

ROUTLEDGE AFRICAN STUDIES

Continuity and Change in Sub-Saharan African Demography

Edited by
Clifford O. Odimegwu and
John Kekovole

ROUTLEDGE 

First published 2014
by Routledge
711 Third Avenue, New York, NY 10017

and by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

*Routledge is an imprint of the Taylor & Francis Group,
an informa business*

© 2014 Taylor & Francis

The right of Clifford O. Odimegwu and John Kekovole to be identified as the authors of the editorial material, and of the authors for their individual chapters, has been asserted in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

Trademark Notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Library of Congress Cataloging-in-Publication Data

Continuity and change in Sub-Saharan African demography / edited by
Clifford O. Odimegwu and John Kekovole. — 1st Edition.

pages cm. — (Routledge african studies ; 17)

Includes bibliographical references and index.

1. Africa, Sub-Saharan—Population. 2. Demography—Africa,
Sub-Saharan. I. Odimegwu, C. O., editor of compilation. II. Kekovole,
John, editor of compilation. III. Series: Routledge African studies ; 17.

HB3661.A3C686 2014

304.60967—dc23

2013051006

ISBN13: 978-0-415-71194-4 (hbk)

ISBN13: 978-1-315-87944-4 (ebk)

Typeset in Sabon
by IBT Global.



SUSTAINABLE
FORESTRY
INITIATIVE

Certified Sourcing

www.sustainableforestry.org

SFI-01234

SFI label applies to the text stock

Printed and bound in the United States of America
by IBT Global.

Contents

<i>List of Figures</i>	xiii
<i>List of Tables</i>	xvii
<i>Foreword</i>	xxi
<i>Acknowledgments</i>	xxiii
1 Introduction and Organization	1
CLIFFORD O. ODIMEGWU AND JOHN KEKOVOLE	
2 Examining the Accuracy of Age-Sex Data: An Evaluation of Recent Sub-Saharan African Population Censuses	12
CHUKS J. MBA	
3 Analysis of Mortality Using Census and Household Data: A Practical Bayesian Multilevel Spatial Modeling Approach	36
LAWRENCE KAZEMBE AND N.B. KANDALA	
4 Child Health and Mortality in Sub-Saharan Africa: Trends, Causes, and Forecasts	60
YOHANNES KINFU, COLLINS OPIYO, AND MARILYN WAMUKOYA	
5 Indirect Estimation of Levels of Adult Mortality in Sub-Saharan Africa	78
STEPHEN AYO ADEBOWALE AND SUNDAY ADEPOJU ADEDINI	
6 Fertility Transition in Sub-Saharan Africa: Evidence from Census Data	97
SUNDAY ADEPOJU ADEDINI	

x	<i>Contents</i>	
7	Nuptiality Patterns and Differentials in Sub-Saharan Africa: Analysis of African Census Data	113
	GIDEON RUTAREMWA	
8	Population Distribution in Sub-Saharan Africa: Internal and International Migrations in Sub-Saharan Africa	130
	AKANNI AKINYEMI AND SUNDAY OMOYENI	
9	Demography of Labor Force in Sub-Saharan African Censuses	158
	CLIFFORD O. ODIMEGWU	
10	The Dynamics of Household Structure in Sub-Saharan Africa	173
	LATIFAT D.G. IBISOMI AND NICOLE DE WET	
11	Sub-Saharan African Children and Adolescents: Economic Gain or Burden?	192
	ONIPEDE WUSU AND EMMANUEL OLAGUNJU AMOO	
12	Orphaned Children in Sub-Saharan Africa: What Can We Learn from Census Data?	210
	BRUNO MASQUELIER AND ABDRAMANE B. SOURA	
13	Profiling the Elderly: Understanding Recent Trends in Acceleration of Sub-Saharan African Population Aging	234
	HENRY VICTOR DOCTOR	
14	Sex Profile in Education and Educational Attainment in Sub-Saharan Africa	251
	SERAI DANIEL RAKGOASI	
15	Living Arrangements of Children in Sub-Saharan Africa and Their Implications on Schooling	268
	ESTHER W. DUNGUMARO	
16	Armed Conflict and Demographic Outcomes in Mozambique and Rwanda: What Can Censuses Tell Us?	284
	CARLOS ARNALDO	

11 Sub-Saharan African Children and Adolescents

Economic Gain or Burden?

*Onipede Wusu and
Emmanuel Olagunju Amoo*

1 INTRODUCTION

The current population of Africa is estimated at more than one billion with a rate of natural increase of 2.4 percent (Population Reference Bureau [PRB] 2011). Within the continent, the sub-Saharan region is playing a leading role in the prevailing rapid population growth rate in the world. This region comprises 84 percent of the population of Africa and is growing at 2.6 percent annually. The fastest-growing countries are all in the region. For example, Niger, Uganda, Burundi, and Burkina Faso each have a natural increase greater than 3 percent. In addition, Nigeria is at present the seventh most populous country and the only African country among the first ten most populous countries in the world (Bongaarts 1997; Bloom and Humair 2010; PRB 2011). The first ten, having between 45 percent and 50 percent under age 15, are all in sub-Saharan Africa (SSA). They include Niger, Uganda, Mali, Angola, Zambia, Burundi, Congo Democratic Republic, Mozambique, Chad, and Burkina Faso (PRB 2011). On average, in 2009, SSA had 43 percent of its population between age zero and 14 years, while the average for all low-income countries was 39 percent and the world average was 27 percent (Sippel et al. 2011; World Bank 2011).

The picture painted above demonstrates that SSA is the region in the world with the highest proportion of children. The situation is more pathetic if the proportion of adolescents is added. The United Nations International Convention Article 1 of the child right defines a child as anybody below age 18. It is also widely agreed that any person within the age-group 10–24 is an adolescent (Bahadur and Hindmarsh 2000; UNAIDS 2004; Federal Ministry of Health 2007; Bankole and Malarcher 2010). For the sake of clarity, in the context of the present study, children are conceptualized as persons within the age-group 0–9 while adolescents are considered as young people between ages 10 and 24 years. Therefore, SSA is certainly the world region with the highest concentration of children and adolescents. Forty-one percent of the population on the continent is below age 15. The proportion is 43 percent in SSA, 43 percent in the west, 44 percent in the east, 45 percent in middle Africa, and 31 percent in the south (PRB 2011; World Bank 2011). These figures suggest that about 50 percent of the population in the region comprises children

and adolescents. The questions that are germane to this chapter are: what are the implications of these large proportions of children and adolescents in the region? Can they be considered as dividend or debt?

2 THEORETICAL FRAMEWORKS

A search for the answer to the questions raised above is attempted in this chapter within the age structure–economic framework and the other two supporting theories (economic theory of fertility and price of children theory).

2.1 Age Structure–Economic Framework

The age structure–economic framework stipulates the existence of a significant relationship between the population age structure of a country and its economic condition (Ashford, 2007; Bloom *et al*, 2007; Crespo-Cuaresma *et al*, 2007). Three main population age structures can be identified globally. The first consists of an age structure with a large proportion of children and adolescents under age 19 years, having a relatively small working age-group and very small number of the elderly. This age structure depicts a broad-based population pyramid. In the second type, the age structure is undergoing transition; there is a gradual reduction in the proportion of children and adolescents, a growing proportion of the productive age-group, and a growing cohort of the elderly. The pyramid of such populations manifests a shrinking base and burgeoning middle-age population. The third type of age structure depicts a small proportion of under-15 cohorts, a burgeoning working age-group, and a large proportion of the elderly. The type of age structure a population mirrors is a function of the stage of the demographic transition on course (Recher 2011).

Demographic transition theory is “a detailed description of change in mortality and fertility” that occurred in Europe and has been applied to other world regions, though with some limitations. Figure 11.1 depicts the phases of the demographic transition theory. The second phase represents the period of population explosion in a country where mortality has begun to decline but traditional reproductive health behavior sustaining high fertility still persists. This situation supports a real demographic problem with a very large proportion of young persons. The first age structure identified above is synonymous with the second phase of the classical demographic transition. The third and fourth phases represent the second and third age structures, respectively. Countries that are in the third phase of demographic transition exhibit the second age structure, in which fertility begins to decline. There is a significant reduction in the proportion of children and young persons, thereby promoting increase in the working age-group population. In this case the number under age 15 in the population begins to shrink. Reduction in dependants and subsequent increase in the working age-group presents the demographic bonus.

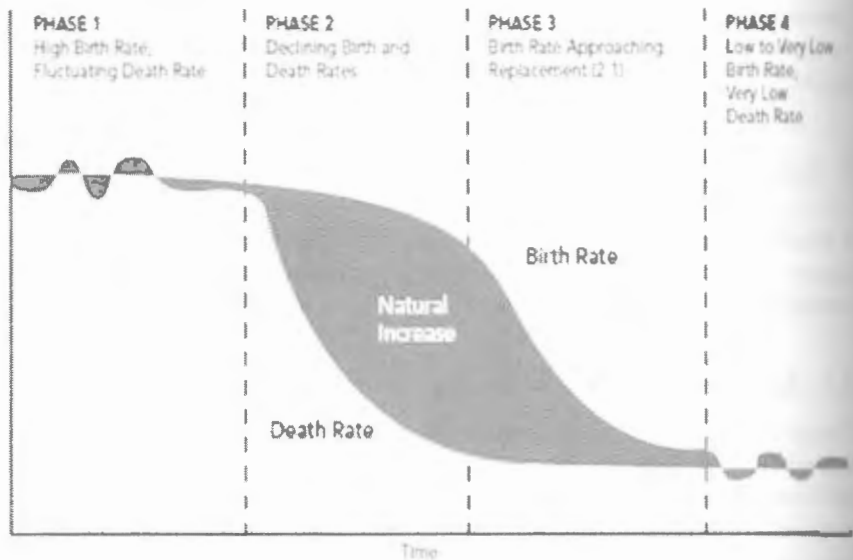


Figure 11.1 Classic phases of demographic transition.

Source: PRB (2011).

Countries that have completed their demographic transition are characterized by the features of the third type of age structure. Such countries benefited from the window of opportunity opened to them by their demographic change, in which they experienced a prolonged decline in fertility, leading to rapid increase in working age population, which promoted labor supply, savings, investment, and economic performance—referred to as demographic dividend (Bloom, Canning, and Sevilla 2003; Leete and Schoch 2003; Herrmann et al. 2011). In clear terms, the demographic dividend results from declining fertility and a growing workforce so that fewer resources are needed to cater for the dependants. More resources are then released for investment. A decline in birthrate can engender development opportunities that could profit succeeding generations in terms of access to education, health care services, employment opportunities, and increasing levels of productivity (Sippel et al. 2011). This brings about rapid economic growth and social welfare. However, this dividend is not an automatic process (Ross 2004; Bloom et al. 2007). According to Bloom and his colleagues, institutions such as the rule of law, transparency, efficient bureaucratic systems, freedom of political representativeness, freedom of speech, and so on, are very critical for any country to realize this dividend. Given the existence of the right institutional framework, countries in this category experience rapid social and economic transformation during their demographic windows of opportunity. The dividend abated after some time and such countries now battle with a burgeoning population of the aged. Fortunately,

the many years of development have enabled such societies to put in place social welfare policies that cater for the increasing proportion of the elderly that have resulted from a prolonged period of fertility decline. This age structure is typical of countries in Europe and North America, as well as Australia, Japan, and New Zealand (PRB 2011; World Bank 2011).

The second type of age structure is a reflection of societies that have reached an advanced stage in their demographic transition and are currently benefiting from their demographic window of opportunity. Such countries have been able to reduce their fertility and subsequently have a growing proportion of working age population. They are already realizing the demographic dividend. The existence of appropriate institutions is accelerating economic growth and development in such societies through increasing labor supply and savings. The experience of the Asian Tigers in the 1980s and 1990s best describes this category of age structure (Bloom and Williamson 1998; Wongboonsin, Guest, and Prachuabmoh 2005).

The first type of age structure is typical of countries where fertility is still very high and demographic transition is either very slow or has stalled. In this situation, the population age structure is dominated by children and adolescents; the population pyramid is generally with a broad base. The working age population is usually sparse and it is also characterized by a small proportion of the elderly. SSA countries and those of Southwest Asia are still at this stage of demographic transition, and it was projected that about 59 percent of world population growth between 1995 and 2025 would occur in these regions (Casterline 2001). North African countries have not fared too well, either. The whole of Africa still represents a high fertility region: demographic transition has been very slow or stalled in a few countries and in the majority it has not really taken off (Bongaarts 2008). Therefore, the age structure is largely a youthful one, with about 50 percent being children and adolescents. One important implication of this is that the working age population is likely to be limited. It is against this background that this chapter seeks to provide an answer to this question: what does this type of age structure portend for SSA?

2.2 Economic Theory of Fertility

The economic theory of fertility indicates that children are considered to be economic commodities, in which case couples evaluate the costs and benefits of children before the decision to procreate (Espenshade 1972; Lindert 1980; Becker 1973; Togunde and Newman 2005). The economic theory of fertility is related to children–parents wealth flow analysis especially as applicable to Africa. In this part of the world, children are often seen as a source of income, over and above any costs the parents might incur. Children in Africa are viewed as security for old age in terms of finance and care. They are considered to be helping hands on farms, for household chores, and in some cases work to augment the family income (Orubuloye

1987, 1991; Caldwell 1982; Caldwell, Caldwell, and Orubuloye 1992). However, with widespread civilization and the influence of globalization in the face of the absence of or the inadequacy of governmental welfare support, children are expected to go to school, be nurtured, sheltered, well fed, and protected, solely by their parents and guardians. This responsibility impacts heavily on parents' social and economic resources. Thus, rather than being dividends, children and adolescents are on the average, a burden.

2.3 Price of Children Theory

The price of children theory emphasizes the opportunity cost concept of children. It states the effects of cost of child rearing on parents' income and employment opportunities, and the relation between the quantity and quality of children (Lindert 1980; Becker and Barro 1988). The theory considers money expended on children in terms of expenses in bearing and raising them through parental expenditure on food, clothing, shelter, medical, education, and security, including other noneconomic costs (Espenshade 1972). Specifically, current economic realities demonstrate that the task of financing children's education and investing in their general development is enormous. For example, schooling has become more expensive in recent times. In addition, the current wealth flow indicates that more resources now flow from parents to children.

Although it is not currently clear how soon the preference for larger families in most SSA countries will abate, the increasing level of urbanization has considerably lessened the need for a large number of children. In addition, improvements in modern medicine and public health could culminate in improved life spans that could further result in an excessive supply of children and adolescents. There is no gainsaying the fact that the consequence of this situation, if left uncontrolled, would generate pressure on the available resources (Wolfgram 2005). It would create inadequacy that is most likely to aggravate poverty levels.

The age structure, economic theory, and the two supporting theories have demonstrated the economic implications of a large proportion of children and adolescents (especially under 15 years old). The rest of this chapter discusses an empirical analysis of the question of whether children and adolescents in SSA are a dividend or a debt. Section 3, data and methods, discusses how census data from purposively selected countries in SSA were used and the methods of analysis adopted. Section 4 presents the findings of the descriptive statistical and demographic analytical strategies employed in the analysis of census data of the selected countries. This section also includes the discussion of the findings. Section 5 attempts to explain the findings in the context of the age structure-economic performance framework, pointing out answers to the main question addressed in the study. In addition, salient conclusions are drawn and policy implications of major findings are highlighted.

3 DATA AND METHODS

This section presents a discussion on how this study was executed. To start with, one country each was selected to represent the eastern, western, and southern parts of SSA. The selection process was guided by the availability of at least two sets of census data.¹ In this regard, Kenya, Senegal, and South Africa were purposively selected. While Kenya and Senegal have two sets of census data each, South Africa has three sets. Three variables that are germane to this study are age, educational attainment, and employment status.

Individual population was classified into *children, adolescents, working, and old* populations using different age-groups in accordance with international standards. However, children and adolescents are the two population groups at the center of this study. Children were grouped as those in ages between 0 and 9 years, while those in age-group 10 to 24 were considered adolescents (UNICEF 2006; United Nations and UNICEF 2011). These age-groups were employed in highlighting children and adolescents in the construction of age pyramids to demonstrate the age distribution of the population for the selected countries. In a typical dependency ratio, the working population is classified as 15 to 64 years and those below age 15 and above 65 years of age are classified as dependants. However, as earlier indicated, since the study's target populations are children (age 0–9 years) and adolescents (10–24 years), in order to compute dependency ratio for children and adolescents (those who are not supposed to work), the age-groups were reclassified into 0–14 for dependants, 15–64 for the working age-group, and the old as 65 and above (elderly dependants), as shown in Table 11.2 This new age-group (0–14 years) includes children (0–9 years) and young adolescents between ages 10 and 14 years, who, by law, are not expected to be engaged in any economic activities.

The second main variable involved in the analysis undertaken is the educational status of children and adolescents. The measurement of this variable varied across the three countries. In Kenya and South Africa, education was measured in terms of educational status. Kenya's two censuses identified four categories of educational status, namely, none, standard 1–8, form 1–6, and tertiary. On the other hand, South Africa used three different but similar categorizations of educational status, which is consistent with the education policy in operation in the country. The measurement here was more of years of schooling. In 1996, six categories were used—none, year 0 (preschool), 1–3 years, 4–6 years, 7–9 years, and tertiary. In the 2001 census, the preschool category was excluded. The 2007 census measured educational status using similar categories but excluded no schooling. In the two censuses for Senegal, education attainment was classified into four categories (none, primary grade 1–5, secondary grade 6–12, and tertiary). In the analysis carried out using this variable, the emphasis was on the proportion of children and adolescents undergoing education and training in various countries. Although there is a great deal of variation in the classifications, it was easy to highlight the proportion not in school using a no education category. This cut across all the countries selected.

The employment status of the sampled populations was similar across the three countries. The study adopted employment status definitions that categorized responses to employed, unemployed, and not in the universe/missing/unknown. In order to achieve a simple presentation of the analysis with respect to the findings of this variable, the latter category was excluded.

Three main analytical strategies were applied. First, population pyramids were constructed for the selected countries to highlight the prevailing age-sex structure of various populations. This enabled us to capture graphically the age structure of the selected populations. The second level of analysis involved computing the dependency ratio vis-à-vis the general dependency ratio, percentage distribution of children and adolescents by educational attainment, and employment status. A projection was made in order to have an adequate perspective on the inherent burden of large number of dependants in transiting economies that are characterized by social and political inadequacies. Because of the limited formation available in the census data sets used, only ratio projection techniques moderated through sub-regional ratio projections could be used. This is also employed because it is census data dependent. Its procedures are not too stringent, coupled with the fact that it can also be used with or without age-sex details. This is, however, done using Population Analysis Spreadsheets for Excel (PASEX) as designed by the US Bureau of the Census, International Programs Center (US Census Bureau 2003; Kenya National Bureau of Statistics 2012).

All these were applied to highlight whether the groups of population under investigation are a dividend or a debt. The SPSS software for Windows Version 20.0 was used in all aspects of the analysis. Generally, a cross comparison among the three randomly selected countries was carried out to determine which of the countries share the highest burden or gain in terms of the age structure of the population.

4 RESULTS

This section presents a description of the findings. These are addressed under three main subsections.

4.1 Children and Adolescent Population Structure

Figure 11.2 shows the population pyramids of Kenya, Senegal, and South Africa. The three pyramids indicate that the age distribution of all the selected countries representing the eastern, western, and southern parts of Africa were largely youthful. Kenya's broad-based pyramid reflects that about 45 percent of the population are children and adolescents. Senegal's age distribution was similar to Kenya's. South Africa painted a relatively different picture, reflecting an apparent reduction in the proportion of the population below age 10, leading to a significant reduction in the proportion of children and adolescents. The situation exhibited in the pyramids indicates that although South Africa

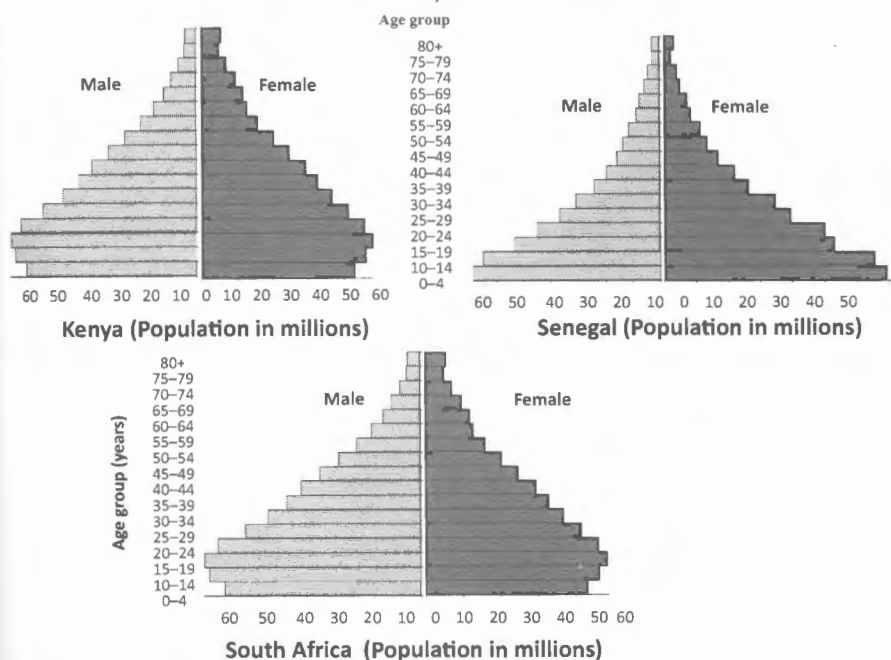


Figure 11.2 Population pyramid for Kenya, Senegal, and South Africa.

Source: Computed from available census data sets of Kenya, Senegal, and South Africa (1989–2007).

has begun to show a reduction in the proportion of young persons in her population, the populations of the three countries was still very young. The recent data released by the PRB (2011) indicate that 44 percent of Senegal’s population, 42 percent of Kenya’s, and 30 percent of South Africa’s population were reported below 15 years of age, supporting the pyramid structure presented.

There is no doubt that the age distribution highlighted above may have some significant implications for the economies of the selected countries. In Kenya and Senegal, the proportion of the population that were children and adolescents suggests that the two countries had a large number of children and adolescents who were either in or outside schools. The population consisted largely of young people undergoing one form of training or another. Such population categories are generally dependants. Although the proportion of South Africa’s population that was below age 10 was declining, the proportion is still capable of exerting a significant negative effect on both family and government resources. The proportion of children and adolescents in the three countries is likely to mount pressure on the purse of families (Wolfgram 2005) because their basic needs must be satisfied by their parents. The economic burden on families is exacerbated owing to the prevailing large number of biological and nonbiological children and adolescents. This is likely to exert a negative effect on their domestic saving ability, needed to improve family wealth status. Similarly, government finances in various countries are overstretched as a result of ever-increasing demands for social infrastructures, such as educational facilities, necessitated by the youth glut.

This youth glut also presents a challenge that would extend into the immediate future. The fact that the pyramids have broad bases currently indicates that the populations have the momentum to keep growing. Even if modern reproductive health attitudes begin to gain ground in these countries and fertility levels begin to fall, the possibility that the youth glut will continue for a long time is still high, especially in Senegal and Kenya. Thus, in the near future the economic burden of the youth glut is likely to be enormous. However, the youth glut could turn into a dividend with the possibility of transforming the economies of the countries provided required infrastructures and institutions are given adequate attention, especially in Kenya and Senegal.

4.2 Dependency Ratio

The children dependency ratio (CDR) is conceived in this context as children and adolescents between ages 0 and 14 years who are not required by law to be economically engaged vis-à-vis the proportion of the population who are expected to be economically active (aged 15–64). The basic objective of the use of this indicator was to illuminate the rate of child dependency in various countries compared with the usual population-wide dependency ratio. The total children dependency ratio was highest in Kenya (approximately 89 percent), followed by Senegal (85 percent), as shown in Table 11.1. South Africa exhibited the lowest, but is still relatively high if compared with what obtains in economically advanced countries of the world (Sippel et al. 2011). These high ratios indicate that out of every 100 in the working age population, there were 89, 85, and 53 children and adolescents depending on them in Kenya, Senegal, and South Africa, respectively, as shown in Table 11.1.

The demographic situation in the selected countries indicates a high prevalence of large proportions of children and adolescents constituting a heavy economic burden demonstrated in the high children and adolescent dependency ratio. The large proportions of children make tremendous contributions to the high prevailing total dependency ratio that have been undermining socio-economic development of the region. This is reflected in the close gap between the two ratios. Out of the 95.1 percent total dependency ratio estimated for Kenya, children dependency was 88.5 percent. Senegal ranked second with 91.8 percent total dependency ratio, of which the children dependency ratio was 85 percent, while South Africa recorded a 62.4 percent total dependency ratio, of which children constituted 53.2 percent (Table 11.1). Apparently, the dependency burden in SSA is largely a function of the high proportion of children stemming from the persistence of high fertility and very low adoption of modern contraceptives (Cleland et al. 2006; United Nations 2011). These intertwined conditions continue to aggravate the poverty burden in the region (Merrick 2002; Phumaphi 2011). The high children dependency ratio implies large groups of dependants that must be cared for. This makes it difficult to increase domestic savings—individuals and governments are thus unable to adequately invest and contribute sufficiently to employment generation. This situation has sustained the vicious cycle of poverty over the years in SSA.

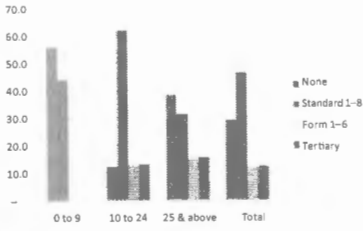
Table 11.1 Children and Adolescent Dependency Ratio versus Total Dependency Ratio by Selected Countries

Country	Year/ Age- Group					Children	Total
		0-14	15-64	65+	Total	Dependency Ratio	Dependency Ratio
South Africa	1996	1,223,929 (34%)	2,175,555 (60%)	221,680 (6%)	3,621,164 (100%)	56.3	66.4
	2001	1,209,795 (33%)	2,324,361 (62%)	191,499 (5%)	3,725,655 (100%)	52.0	60.3
	2007	313,980 (30%)	667,595 (64%)	66,082 (6%)	1,047,657 (100%)	47.0	56.9
	Total	2,747,704 (33%)	5,167,511 (62%)	479,261 (6%)	8,394,476 (100%)	53.2	62.4
Senegal	1988	327,850 (47%)	347,969 (50%)	24,380 (3%)	700,199 (100%)	94.2	101.2
	2002	423,411 (43%)	535,580 (54%)	35,571 (4%)	994,562 (100%)	79.1	85.7
	Total	751,261 (44%)	883,549 (52%)	59,951 (4%)	1,694,761 (100%)	85.0	91.8
Kenya	1989	514,312 (48%)	523,355 (49%)	36,431 (3%)	1,074,098 (100%)	98.3	105.2
	1999	612,043 (44%)	748,954 (53%)	46,550 (3%)	1,407,547 (100%)	81.7	87.9
	Total	1,126,355 (45%)	1,272,309 (51%)	82,981 (4%)	2,481,645 (100%)	88.5	95.1

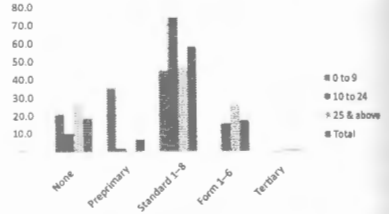
However, it is worthy to note that the individual censuses indicate that, in the three countries, the ratio has been declining. South Africa manifested the highest level of decline in children and adolescents' dependency ratio. The ratio declined from 56.3 percent in 1996 to 47 percent in 2007. Although Kenya and Senegal experienced some decline in this ratio, it is actually insignificant. Thus the prospect for significant declines in children and adolescent dependency ratios in SSA is higher in South Africa than in the other two selected countries.

4.3 Literacy Level/Educational Attainment

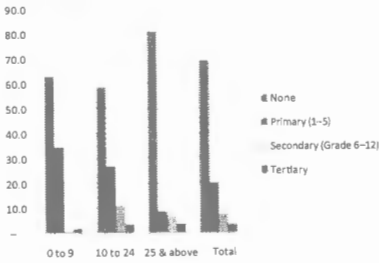
Figure 11.3 shows that Senegal recorded proportion of illiterate population (those with no education) across all age-groups. The large proportion of illiterates (1998 = 63 percent; 2002 = 51 percent) among children aged 0-9 years may be a result of the fact that most of the children were likely not expected to be in school because of official minimum age requirements applicable in the countries. In contrast, the situation with adolescents where more than 50 percent had no education in both censuses represents



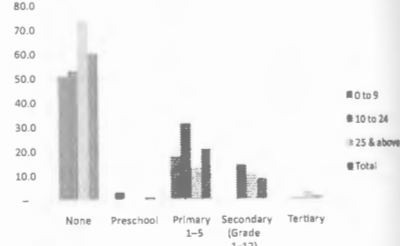
Kenya 1988



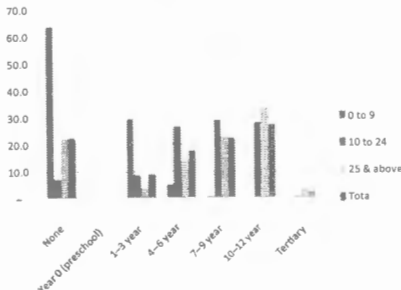
Kenya 1999



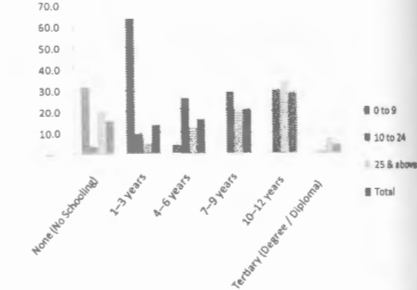
Senegal 1988



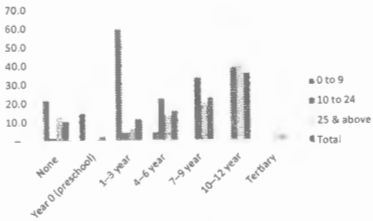
Senegal 2002



South Africa 1996



South Africa 2001



South Africa 2007

Figure 11.3 Education attainment by age-group across selected countries.

very serious problems. One in every five adolescents may not have been to any school in Senegal. Apparently, the decline in the proportion who were illiterate in the relevant population is quite insignificant.

The above situation suggests that the majority of adolescents in the country are not being prepared in skills acquisition in order for them to take advantage of employment opportunities in the formal sector. If such adolescents are

equally not engaged in agricultural activities, they are likely to exacerbate the dependency burden in the country now; the problem will be more devastating in the future owing to the multiplier effect on the economy.

Kenyan and South African data performed better than Senegal's on this variable (children's and adolescents' educational status). In Kenya, the proportion of adolescents with no education declined from 12.3 percent in 1989 to 9.6 percent in 1999, while it fell from 7 percent in 1996 to 1.1 percent in 2007 in South Africa. The percentage of children who had no education followed a similar pattern. Generally, the data available for the two countries indicate that the educational status of children and adolescents in Kenya and South Africa has improved significantly. This implies that the populations are increasingly being equipped with basic skills, which is likely to position individuals to make quality contributions to the economies of their countries in the immediate future. Thus, they may currently be considered debts as a result of the high demand for educational facilities, but the probability is very high that they will become dividends sooner or later given that they were already acquiring necessary training.

However, it is noteworthy that the children and adolescents in the selected countries may not be regarded entirely as constituting economic burdens or debts, even currently. Ideally, anybody below age 15 is expected to be undergoing one form of training or another. With the exception of South Africa, in the selected countries, a significant proportion of children and adolescents under 15 years of age were reported as employed.

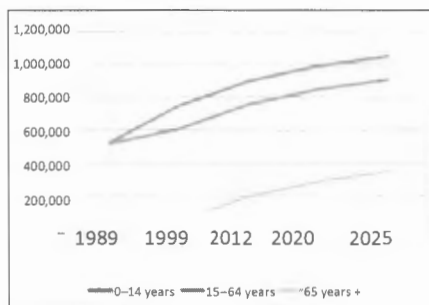
This is not surprising in a setting where child labor of different dimensions is prevalent. The International Labour Organization estimates that the greatest incidence of child labor in the world is present in SSA (28.4 percent of all 5–14 years old; it is just 14.8 percent for Asia and the Pacific and nine percent in Latin America) (see <http://www.ilo.org/ipec/Region-sandcountries/Africa/lang—en/index.htm>). The implications of this situation are both positive and negative. In the positive sense, the young people below 15 years of age contributed to the economy of their countries. On the other hand, the young population engaging in economic activities portends negative implications. They were supposed to be undergoing training that would position them for optimum economic contributions in the future when the demographic window is expected to open. Of course, growing up without such skills, such individuals would either become a burden to the society in the future or grossly underemployed.

4.4 Projected Dependency Levels for Children and Adolescents across the Selected Regions

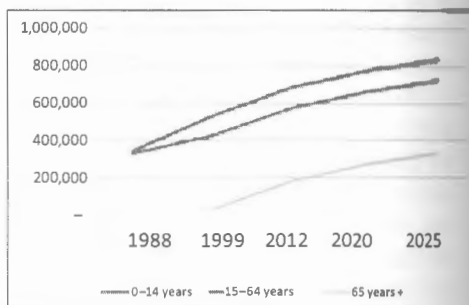
The projection for dependency levels for children and adolescents was done on a subregional basis to ensure adequate comparison among the selected countries. The first two years' census data for each of the countries were used as the base. The dependants across the ages of 0–14 and 65 years and above were projected for the years 2012, 2020, and 2025 (Figure 11.4). It is

also considered necessary to depict the likely trend of working population (15–64 years) who are to shoulder the responsibility of the dependants. This could be relevant in evaluating the dependency burden among the selected population.

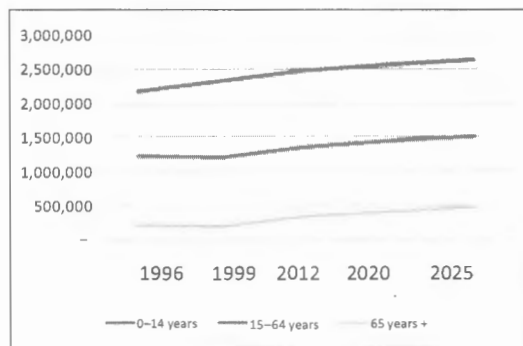
It is observed from Figure 11.4 that dependants in age-group 0–14 years will be in keen competition with the working population across all projected years in Kenya and Senegal. The graph shows steady upward movement from 1989 in Kenya and continues until approximately 2025, after which there is seemingly a ray of decline. Owing to the high level of under-15 dependants coupled with the number of dependants among those that are 65 years old and above, it is not likely that the working group (15–64 years) would be sufficient to cater for them. Besides, the low-wage or low-income syndrome in developing nations (from where the sample countries were selected), the level of corruption, and government instability, to mention but a few problems, may work adversely against any support toward catering for these dependants. The emerging situation could possibly result in deprivation, squalor, disease, and sickness as well as other social menaces. Thus, rather than adding value (if any) to development in these countries, this group becomes an economic and social burden.



a. Kenya (1989–2025).



b. Senegal (1988–2025).



b. South Africa (1996–2025).

Figure 11.4 Projected dependency levels across the selected regions.

5 CONCLUSION

This study has examined the socioeconomic implications of SSA children and adolescents within the age structure and economic relationship framework. The census data analyzed show clearly that the region is still largely characterized by a soaring proportion of young people who are largely dependants. If urgent reductionate demographic policies are not sustainably implemented, the region has the potential for sustaining this momentum, probably for a long time. The analysis has demonstrated that the youthful population structure is the major contributor to the prevailing high dependency ratio in the region. Consistent with various age structures and economic relationship frameworks adopted for the study, the present proportions of children and adolescents are more of an economic burden at both micro (individual families) and macro (governments) levels. However, the census data analyzed revealed that a relatively significant proportion of children and adolescents below 15 years of age participated in the labor force in two of the three countries sampled (Kenya and Senegal). Be that as it may, the fact that a vast majority of the children and adolescents are still undergoing one form of training or another, which is expected to place pressure on resources at various levels, is most likely to aggravate the economic burden. Thus, currently the children and adolescents in the region are rather to be regarded as debts.

Nevertheless, if reductionate population policies are vigorously implemented now, and birthrates begin to decline in a sustainable way, the current large proportion of children and adolescents would graduate into the working age population in about a decade, while the dependency ratio would decline. If appropriate economic, social, and legal frameworks are put in place, this situation is most likely to propel rapid economic growth and social welfare. In the first place, a higher proportion of the population would be working owing to the graduation of the present children and adolescent into the working age-group. More resources will also be released to finance investment and employment as a result of the declining proportion of children and adolescents attributable to falling or low birthrates. Given that the dependency ratio would decline, both public and private savings are likely to increase. All things being equal, this situation should lead to a rise in investment and employment generation. Ultimately, economic progress should manifest in the region.

The challenge, however, is that most of the countries in the region do not have effective reductionate demographic strategies in place. With the exception of South Africa, where a fair process of demographic transition appears to be on course, the other two countries, representing the majority of the region, have manifested a stalling transition (Bongaarts 2008). This implies that the current broad-based population pyramids are most likely to persist for a longer time with an increasing dependency ratio stemming from a large proportion of children and adolescents. This situation will continue to exacerbate the pressure on resources in various countries for a much longer time, domestic savings will remain very low, and investment and employment generation will also continue to decline. Given the high level of private and public corruption and

the prevalence of irresponsible governments in the region, SSA children and adolescents may remain more of a debt than a dividend (Mulinge and Lesetedi 2002; Hanson 2009).

Finally, African children and adolescents are the future of the continent and have the potential to exert transformative impacts on economic and social spheres of the society. They are the parents and teachers of the next generation. The quantum of investment in them in the present time will determine the quality of the next wave of population. If they have access to education, decent working conditions, and sexual and reproductive health services, they will certainly become a strong force to drive economic development and positive social change in the region. However, if they are given only limited access to education, distortion in their sexual and reproductive health rights, and unemployment, they will ultimately become social and economic liabilities, and the hope of socioeconomic development in the region will continue to be compromised.

Table 11.2 Percentage Distribution of Children and Adolescents by Employment Status by Selected Countries

	0-9	10-14	15-64	65+	Total
Kenya 1989					
Employed	–	8.9	85.5	5.6	100.0
Unemployed	0.0	39.6	56.1	4.3	100.0
Total	0.0	20.4	74.5	5.1	100.0
Kenya 1999					
Employed	8.2	10.8	76.6	4.5	100.0
Unemployed	29.6	26.0	41.3	3.1	100.0
Total	16.5	16.7	62.9	3.9	100.0
Senegal 1988					
Employed	7.1	8.6	79.8	4.4	100.0
Unemployed	21.8	19.4	54.3	4.5	100.0
Total	16.1	15.1	64.3	4.5	100.0
Senegal 2002					
Employed	3.6	7.1	85.8	3.4	100.0
Unemployed	21.1	21.6	52.4	4.9	100.0
Total	27.1	15.9	65.5	4.3	100.0
South Africa 1996					
Employed	–	–	97.7	2.3	100.0
Unemployed	29.5	15.4	48.3	6.8	100.0
Total	22.6	11.8	59.8	5.8	100.0

(continued)

Table 11.2 (continued)

	0-9	10-14	15-64	65+	Total
South Africa 2001					
Employed	-	-	99.8	0.2	100.0
Unemployed	-	-	99.1	0.9	100.0
Total	-	-	99.3	0.7	100.0
South Africa 2007					
Employed	-	-	99.7	0.3	100.0
Unemployed	-	-	99.1	0.9	100.0
Total	-	-	99.4	0.6	100.0

ABBREVIATIONS

Sub-Saharan Africa (SSA)

Population Reference Bureau (PRB)

Joint United Nations Programme on HIV/AIDS (UNAIDS)

Population Analysis Spreadsheets for Excel (PASEX)

United Nations Children Fund (UNICEF)

Statistical Package for Social Sciences (SPSS)

ACKNOWLEDGMENTS

The authors gratefully acknowledge the Minnesota Population Center, for permission to access IPUMS-International database, and all the reviewers whose comments contributed to refining the quality of this chapter.

NOTES

1. Data for the selected countries were accessed from the IPUMS-International database archived by Minnesota Population Center (2011).

REFERENCES

- Ashford, Lori S. (2007). Africa's Youthful Population: Risk or Opportunity? *Bridge*, June, 2007. Population Reference Bureau, USA. June, 2007. P1-4
- Bahadur, G. & Hindmarsh, P. (2000). Age definitions, Childhood and Adolescent Cancers in relation to Reproductive Issues. *Human Reproduction*, Vol. 15, No. 1, 2000. pp227-230. DOI: 10.1093/humrep/15.1.227-230
- Bankole, A. & Malanrcher, S. (2010). Removing Barriers to Adolescents' Access to Contraceptive Information and Services. *Studies in Family Planning*, Vol. 41, No. 2, pp117-124

- Becker, Gary S. & Barro Robert J. (1988). A Reformulation of Economic Theory of Fertility. *Quarterly Journal of Economics*. Vol. 103, No 1, February, 1988, pp1–25. Oxford University Press.
- Becker, G.S. (1973). A Theory of Marriage: Part I. *The Journal of Political Economy*, Vol. 81, No. 4 (July–August), 1973, pp813–846.
- Bloom, D. & Williamson, J.G. (1998). Demographic Transition and Economic Miracle in Emerging Asia. *World Bank Economic Review*, Vol. 12, 1998. pp419–456.
- Bloom, D. E. & Humair, S. (2010). Economic Development in Nigeria: A Demographic Perspective. Harvard Africa Seminar. April 3, 2010
- Bloom, David E, Canning David, Fink Günther & Finlay Jocelyn (2007). Realizing the Demographic Dividend: Is Africa any different? Working Paper Series, No. 23, May 2007. Program on the Global Demography of Aging (PGDA), Harvard University, May 2007. <http://www.hsph.harvard.edu/pgda/working.htm> Accessed 2012–11–16.
- Bloom, David, Canning David & Sevilla Jaypee (2003). Demographic Dividend: New Perspective on Economic Consequences Population Change. RAND Corporation, Santa Monica, California.
- Bongaarts, J. (1997). *Future Population Growth and Policy Options*. Policy Research Division, The Population Council, New York December 1997.
- Bongaarts, J. (2008). Fertility Transition in Developing Countries: Progress or Stagnation? *Studies in Family Planning*, Vol. 39, No. 2, 2008. pp 105–110
- Caldwell, J.C. (1982). *Theory of Fertility Decline*. New York: Academic Press.
- Caldwell, John C, Caldwell Pat & Orubuloye I.O (1992). The Family and Sexual Networking in Sub-Saharan Africa: Historical Regional Differences and Present-Day Implications. *Population Studies*, Vol. 46, No 3, 1992. P385–410
- Casterline, J. B. (2001). The pace of Fertility Transition: National Patterns in second half of Twentieth Century. *Population and Development Review*. Population Council, Vol. 27 (Supplement), pp17–52.
- Cleland, J' Bernstein, S; Ezeh, A.; Faundes, A.; Glasier, A. & Innis, J. (2006). Family Planning: The Unfinished Agenda. *The Lancet Sexual and Reproductive Health Series*, Vol. 368, No. 9549, 2006. Pp1810–1827
- Crespo-Cuaresma, Jesus, Lindh Thomas, Malmberg Bo, Halvarsson Max, Prskawetz Alexia & Werner (2007). The Relationship between Demographic Change and Economic Growth in the EU. Research Report 32, July 2007. Vienna Institute of Demography, Wohllebengasse, July 2007.
- Espenshade, T.J. (1972). The Price of Children and Socio-economic theories of Fertility. *Population Studies*. Vol. 26, No. 2, July 1972, pp207–221.
- Federal Ministry of Health (FMOH), (2007). *Nature Strategic Framework on the Health and Development of Adolescents and Young People in Nigeria*. Federal Ministry of Health, Nigeria, Abuja. July, 2007.
- Hanson, S. (2009). "Corruption in Sub-Saharan Africa". www.cfr.org/publications/19984. Accessed 25/01/2012.
- Herrmann, M.; Guzman, J.M.; Juran, S. & Schensul, D. (2011). *Population Dynamics in the Least Developed Countries: Challenges and Opportunities for Development and Poverty Reduction*. United Nations Population Fund (UNFPA). New York, NY 10158 USA.
- International Labour Organisation. <http://www.ilo.org/ipecc/Regionsandcountries/Africa/lang—en/index.htm>. Accessed 25/01/2012.
- Kenya National Bureau of Statistics (2012). Kenya National Seminar on Census Data Analysis.
- Leete, R. & Schoch, M. (2003). Population and Poverty: Satisfying Unmet Need as the Route to Sustainable Development. In (eds.) Leete Richard, Royan Rabbi and Schoch Mickie, *Population and Poverty: Achieving Equity, Equality and Sustainability Series*. Population and Development Strategy Series, Number 8, 2003. United Nations Population Fund, New York. Pp9–38.

- ndert, P.H. (1980). Child Costs and Economic Development, In Richard A. East-erlin (ed.) *Population and Economic Change in Developing Countries*, pp3-80, University of Chicago Press. 1980. ISBN: 0-226-18027-1.
- errick, T.W. (2002). Population and poverty: new views on an old controversy. *International Family Planning Perspectives*, Vol. 28, No. 1, pp41- 46.
- Minnesota Population Centre (2011). Integrated Public Use Microdata Series Inter-national: Version 6.1 [Machine-readable database], Minneapolis: University of Minnesota, 2011.
- ulunge, M. M. & Lesetedi, G. N. (2002).Corruption in sub-Saharan Africa: Towards a More Holistic Approach. *African Journal of Political Science*, Vol. 7, No.1, 2002. pp 51-77.
- airobi, Kenya. Kenya National Bureau of Statistics, March 19-22, 2012
- rubuloye, I. O. (1991).The Implications of the Demographic Transition Theory for Fertility Change in Nigeria. *International Journal of Sociology of the Fam-ily*, Vol. 21, pp161-174.
- rubuloye, I. Olatunji (1987). Some Socio-Cultural Factors Influencing the Deter-minants of Fertility: Selected Case Studies in Nigeria." In (eds.) Ebigbola, Joshua A. and Akin, J. and Van de Walle, Etienne. *The Cultural Roots of African Fer-tility Regimes The Proceedings of the Ife Conference on the Cultural Roots of African Fertility Regimes*. Department of Demography and Social Statistics, Obafemi Awolowo University, Ile-Ife and Population Studies Centre, University of Pennsylvania, USA. Pp331-345.
- humaphi, J. (2011). *Family planning and economic growth*. Council on Foreign Relations Working Paper. New York: Council on Foreign Relations.
- Population Reference Bureau (2011). 2011 World Population Data Sheet. Popula-tion Reference Bureau. Washington, DC. www.prb.org
- echer, D.S. (2011). Economic and Social Implications of the Demographic Transi-tion. *Population and Development*. Vol. 37 (Supplement), ppP11-33
- oss, J. (2004). Understanding the Demographic Dividend. Policy Project. Wash-ington: Fortunes Group.
- ippel, L; Kiziak, T., Woellert, F. & Klingholz, R (2011). Africa's Demographic Challenges: How a Young Population can Make Development Possible. Berlin: Berlin Institute for Population and Development.
- ogunde, D. & Newman, S. (2005). Value of Children, Child Labour and Fertili-ty Preferences in Urban Nigeria. *West Africa Review*, Issue 7. Africa Resource Center, Inc. 2005. ISSN: 1525-4488
- U.S Census Bureau (2003). "Population Analysis Spreadsheets for Excel 97-2000 (PASEX)". International Programs Center, U.S. Census Bureau, Washington
- UNAIDS (2004). "'HIV Testing of Specific Populations: Children and Adoles-cents". UNAIDS Global Reference Group on HIV/AIDS and Human Rights. Third Meeting, Geneva, 28-30 January 2004.
- UNICEF (2006). Programming Experiences in Early Child Development. Early Child Development Unit, Programme Division, United Nations Children's Fund, New York, USA, November 2006.
- United Nations, and UNICEF (2011). The State of the World's Children 2011: Ado-lescence: An Age of Opportunity. United Nations, UNICEF. New York, USA.
- United Nations (2011). *World contraceptive use 2011*. New York: United Nations.
- Wolfgram, F.A. (2005). *Population, resources and environment: A Survey of the Debate*. The Heritage Foundation, Population Research Institute, The Catholic Family and Human Rights Institute. The Catholic University of America.
- Wongboonsin, K; Guest, P. & Prachuabmoh, V. (2005). Demographic Change and the Demographic Dividend in Thailand. *Asian Population Studies*, Vol. 1 No 2, 2005. pp 245-256.
- World Bank (2011). *World Development Indicators*. World Bank Group, Washing-ton DC.