining vectors of various diseases (Bunyasi 1984).

Tables 2 and 3 show the general and specific mortality trends in Coast Province. Trends in adult mortality can best be indicated by the life expectancy at birth (Table 2). Provincial life expectancy at birth increased from 43.1 years in 1962 to 56.5 years in 1989. Although there has been an overall drop in adult mortality in all districts, compared with the 1989 national life expectancy average of 59.5 years (Kenya 1996b), mortality levels at the Coast still exceed the national average, with the exception of Taita Taveta District. This higher mortality was most pronounced in Kilifi, Kwale and Tana River Districts.

Table 2
Life expectancy at birth by district, 1962-1989 (years)

District	1962	1969	1979	1989
Kilifi	38.2	40.2	41.4	56.0
Kwale	38.7	42.6	43.1	53.8
Lamu	n.a.	47.3	43.5	57.2
Mombasa	48.2	49.2	52.6	58.6
T. Taveta	48.5	44.1	51.1	60.0
Tana R.	n.a.	43.5	43.4	55.5
Coast Prov.	43.1	43.4	50.7	56.5

Sources: Anker *et al.* 1981; Kenya 1976; 1984b; 1996b.

Table 3 shows that child mortality declined from 206 in 1979 to 166 in 1989, while infant mortality dropped from 121 to a low of 77 during the same period. Again, these figures were still high by national standards. Kilifi even had the highest infant mortality in the whole country (Kenya 1989a).

More deaths tend to occur among male infants relative to their female counterparts, particularly in the rural districts of Kilifi, Kwale, Lamu and Tana River (Kenya 1984b). Both infant and adult mortality tend to decline with the attainment of higher education for the mothers. For instance, the provincial infant mortality, which stood at 121 in 1979, was estimated at 96 deaths per 1,000 live births for mothers with primary education and 59 for mothers with secondary education (Table 3). Life expectancy at birth for mothers with primary education in the same year was 51 years while their counterparts with secondary education were expected to live 60 years (Anker *et al.* 1981; Kibet 1981; Kichamu 1986). The implication is that female education will be an important factor to

consider if a workable solution to the dilemma of high death rates in the region is to be found.

Table 3 Infant and child mortality by district, 1979 and 1989

	infant mortality* 1979					
	all	mothers with primary	mothers with secondary	infant mortality*	child mortality**	
District	cases	education	education	1989	1979	1989
Kilifi	150	105	64	85	246	187
Kwale	140	111	65	89	226	186
Lamu	138	93	48	72	215	164
Mombasa	92	87	55	60	142	128
Taita Taveta	99	88	57	50	144	116
Tana River	139	127	85	83	202	167
Coast Province	121	96	59	77	206	166

* Number of deaths per 1,000 live births during the first year of life.
** Number of deaths per 1,000 live births during the first 5 years of life.
Sources: Kenya 1976; 1984b; 1996b; Kibet 1981; Kichamu 1986.

The leading causes for mortality among infants and children are malaria, acute respiratory infections, diarrhoeal diseases and measles. Together these diseases account for nearly two-thirds of the deaths while the remaining one-third is attributable to poor nutrition, low standards of living and social taboos (Kenya 1989b-g). Boerma & Bennett (2000) give slightly different figures and attribute 10-20% of deaths to malnutrition and 40-60% to the other causes mentioned. HIV/AIDS has also emerged as a major cause of mortality among children. The AIDS epidemic is particularly serious because it affects the segment of the coastal population which is most productive (Ocholla Ayayo 1992; Kenya 1994b; Obudho 1995).

Migration trends

Migration is another cardinal element of demographic dynamics which has, over time and space, redistributed population in the coastal region. Though the Kenyan Coast has had contact with the outside world since ancient times, modern labour migration of up-country people into the region can be traced as far back as 1909 when it became apparent that Kikuyus from Kiambu and Luos from Central Nyanza were moving in large numbers to Mombasa and the coastal plantations (Stitcher 1982). Population movements of rural-rural nature for permanent settlement were important during the 1948-1962 intercensal period when 21,226 out of 24,860 immigrants to Kwale District were found to have originated from Eastern Province. As mentioned above, many Kamba settled in the Shimba Hills and in the surrounding Trust Lands.

Since Independence, the Coast has established itself as a prime centre of population influx attracting various cadres of migrants from up-country. The number of migrants into the region increased from about 222,000 between 1969 and 1979 to 275,000 during the following decade (Table 4). Although in relative terms in-migration from other provinces declined somewhat between 1979 and 1989, up-country migrants constituted a relatively high percentage of the population in most districts in 1989, particularly in Mombasa (almost 60%) and Lamu (almost one-third).

Table 4 Life-time in-migrants by district, 1969-1989

District	1969 number of in-migrants	1969 as % of total population	1979 number of in-migrants	1979 as % of total population	1989 number of in-migrants	1989 as % of total population
Kilifi	51,112	18.6	30,391	7.1	42,164	7.1
Kwale	39,107	19.0	38,805	13.5	41,617	11.8
Lamu	1,570	7.0	13,349	31.6	17,808	31.8
Mombasa	156,816	63.4	206,878	60.6	266,131	58.9
Taita Taveta	26,940	24.3	24,470	16.6	36,512	17.7
Tana River	11,673	23.0	12,952	14.0	17,703	13.8
Coast Province*	212,652	22.5	222,229	16.5	275,123	15.2

* District totals do not add up to province figure due to inter-district migration within the province.
Sources: Computed from Kenya 1976; 1984; 1996c.

Birth place data over the last twenty years indicate that up-country migrants in Coast Province originate mainly from Eastern, Nyanza, Western and Central Provinces (Table 5). Although most migration streams had traditionally terminated in the municipality of Mombasa, by 1979 the Coast had established an interesting migration pattern. Except Taita Taveta, all districts exhibited a net in-migration in the 15-24 age bracket. Mombasa and Kwale had a net loss of children aged 5-9 years. There was a correlation between the latter phenomenon and out-migration of females in the 25-29 age group from the province. Mombasa, Kwale and Kilifi Districts experienced a net loss of people between 50 and 59 years of age. This return migration was mainly directed towards Nyanza Province and Western Province. This pattern remained largely unchanged between 1969 and 1989 (Odipo 1995).

Table 5 Number of life-time in-migrants by district and province of origin, 1989

	Kilifi	Kwale	Lamu	Mombasa	Taita Taveta	Tana River	Coast Province	as % of all in-migrants
Nairobi	1,433	708	480	8,516	1,643	266	13,046	3.1
Central	2,444	3,541	7,045	17,032	2,154	2,268	34,484	8.2
Coast	20,050	12,081	4,928	93,679	11,466	4,412	146,616	34.7
Eastern	6,023	15,039	1,370	51,098	9,931	3,278	86,739	20.6
North Eastern	674	125	374	1,597	657	3,349	6,776	1.6
Nyanza	5,602	3,999	961	46,040	3,870	1,932	62,404	14.8
Rift Valley	1,264	1,374	1,601	6,919	1,570	727	13,455	3.2
Western	2,738	2,417	515	31,403	2,373	1,276	40,722	9.7
outside Kenya	1,600	2,166	498	9,315	2,738	124	16,441	3.9
not registered	336	167	36	532	110	71	1,252	0.3
Total	42,164	41,617	17,808	266,131	36,512	17,703	421,935	100

Source: Computed from Kenya 1996c: Table 2.2 and Appendix II.

The population movement into the three districts of Mombasa, Kilifi and Kwale is consistent with the job-seeking hypothesis typically related to rural-urban migration. The districts receive streams of young migrants mainly from Eastern, Nyanza and Western Provinces. Given that such movements are primarily for employment and not for permanent settlement, the migrants tend to send their children aged 5-9 years and wives aged 25-34 years back home as a means for maintaining effective linkages with their areas of

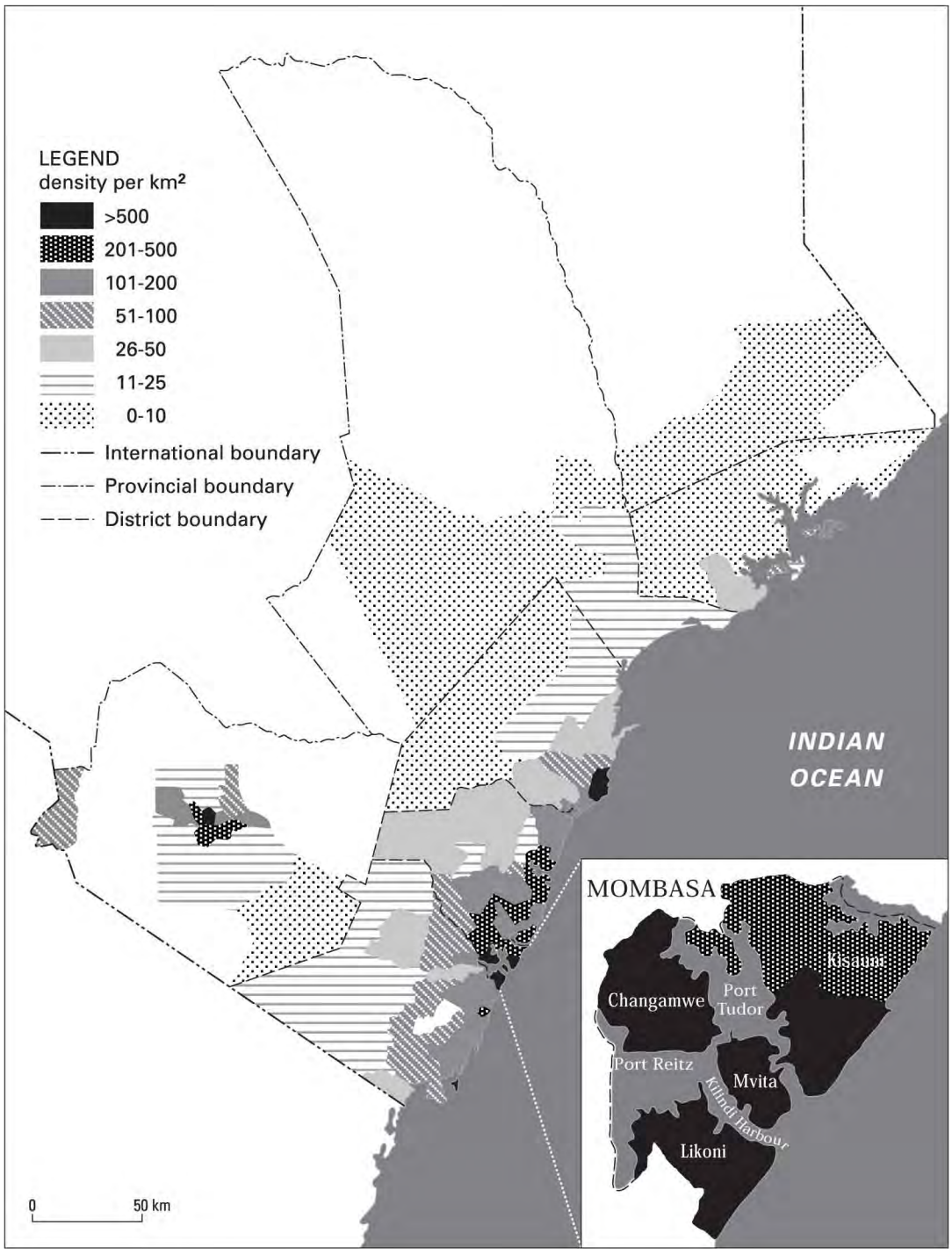

Figure 1 Population density

(Source: Kenya 1994a) *Note:* Population densities are based on the administrative unit of the location. Especially in Lamu District and in the areas west of the Coastal Range in Kwale and Kilifi Districts locations tend to be quite big and may hide smaller populationconcentrations at the sub-locational level.

origin for later retirement (Oucho 1996; Wakajummah 1986). Such a counter-stream forms what is basically an urban-rural type of population migration.

Extensive out-migration of young people aged 10 to 39 years from Taita-Taveta District is typical of rural-urban migration while the inflow of people of all ages into Tana River and Lamu Districts reflects a migration pattern typical of post-independence re-settlement scheme areas in Kenya. Bura and Hola irrigation schemes and Lake Kenyatta, Mpeketoni and Hindi/Mahogoni settlement schemes attracted substantial numbers of settlers from up-country, thus explaining the unusually high population growth rates during the 1969-1979 intercensal period. Tana River District attracted most migrants from districts in North Eastern Province while Lamu received settlers from Central and Rift Valley Provinces. This pattern of migration has since declined and most of the migration streams and counter-streams to and from Coast Province are currently concentrated in Mombasa, Kwale and Kilifi Districts, with a notable overflow of the Mombasa population into the latter two districts.

POPULATION DISTRIBUTION, STRUCTURE AND COMPOSITION

The interplay of the three components of demographic dynamics has made the coastal region to be one of the major zones of population concentration in the country. The geographical distribution in the region crudely depicts the complex interaction of environmental factors — including, among others, rainfall, soil fertility, and the inhibiting influence of biotic factors — and socio-economic factors (Figure 1). The characteristic arrangement of population has become a marked feature of Coast Province. The highest concentrations are found in Mombasa District (about 1,600 persons/km^2 for the whole district and over 6,000 for Mombasa Island alone) and the Coastal Plain and Coastal Range in Kilifi and Kwale Districts. On the other hand, the areas further inland, away from this belt of high density and to the north of Malindi which is more arid, are very sparsely populated. This applies in particular to the most western part of Kilifi District, most of Garsen Division of Tana River District, most of Lamu District as well as the adjoining part of Garissa District. In all these areas, densities of less than five persons/km^2 are common.

High birth rates and high death rates have combined to create age structures which are basically youthful, while the prevailing migration trends caused the more urbanized districts to have more males than females at a ratio of 126:100. There is a marked contrast between the population structure of the urban population (for simplicity sake here defined as the population of Mombasa District) and the rural population (all other districts; Figure 2). First, the rural population is much younger. Second, there is a female surplus in the rural areas in the 20-40 age bracket. Accordingly, males of the working age are overrepresented in the urban areas. These patterns reflect the rural-urban migration movements within Coast Province as well as the influx of migrants from up-country, mainly to Mombasa.

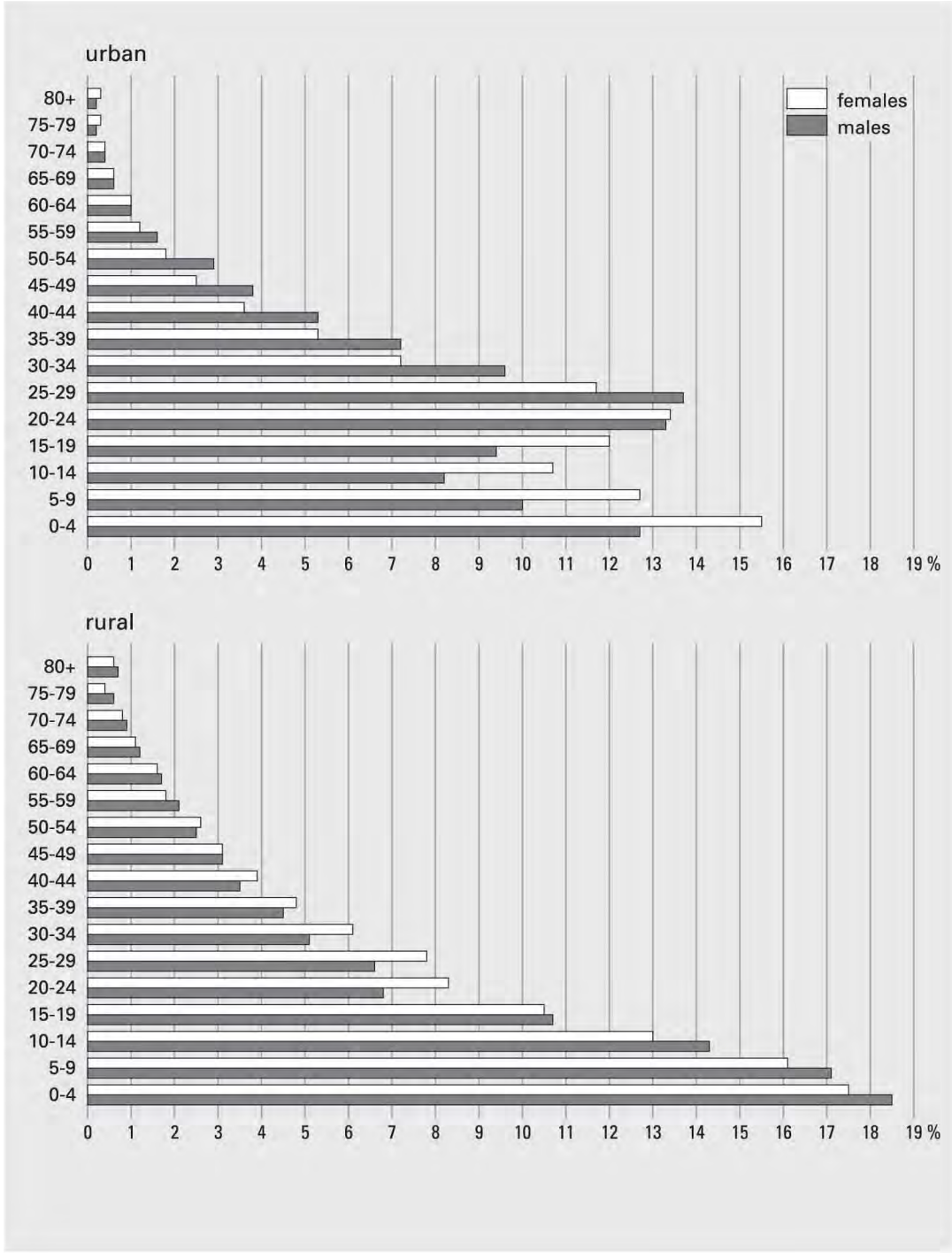

Figure 2 Population composition by age class and region, 1989
(Source: Kenya 1994a)

Partly due to the influx of so many migrants from elsewhere, Coast Province is quite heterogeneous in terms of ethnic composition. Table 6 shows all ethnic groups with a 1989 population of at least 7,500 persons. About 75% of the coastal population consists of representatives of nine 'indigenous' ethnic groups: Mijikenda, Taita, Pokomo, Bajun, Orma, Arabs, Taveta, Swahili-Shirazi and Boni-Sanye. Of these, the Mijikenda form by far the biggest population group (more than half of the total population). The Mijikenda are subdivided into nine sub-groups ('miji kenda' stands for 'nine villages'), of which the Digo, Duruma (both living in Kwale District) and the Giriama (Kilifi District) are the most important ones. Most of the ethnic groups mentioned above are concentrated in one or two districts. For instance, the population of Taita Taveta consists for about 75% of the two ethnic groups after which the district was named while the Pokomo and Orma are heavily concentrated in Tana River.

Table 6 Ethnic composition of Coast Province population by district, 1989 (%)

ethnic group	Kilifi	Kwale	Lamu	Mombasa	Taita Taveta	Tana River *	Coast Province
Mijikenda	90.3	82.5	7.0	28.0	3.4	3.1	54.3
Taita	0.5	0.9	0.7	6.7	71.4	0.3	10.2
Kamba	1.8	8.9	2.7	12.5	9.9	2.0	6.9
Luo	1.1	1.2	1.9	13.9	2.4	1.4	4.5
Kikuyu	0.7	1.1	26.4	6.3	1.5	2.5	3.2
Pokomo	0.3	0.2	2.6	0.9	0.1	36.7	3.0
Bajun	1.3	0.2	40.1	2.8	0.0	0.6	2.5
Orma	0.1	0.0	2.0	0.0	0.1	32.7	2.4
Taveta	0.0	0.0	0.1	0.3	5.1	0.0	0.7
Swahili-Shirazi	0.2	0.8	0.9	1.2	0.2	0.0	0.6
Boni-Sanye	0.5	0.2	4.6	0.1	0.2	10.7	0.4
Arabs	1.1	0.1	4.2	4.8	0.1	0.7	1.8
Asians	0.2	0.1	0.3	5.3	0.1	0.8	1.5
Europeans	0.1	0.7	0.7	1.3	0.2	0.0	0.6
Other**	1.8	3.3	5.9	15.8	5.3	18.4	7.4
Total (%)	100	100	100	100	100	100	100
Total (number)	591,494	383,065	57,119	462,120	207,558	129,276	1,830,633

* Data for Garsen Division alone are not available, so the Tana River figures concern the whole district.

** Other ethnic groups include Somali (6,794), Kisii (6,748), Meru (6,504), Kalenjin (4,317), Maasai (3,589), Gabra (2,745), Embu (2,672), Boran (2,632), Ogaden (2,044), Tharaka (1,672), Gurreh (1,357), Teso (1,265), Njemps (1,233), Kuria (1,061), and various groups with less than 1,000 persons living in the coastal region. Also included in this category are 'other Kenyans' (13,484), Tanzanians (6,172), Ugandans (1,440), and 'other Africans' (3,040).

Source: Kenya 1994a.

Another 15% of the population are representatives of the major ethnic groups from the interior: Kamba, Luo and Kikuyu. Most of these are found in Mombasa, although quite a number of them were attracted to the settlement schemes along the coast, which explains the fairly high number of Kamba in Kwale District and Kikuyu in Lamu District (Table 6). Mombasa is a real 'melting pot', where also the majority of the Arab, Asian, European and Swahili population can be found.

CONSEQUENCES FOR DEVELOPMENT

The current demographic situation in Coast Province reflects past and present changes in the levels of fertility, mortality and migration. The youthful age structure is mainly the effect of high be it slowly declining birth and death rates. In order to initiate a major demographic transition from the present structure with an excessive number of dependants to a mature age structure with most people being aged between 20 and 60 years, it will be necessary to manipulate the socio-economic environment in which fertility decisions are made. The low level of female education in Coast Province not only has bearings on the level of fertility and mortality but it also serves to restrict the entry and active participation of women in the non-agricultural labour force. Such women are less exposed to methods of fertility regulation and lack basic knowledge of primary health care. Very little would be achieved in terms of fertility and mortality reductions and hence in development if the problem of the low level of female education in Coast Province is left unresolved (Merric 1985; Wyon & Gordon 1971; Wakajummah 1996). An increased level of female education will no doubt have a desired effect mainly because such a development will increase the labour market opportunities for women, increase their age at marriage and cause a reduction in infant mortality and hence lower the ideal number of desired children.

Both the rate of natural increase and population movement into the coastal region have greatly augmented the size of the labour force, which has created serious problems of under-employment, unemployment and poverty. This is particularly so given that most of the up-country migrants still maintain strong links with their home districts and hence do not treat the Coast as permanent area for investment (Oucho 1983; 1996). Moreover, the narrow pattern of population distribution has important implications for economic development in the area. Among other things, it stands to influence the distribution of economic and human infrastructure in quantities commensurate with population densities. Such eventuality will no doubt continue to favour the coastal strip at the expense of the sparsely populated regions of the province. There is therefore need to develop the existing infrastructure and encourage investment in urban and rural informal sectors in the less favoured regions in order to reduce the extent of inter-district inequality which is currently tilted in favour of Mombasa and its environment. Among other options, there will be need to open up opportunities for small-scale industry and promote informal economic enterprises in the rural areas close to the domestic resource base. This will require massive investment in rural infrastructure, in combination with a bottom-up approach to regional planning (Obudho 1983).

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REVIEW DETAILS

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