

CHAPTER 4: DEMOGRAPHY

I. Introduction

Today, most developing countries have achieved quite low levels of mortality and fertility and much lower rates of population growth than in the 1960s. The situation is quite different in Africa, and especially in sub-Saharan Africa (SSA). In several SSA countries, mortality declines have stalled, or even been reversed in the 1980s and 1990s because of the impact of HIV/AIDS and civil unrest. In addition, fertility declines generally associated with mortality declines, in what is called the demographic transition, are occurring in most African countries much later than elsewhere in the world. As a result, most African countries still have very high levels of fertility, high rates of population growth, and very young populations.

Because of these trends, most African countries must today confront two major population-related challenges. First, most countries in the region will need to tackle *the doubling or the tripling of their working age population*. This exceptional increase of the labor force could be called a demographic “heritage of the past”. It is the direct result of high fertility levels since the 1960s, a consequence of the lack of interest and a neglect of the demographic trends on the part of public authorities, the civil society, and international donors. Providing jobs to all new job seekers will be a daunting challenge. Today, in all but three African countries, the age group 15-29 represents more than 40% of the adult population (above age 15), a phenomenon known as the “youth bulge”. By 2030, 40 of the 53 countries studied⁴⁷ are likely to continue to have more than 40% of their adult population in the 15-29 age group, and by 2050, 27 countries (half of them) will still be in that position if fertility decline remains as slow as it has been in the past. These young people will be more and more concentrated in urban areas and mega-cities (there might be 15 cities of more than 10 million in 2050, compared to only two in 2010). This could pose a significant challenge and, unless addressed satisfactorily, might translate into major social disruptions similar to those that have been observed recently in several Northern African countries during the “Arab Spring”.

The second challenge facing African countries is related to the creation of the conditions needed to bring a better future for the African young generations of tomorrow. Future development and prosperity require a rapid decline in the presently high dependency ratios, as has been the case in today’s emerging countries. This can only be achieved through a steady decline of the proportion of youth aged less than 15 or 20 years. Such a decline will allow reallocating parts of the important resources devoted to the health and education of large numbers of children below age 15, to the secondary and tertiary education of young adults and to the creation of jobs. In fact, the corresponding changes in the age structure fulfill one of the conditions needed to benefit from a demographic dividend. Such a scenario implies, for the majority of African countries, a much more rapid fertility decline than the one that has been observed so far. This fertility decline can only be achieved if contraceptive coverage increases markedly from present low levels to rates of about 60% or more of women in union by 2050.

⁴⁷ There are 54 sovereign countries in Africa with South Sudan, which became independent in July 2011. South Sudan is not analyzed in this chapter because of lack of reliable estimates.

To sum up, the dual challenge of most African countries will be to deal with the demographic situation inherited from the past whilst preparing at the same time for a better future for the upcoming generations. This can be managed through the design and implementation of sound population, health, education, and economic policies. However, these policies must be put in place as soon as possible for these countries to be able to capture the benefits of a demographic dividend, trigger inclusive growth, reduce poverty levels, and eventually achieve economic convergence.

The main reason for the rapid population growth of most African countries since the 1960s is that they have experienced late and slower demographic transitions and fertility declines than other countries of the world (Bongaarts & Casterline 2012; Guengant 2007; Guengant 2012; and Guengant & May 2011a). The demographic transition is defined here as the shift from a “traditional” regime of high mortality and high fertility to a new “modern” regime of low mortality and low fertility.

This shift from a “traditional” to a new “modern” demographic” regime can be slow or more rapid, it can be influenced by socioeconomic factors, and it can be accelerated (or not) by the design and implementation of adequate population and health policies (or the lack thereof). Northern African countries have seen their fertility decline sooner, in the 1970s, i.e., a decade before the countries in Southern Africa. But most other countries in Eastern, Middle (Central), and Western Africa experienced the beginning of their fertility declines only in the 1990s or 2000s, and some of them have had so far no fertility reduction whatsoever, or only incipient declines.

Conceptually, this chapter relies on a two-way relationship between socioeconomic conditions and demographic outcomes. First, the chapter posits that socioeconomic advances help foster demographic transformations and that improvements in demographic indicators also help trigger socioeconomic advances (World Bank 2007). However, improvements in socioeconomic conditions *per se* will not bring demographic changes nor will demographic transformations *as such* bring socioeconomic changes. Demographic transition is one of the necessary conditions to foster socioeconomic development, but it is not a sufficient one. Moreover, public authorities will need to intervene on mortality and particularly on fertility for the demographic changes to be rapid enough, and public authorities will need to do so, including through adequate population and health policies and programs. Secondly, the chapter asserts that demography is not destiny, in other words that the demographic trends are not an independent variable. On the contrary, policies do influence demographic outcomes and may do so even in a relatively short term, as short as 5 to 10 years, because of the relatively rapid impact of such policies on the annual number of births (May 2012; Guengant 2012).

The remainder of this chapter begins with an examination of the past and current demographic situation of the continent. Next, the chapter presents the UN population (2010) and urbanization (2011) projections for Africa, and examines the results of their different assumptions in terms of social development and dependency ratios. Section IV briefly presents a demographic Vision for 2050 and Section V concludes with a set of necessary steps and recommendations that are needed to achieve the vision.

II. Demographic Context⁴⁸

The main demographic indicators of the 53 African countries studied are presented in Annex 2, namely the total population in mid-2010, the most recent fertility levels, life expectancies at birth in 2005-2010, the percentage of population residing in urban areas in 2010, and the number of urban agglomerations with 750,000 inhabitants or more in 2010.

A. Mortality Levels and Trends since 1960

Life expectancy at birth, or the average number of years that a newborn would live under the mortality conditions prevailing at a given time, has increased in most African countries since the 1960s. But the progress has been slow, and thwarted in several countries by the deterioration of health services, the impact of HIV/AIDS, and occasionally civil strife and social unrest.

In the early 1960s, mortality levels were high in most African countries, and therefore life expectancies were low: below 50 years (and in many cases below 40 years), compared to life expectancies in the selected non-African countries, which were generally above 50 years. During this period, only seven countries of the 53 African countries studied here had life expectancies above 50 years. They were mainly islands or Southern African countries, i.e., South Africa, Botswana, Sao Tome and Principe, Zimbabwe, Cape Verde, Mauritius, and Seychelles, which had life expectancies above 60 years. Among the 12 selected non-African countries, only five countries had life expectancies between 40 and less than 50 years.

Between 1960-1965 and 2005-2010, increases in life expectancies have been important in most Northern African and African island-countries, as well as in most other non-African countries. Life expectancies at birth in 2005-2010 were estimated at above 70 years in eight countries, i.e., Egypt, Morocco, Cape Verde, Mauritius, Algeria, Seychelles, Tunisia, and Libya. But for most of the remaining 45 African countries, from the 1990s onwards, life expectancies increases have been modest, or have stagnated, and in some cases they have even decreased. This has been the case in particular in the countries most affected by the HIV/AIDS epidemic (especially in Southern and Eastern Africa), or in countries that experienced civil wars and social unrest.

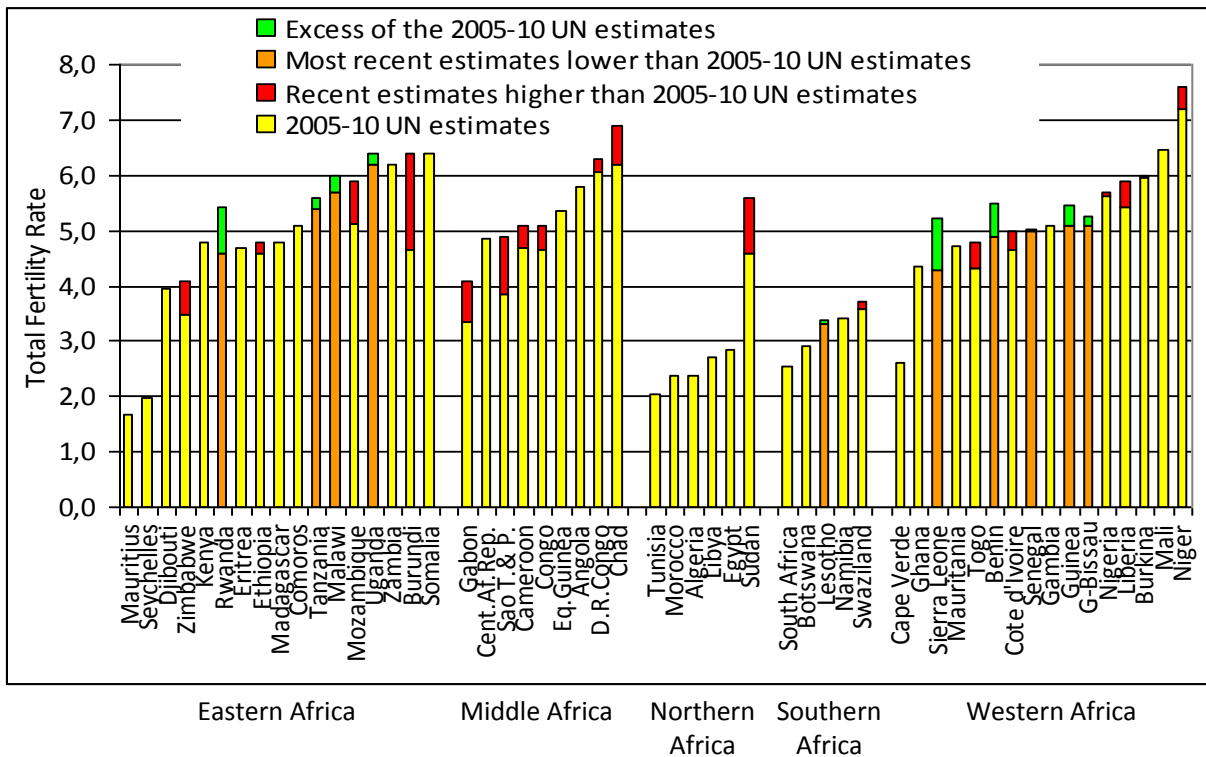
In eight of the 12 selected non-African countries, 15-year old adults had In the early 1960s a probability of dying between 15 and 60 ranging from about 250 to 350 per 1,000, or one chance in four or three to die before their 60th birthday. For the same period, most African adults aged 15 had a probability of dying between 15 and 60 ranging from 350 to more than 500 per 1,000, or one chance in two or three to die before their 60th birthday. Such high levels did not motivate adults to plan for their future. In half of the African countries in 2005-2010, the probability of dying between 15 and 60 was still estimated at more than 350 per 1,000, and in some cases (in Southern and Eastern African countries, those most severely affected by HIV/AIDS), at above 500 per thousand. Therefore, for the young adults in these countries, the chances of surviving up to their 60th birthday were still rather uncertain.

⁴⁸ See also methodological notes in Annex 1.

B. Fertility Levels and Trends since 1960

As for mortality, fertility declines have been slow and uneven in most African countries, and are still far from converging to the levels observed today in the emerging countries and in most other developing countries. As new data on total fertility rates became available since the latest 2010 United Nations projections, we have compared these estimates with the latest data published (without adjustments) (see Figure 4.1 and Annex 2).

Figure 4.1: Total fertility rates 2005-2010 estimated by the United Nations and most recent estimates from 2009-2012 surveys results, by increasing order for each region



Sources: United Nations 2011, and DHS and MICS 4 surveys results (final or preliminary results).

Using these most recent data, we have established a new typology of fertility transition in Africa⁴⁹. Two broad groups can be identified.

The first group comprises countries where total fertility rates (TFR) are now at less than four children per woman. These can be considered as countries where the “fertility transition is completed or close to completion”. A total of 13 countries are concerned, accounting for 22% of the total population of the continent.

The second group encompasses countries where total fertility rates are now between four and nearly eight children per woman (case of Niger). These can be considered as countries where the “fertility

⁴⁹ Previous typologies were based on 2009 data: see Guengant 2007 and 2009.

transition is still far from completion". A total of 40 countries (in fact 41 considering Sudan and South Sudan separately here) are concerned, accounting for 78% of the total population. Within this group, one can identify three subgroups, as follows:

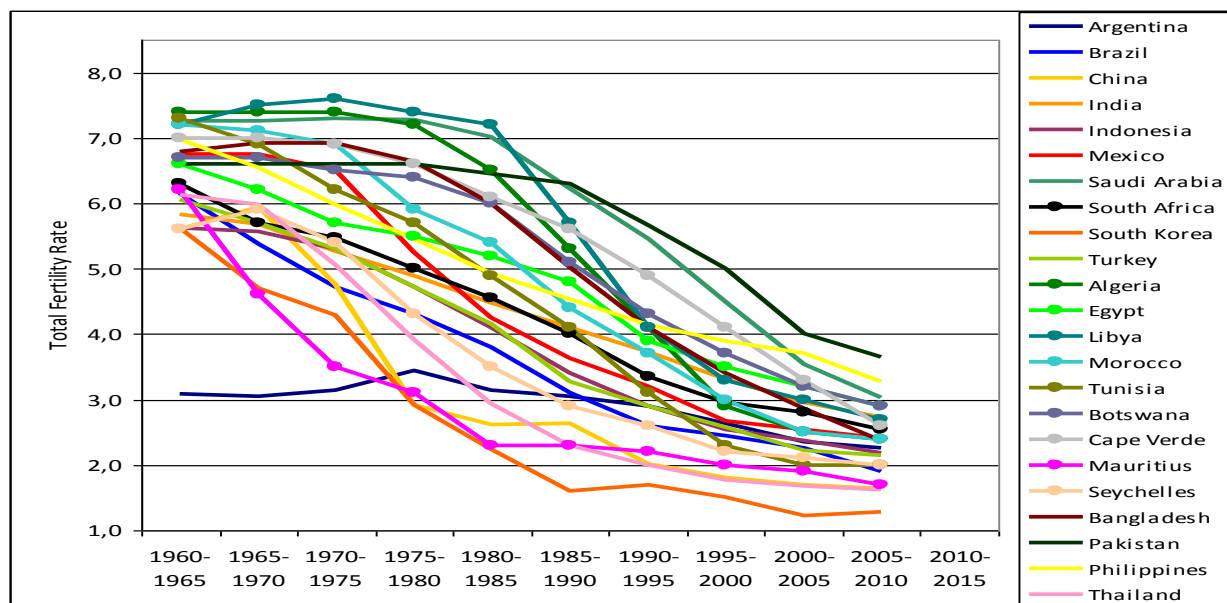
- "Transition in progress": This encompasses 15 countries with a TFR between 4 and less than 5 children per woman, accounting for 22% of the total population. These are generally coastal countries, with high urbanization, and in some case a political commitment, albeit uneven and irregular, to lower fertility (Ghana, Kenya, and recently Ethiopia and Rwanda).
- "Slow and irregular transition": This category includes 16 countries with a TFR between 5 and less than 6 children per woman, accounting for 37% of the total population. Again, these are mainly coastal countries, with mixed urbanization rates, and an absence of, or at least a low, political commitment to lower fertility. Half of these countries are considered "Fragile".
- "Very slow and/or incipient transition": This group encompasses nine countries with TFRs above 6 children per woman, accounting for 19% of the total population. Most of these countries are landlocked, with low levels of urbanization, and a lack of strong political commitment to lower fertility. A majority of these countries are considered as "Fragile".

Overall, 25 countries, accounting for nearly 60% of the population of the continent and 70% of the population of sub-Saharan Africa belong to the "slow and irregular" or "very slow and/or incipient" transition subgroups, and can be considered as being far from completing their fertility transition.

This pattern of persisting high levels of fertility in the majority of African countries differs markedly from what has been observed in other developing countries since 1960. To illustrate this difference, we have compared the evolution of total fertility rates of the 10 emerging countries that are part of the G20 Group (including South Africa), plus 9 African countries selected among the "completion or close to completion group", and four other developing countries, i.e., Bangladesh, Pakistan, Philippines, and Thailand (see Figure 4.5).

All the selected emerging and developing countries and the 10 African countries (including South Africa) of the "completion or close to completion" group had average number of children per women of about 6 to 7 children in the early 1960s, and around 1.5 and 3 children in 2005-2010 (see Figure 4.2). In 2005-2010, only Pakistan and the Philippines had higher total fertility rates, but still less than four children per woman. In most cases, declines started or accelerated in the 1960s, like in South Korea, Mauritius, South Africa, Egypt, Tunisia, and Philippines. In other cases, they started later, i.e., in the 1980s, as in Libya, Algeria, and Bangladesh. The decline has been very rapid in some countries, i.e., in Libya, Saudi Arabia, Algeria, Mexico, China, and Thailand. In several cases, fertility declines were the result of a population and health policy aimed at reducing family size. But in other cases, they were the result of women wanting to control their fertility, which was associated or not with increases in standards of living. The diversity of these patterns and of the fertility levels in 2005-2010, illustrates that the fertility declines and the demographic transition do not come automatically but, as said before, are usually associated with and accompanied by profound socioeconomic changes.

Figure 4.2: Total fertility rates from 1960-65 to 2005-2010 for selected non-African countries and African countries well advanced in their fertility transition



Sources: Sources: United Nations 2011, and DHS and MICS 4 surveys results (final or preliminary results)

The 23 African countries of the “far from completion” fertility transition group had an average number of children per woman of about 6 to 8 children in the early 1960s, and between 4 to 8 children in 2005-2010. Many of these countries experienced a fertility decline in the 1980s or even in the 1970s, i.e., Rwanda, Senegal, Côte d’Ivoire, Kenya, and Togo, but in recent years fertility stalls have been observed. Several countries experienced incipient fertility declines or no decline at all: Niger, Chad, Mali, and Burundi. If recent trends were to continue, a majority of these countries would still have fertility levels around or above 4 children per woman in 2045-2050.

C. Fertility Determinants

Fertility outcomes are shaped by two sets of determinants. The intermediate determinants of fertility are essentially socio-economic in nature, and influence fertility *indirectly*. The proximate determinants of fertility, which are mostly biological and behavioral, influence fertility *directly*.

In most sub-Saharan African countries, the intermediate determinants--levels of education, health status, employment in the formal sector, income levels, urban residence--are still low. Policy interventions in these fields generally bear fruit with a lag, and their impacts on fertility vary from one country to the next depending on other variables, noticeably family norms, social networks, and cultural values. Therefore, the policy objectives such as raising the education levels of girls, especially secondary education levels, reducing maternal and child mortality, increasing female labor participation in the formal sector, achieving a more inclusive economic growth must be considered as objectives in themselves, and not as proxy policy interventions aimed at influencing rapidly fertility through the proximate determinants.

In African countries, as in other developing countries, fertility levels are generally lower among the most educated and urban women (see Bongaarts 2010). The wealthiest households also have generally lower fertility levels than the poorest ones.

Total fertility rates have been calculated according to household wealth index quintiles from DHS data collected in 40 African countries (between 2000 and 2012 for 35 countries, and in the mid- or late 1990s for five other countries). Not surprisingly the “wealthiest” households (the 20% of households having the highest wealth index) have fewer children than the “poorest” ones (the 20% of households having the lowest wealth index). The “wealthiest” households have an unweighted average total fertility rate of 3.4 children per woman against 6.4 children for the “poorest” ones, i.e., 3 children less. However, this difference varies greatly from one country to another: from about 5 children in Angola, Zambia and Liberia, to less than one child in Egypt, Burundi, Central African Republic, and Chad—these are all countries with national high fertility levels except Egypt. Total fertility rates of the wealthiest households are low and range from 1.9 to less than 2.5 children per women in only 5 countries out of the 40 countries considered here, i.e., Morocco, South Africa, Lesotho, Ghana, and Namibia. But in 10 other countries, total fertility rates of the wealthiest households are still between 4 and 6.4 children per women, namely in Uganda, Nigeria, Democratic Republic of Congo, Benin, Guinea, Central African Republic, Mali, Burundi, Chad, and Niger. By contrast, total fertility rates of the “poorest” households are above 5 children per woman in most countries (37 out of 40 countries), and they vary from 6 to more than 8 children per woman in 28 countries. Obviously, the family norms favouring large families (expressed by the ideal number of children in the DHS) are still dominant among the “poorest” households. But these norms explain also the relatively high levels of fertility among the wealthiest households in several countries.

A proxy of wealth is calculated in the Demographic and Health Surveys (DHS), through a wealth index, which categorizes households into quintiles (from the lowest to the highest wealth index), which permits examination of the potential benefits of wealth (and of more inclusive growth) on the health and on the wellbeing of households.

Whereas in most countries women from the “wealthiest” households can afford good prenatal care and adequate delivery conditions, this is not the case for women from the “poorest” households. According to the results from the same DHS surveys, in 35 countries out of 40 more than 80% of the women from the “wealthiest” households who had a birth in the three years preceding the survey benefited from the assistance of qualified personnel (doctor and/or health professional) during delivery. By contrast, in a majority of the countries (24 out of 40) less than a third of the women from the “poorest” households benefited from such assistance. Overall, this means that not only women from the “poorest” households are more exposed to have a pregnancy at risk because of their high fertility, but for this reason they also have a higher risk of maternal death and/or death of their child.

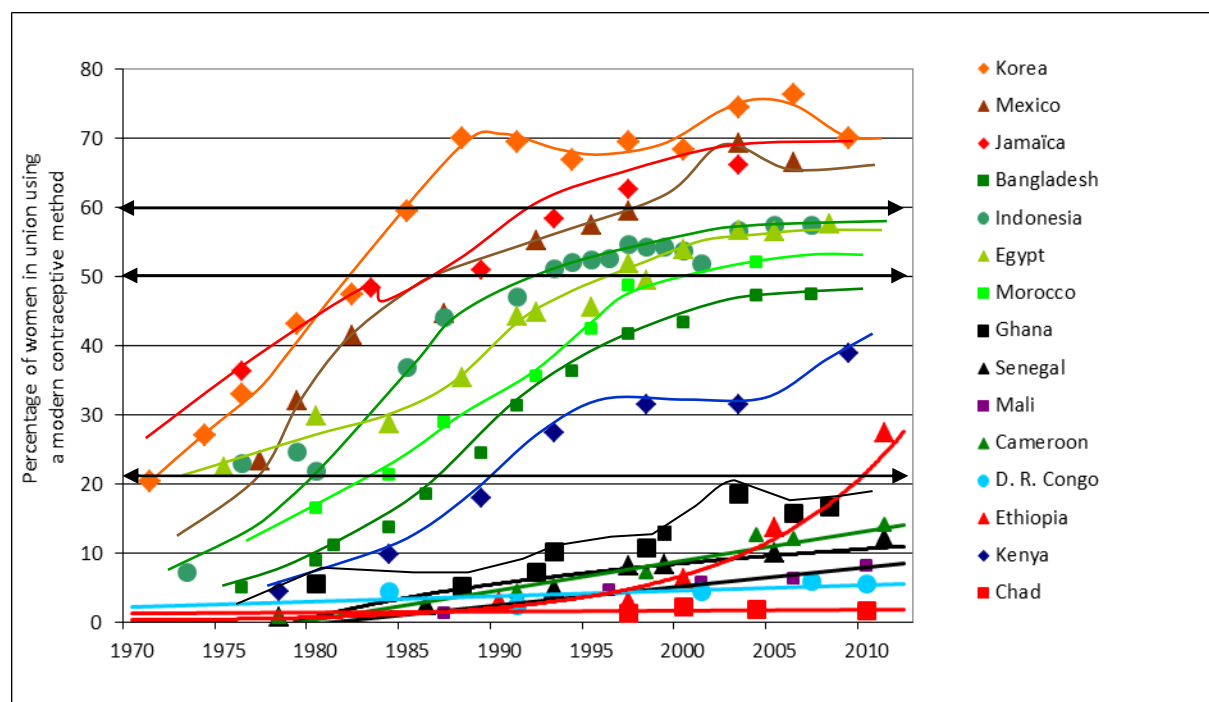
Let us turn now to the *proximate determinants* of fertility. These *determinants* include marriage (unions), postpartum infecundability (or insusceptibility), abortion (induced), contraception (modern

and traditional⁵⁰), and sterility (May 2012: 233-234). Some of these determinants are more amenable to policy interventions than others, especially when one seeks to obtain results in the short term.

It appears that high fertility levels observed today in most African countries are largely the result of persistent low contraceptive prevalence rates. Conversely, the lower fertility levels observed in most emerging, developing and some of the 13 African countries that have completed or are close to complete their fertility transition, result from a rapid increase of the use of contraceptive methods over the past 40 or 50 years, particularly of efficient modern methods—a process that has been called the contraceptive revolution.

Figure 4.3 illustrates the striking gap with respect to the increase in the use of modern contraception since 1970 between emerging market countries, on the one hand, and most SSA countries, on the other. Most countries considered here had modern contraceptive prevalence rates of 20% at most around 1970. In the following 30 to 40 years, modern contraceptive rates have increased rapidly to reach at least 50% and in several cases 60% or more in various North African and Asian countries. On the contrary, contraceptive prevalence rates have not reached 20% in a majority of sub-Saharan African countries, although there are a few recent exceptions to this general pattern (e.g., Ethiopia and Rwanda, and to some extent Madagascar). Obviously, the contraceptive revolution has not yet touched most SSA countries.

Figure 4.3: Progress in the use of modern contraceptive methods in various emerging and sub-Saharan countries since 1970

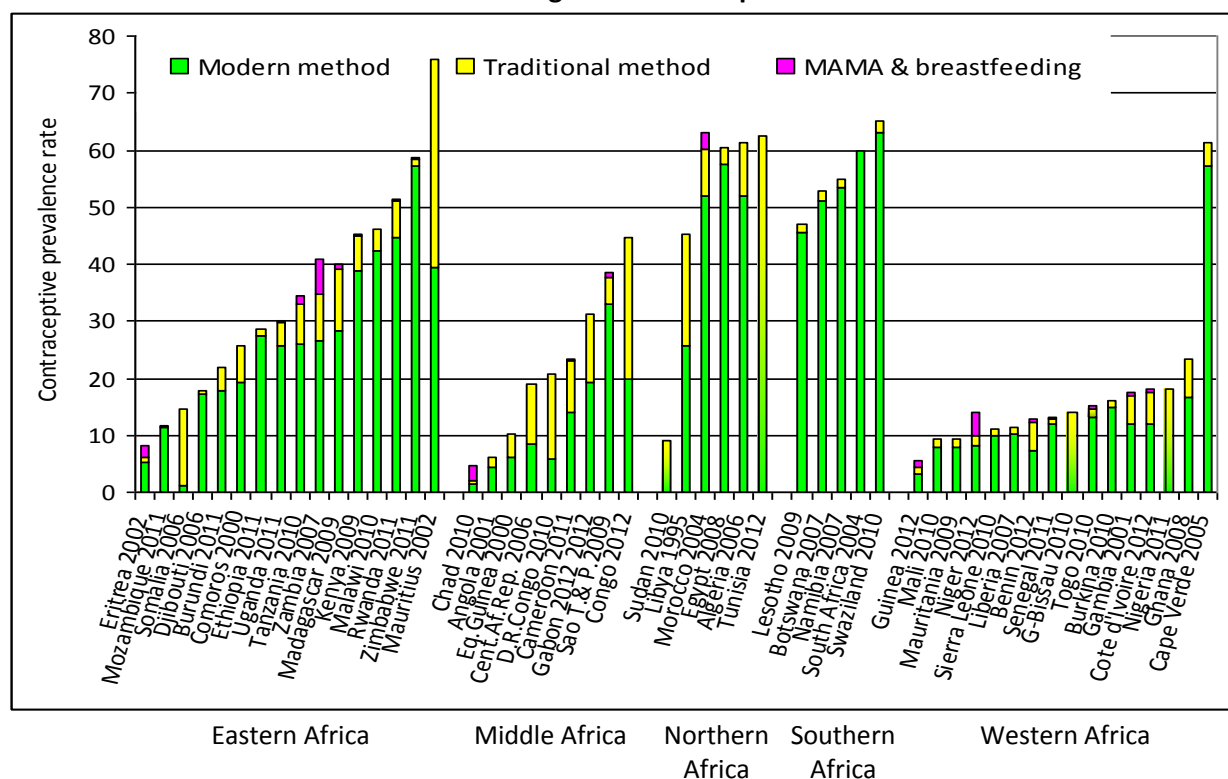


Source: United Nations 2012b, “2012 Update for the MDG Database” Contraceptive Prevalence; see <http://www.un.org/esa/population/unpop.htm> and United Nations Data base.

⁵⁰ Modern contraceptive methods are hormonal (e.g., pill, implants, and injectable), chemical or mechanical (spermicides, IUDs, and barrier methods such as condoms), or surgical (male and female sterilization).

Figure 4.4⁵¹ presents the most recent Contraceptive Prevalence Rates (CPR) for 52 out of the 53 African countries studied here, for modern and traditional contraceptive methods (there are no data for the Seychelles). The corresponding data are recent since they were collected between 2000 and 2012, except for Libya. It should be noted that in some countries modern contraceptive coverage is just a small fraction of traditional contraceptive use. This is the case in particular in Middle African countries.

Figure 4.4: Most recent contraceptive prevalence rates for African countries by type of method, region and decreasing order of total prevalence



Sources: United Nations 2012b, "Update for the MDG Database" Contraceptive prevalence, and DHS and MICS 4 surveys results (final or preliminary results).

Only 7 countries, accounting for 13% of the continent's population, had a recent contraceptive rate above 60%; they are located in Northern and Southern Africa or are island-countries, i.e., Morocco, Egypt, Cape Verde, Algeria, Tunisia, Swaziland, Mauritius, and Seychelles. At the other end of the spectrum, 30 countries accounting for 62% of the total population of the continent have a contraceptive rate below 30%, which is less than half the minimum prevalence rate required to achieve the contraceptive revolution and the fertility transition. It is worth noting that all Western African countries

⁵¹ For some countries of Figure 4.4, contraceptive prevalence rates include the "LAM" (lactational amenorrhea method), which is now often regarded as a modern method of contraception, as well as breastfeeding, which is generally considered a traditional method. However, it should be noted that the effectiveness of LAM or "postpartum contraception" is based on three conditions that must be met simultaneously: 1) the baby must be less than 6 months old, 2) the mother must be amenorrheic (not having her periods back), and 3) breastfeeding should be practiced day and night, on demand. LAM is often equated with breastfeeding, and the percentages of LAM users are generally low and unreliable. For comparison purposes, therefore, the percentages of "users" of LAM or breastfeeding have been displayed separately from the percentages of "users" of other methods. In addition, the most recent data given for Sudan, Tunisia, Guinea-Bissau, and Nigeria are for all methods.

but one (Cape Verde) have contraceptive rates below 30%. In sub-Saharan Africa, 78% of the population lives in a country where less than 30% of the women in union use a contraceptive method.

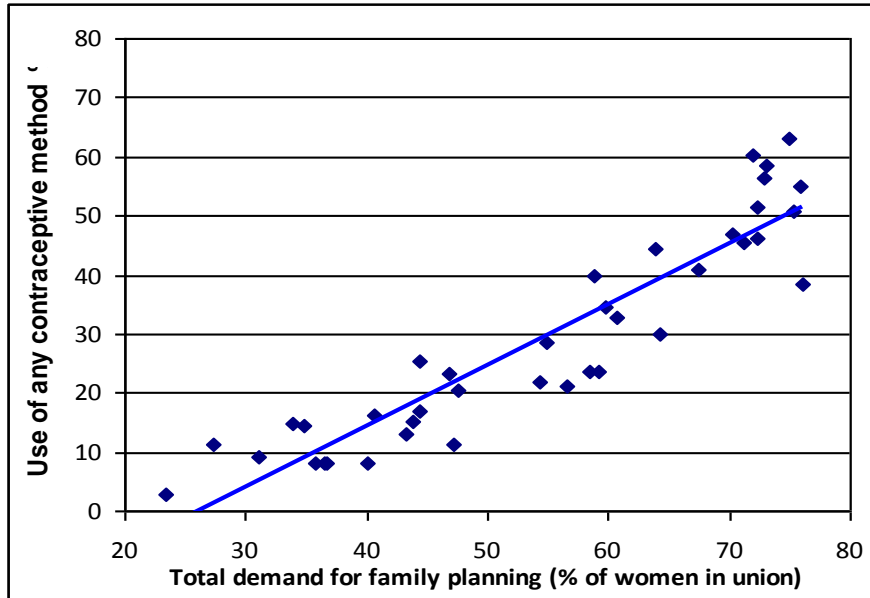
Among the factors that have hindered the rapid expansion of contraceptive coverage in SSA, are the lack of information on, and the lack of access to, contraceptives. The reluctance to use modern contraceptives is also rooted in traditional culture, attitudes, norms, and family structures, and this is also a key obstacle that family planning programs will need to address in SSA.

In fact, in most SSA countries the total demand for family planning remains rather weak and paradoxically only a small portion of this demand is satisfied, reflected in the high levels of unmet needs⁵² estimated on average at about 25 to 30% (Guengant & Rafalimanana 2005)⁵³. Relatively recent DHS results for 39 countries confirm this finding, yielding an unweighted average of 25% of unmet need—a figure close to the average current use of any method, i.e., 29%. This yields a total demand of 54%, but with considerable variation between countries: from 23% (in Chad) to less than 60% in a majority of countries (24 out of 39) and to 60 to 82% in 15 countries). However, according to the same surveys, only half (49%) of these needs are satisfied if all methods used are considered, and only a third (37%) if one considers only the use of modern and efficient contraceptive methods. Nonetheless, the overall demand for contraception is weak in many countries, which explains the low use of contraception particularly in Western, Middle, and Eastern Africa. Clearly a low demand for family planning translates into low use of contraceptive methods, as can be seen in Figure 4.5 (where there is a strong correlation between the total demand in family planning and the use of any contraceptive method). Consequently, the magnitude of the unmet needs must be appreciated in relation to the total demand. Interestingly, the relationship between the use any contraceptive method and unmet needs is an inverse U-shaped relationship, with a R^2 of 0.43 (see Figure 4.6).

⁵² Unmet needs for family planning refer to the condition of wanting to avoid or postpone childbearing but not using any method of contraception, and the total demand for family planning refers to the sum of married women using a method of contraception plus those in need but not using any method.

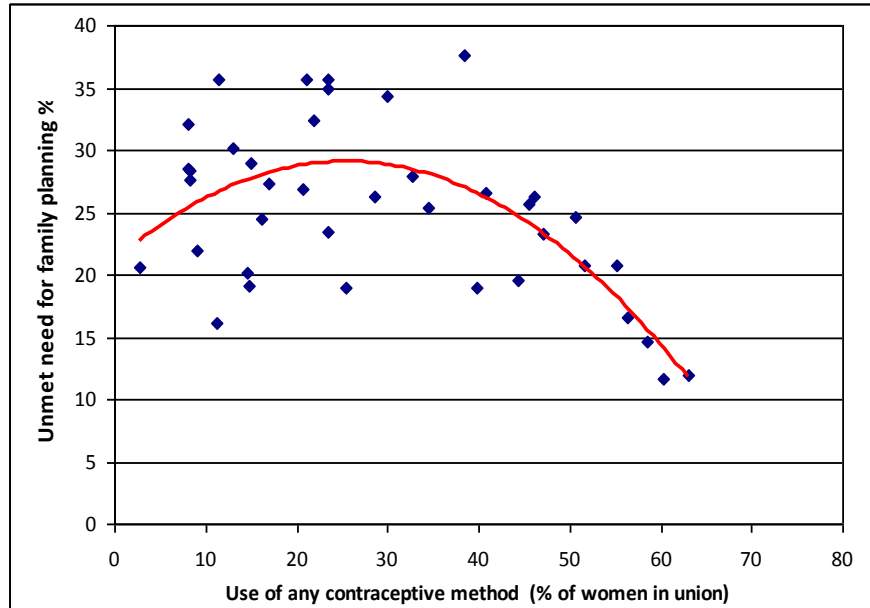
⁵³ This is a demand-measure constructed from survey data, which attempts to estimate the percentage of women who want to delay their next pregnancy by two years but do not currently use a contraceptive method. However, the percentage of unmet needs may increase as contraceptives become more readily available.

Figure 4.5: Relationship between the total demand in family planning and the use of any method of contraception for 39 African countries



Source: DHS surveys results.

Figure 4.6: Relationship between the use of any method of contraception and the unmet needs in family planning for 39 African countries



Source: DHS surveys results

The leading group of contraceptive users is generally made of the more educated and urbanized women as well as the women from the wealthiest households. The data by quintiles of wealth from the 39 DHS surveys already mentioned, confirm this pattern but they deserve comment. First, the use of a contraceptive method is two times more frequent among women from the wealthiest households than

among women from the poorest households, i.e., 41% against 20%, and the same is true for the use of modern method, i.e., 33% against 16%. However, the unmet needs among the women from the wealthiest households remain quite high: 21% on average and only half (49%) of these needs are satisfied through the use of a modern contraceptive method. Not surprisingly, the situation is worst among women from the poorest households who have a slightly higher percentage of unmet needs (28%), which are even more poorly satisfied, since only a quarter (26%) of these needs are satisfied through the use of a modern contraceptive method. Finally, the total demand in family planning among women from the wealthiest households appears moderately high at 62% (unweighted average) and higher than among women from the poorest households, i.e., 48%, but again there are great variations from one country to the next.

To sum up, the low levels of contraceptive use, the rather weak demand for family planning, and the high percentage of unmet needs at the national level, as well as the inequalities between women with respect to these variables can be explained again by the pervasive family norms favouring large families (Romaniuk 2011: 21-22). Indeed, desired fertility in SSA (i.e., the ideal number of children) remains very high even among young women and in many countries even among young women with secondary levels of education. In addition, one should not dismiss the importance of marriage at young ages and sometimes child-marriage as another explanatory factor for the high fertility levels observed in SSA. To a large extent, all this can be construed as a double denial of women's rights: the denial of access to methods and the denial of information on contraception, which translates into the lack of reproductive choices.

This situation is largely the consequence of the lukewarm commitment or lack of engagement vis-à-vis family planning on the part of governments and donors alike. So far only two governments in sub-Saharan Africa, i.e., Rwanda and Ethiopia, appear to have organized successful large-scale programs and/or campaigns in favor of family planning like those organized in several Northern African and Asian countries. Among eight countries surveyed in Western Africa, only half even had a government budget-line item for the procurement of contraceptives (USAID Deliver Project 2011).

Last but not least, persistent high fertility levels in most African countries cause numerous high-risk pregnancies (at least one pregnancy out of two in most cases), which are associated with the four "too's": pregnancies that too early, too often, too close, and too late. This translates into very high maternal mortality ratios, high under-five mortality rates, and high proportions of stunted children among the children who do survive. Moreover, the future of these children is compromised because they are less resistant to diseases and have more difficulties to learn at school (World Bank 2010: 14). These poor and undesirable outcomes affect more the poorest households and jeopardize the chances of most countries to achieve more inclusive growth and fulfill their development objectives.

D. Urbanization and Mega-Cities

Between 1960 and 2010, the urban population of Africa increased by a factor of 8, increasing from 53 to 401 million. Despite this spectacular increase, the levels of urbanization in Africa remain low compared to other regions of the world. In 2010, it was estimated that about 40% of Africans were residing in

urban areas, but this percentage was only 23% in Eastern Africa, 41% in Middle Africa, 44% in Western Africa. It was higher than average in Northern Africa (51%) and Southern Africa (59%).

Rapid urbanization in Africa has led to 50 cities with more than a million inhabitants in 2010. Two with an estimated population of more than 10 million inhabitants: Cairo (11 million) and Lagos (10.8 million). In 2010, the United Nations identified 73 African cities with more than 750,000 inhabitants, whose population was projected to surpass one million by 2025, the end-year of the UN projections for these cities (United Nations 2012a). A third (17) of the 53 countries studied did not have a city with more than 750,000 inhabitants in 2010. Among the 36 other countries, 23 had one such city and 13 countries had several (see Annex 2); Nigeria had 14, South Africa 7, Morocco 6 and the Democratic Republic of Congo 5. Nine other countries had two large cities: Kenya, Mozambique, Angola, Cameroon, Congo, Algeria, Egypt, Côte d'Ivoire, and Ghana.

III. Future Population Growth

Africa's population reached the mark of one billion persons in 2009 and the entire continent is expected to have a population ranging from 1.9 to 2.2 or 2.5 billion people by 2050, according to the 2010 United Nations World Population Prospects: Low, Medium, and High fertility variants, respectively (United Nations 2011).

A. Factors of Future Population Growth

In the forthcoming decades, the region's population (especially in Eastern, Middle, and Western Africa) is likely to continue to experience rapid rates of population growth, for two major reasons.

First, *mortality levels*, which are still high, are expected to continue to decrease. Between 1980 and today, infant and child mortality levels have declined by roughly half in Africa, particularly in sub-Saharan Africa. This is due to decisive exogenous interventions such as vaccination campaigns, oral-rehydration therapy programs, large-scale distribution of impregnated malaria bed-nets, the provision of nutritional supplements, and comprehensive sanitation programs. However, despite recent progress in reducing under-five mortality levels, there is still much room for improvement. Moreover, progress on adult mortality has been less spectacular and many SSA countries must now confront the dual pattern of communicable *and* non-communicable diseases (NCDs). Northern African countries must face mostly the challenge of NCDs, which is also linked to the aging of their population.

In addition, some SSA countries have been badly impacted by the HIV/AIDS epidemic, especially Southern Africa countries and their neighbors. Fortunately, the demographic impact of HIV/AIDS has been less severe than anticipated initially, although the HIV/AIDS epidemic has slowed down the rate of population growth in the most affected areas, i.e., Southern Africa, which have also experienced rapid fertility declines. Nonetheless, up to 2010, there has been no population decline due to HIV/AIDS in the countries severely affected by the epidemic (10% HIV prevalence or more), and the demographic impact of the epidemic has been negligible elsewhere (5% HIV prevalence and less). Actions to prevent the spread of HIV/AIDS and programs geared at reducing adult mortality are expected to continue in the foreseeable future. These interventions should foster continued population growth in most countries.

However, one should keep in mind that mortality rates could stop declining or even increase as happened in certain countries in recent decades, because of major climatic catastrophes, widespread famines, or severe political disruption. Despite these risks, it is unlikely that this situation would translate into population stagnation or decline, because with few exceptions, future demographic growth is primarily driven by high fertility and young age structures.

Second, *fertility levels* are still high in most countries and are only declining gradually. As discussed above, 40 countries out of 53, representing 78% of the total population have fertility rates ranging from 4 to nearly 8 children per woman. Among the 13 remaining countries with less than four children per woman, only three, i.e., Mauritius, Seychelles, and Tunisia, have reached replacement level fertility of 2.1 children per woman.

The future dynamic of the total population growth of each country will be essentially determined by future levels of fertility. Fertility will decline more or less rapidly, depending on several factors. First, initial levels of total fertility rates (TFRs) will determine future trends of population growth: the higher the initial levels of fertility, the higher the potential population growth by year 2050. Second, population growth in the forthcoming decades will depend also on the percentage of youth in the population (since these young people are moving into the union-marrying and fertility age brackets) and on the pace of demographic growth in this age group (phenomenon known as the *population momentum*, see below). Third, rates of increase of contraceptive prevalence rates (CPRs), especially for modern methods, will largely determine the future pace of decline of fertility. Fourth is the phenomenon of *population momentum* (also called *demographic momentum*), which is an *additional* population growth factor usually resulting from a youthful age structure. The population momentum is positive when the age structure is young and there are disproportionate numbers of people in childbearing age groups because of past high fertility levels. This is the case in most sub-Saharan African countries where about two-thirds of the total population is less than 25 years old. The population momentum is a powerful factor for future demographic growth. Even if a country with a young age structure would immediately reach replacement level fertility (i.e., about 2.1 children per woman – depending on current mortality patterns), its population would continue to grow for about 70 years and would still *double* in size (World Bank estimates).

The very few African countries that have completed their demographic transition (Mauritius, Seychelles, and Tunisia) are now confronted with the arrival into retirement ages of the large cohorts of the 1950s. These countries, as well as other countries in Northern and Southern Africa will need in the near future to strengthen social security systems, pension schemes, and safety net programs to cope with the rapid increase of their population aged 65 years and more. Such actions and programs are needed because their *elderly support ratio* (i.e., the number of working-age people aged 15-64 or 20-64, divided by the number of persons 65+) will decrease in the coming decades. All African countries will experience rapid increases of their populations aged 65+ years in the coming decades, because of the unrelenting increase of their young population since the 1950s (Chesnais 1990). Therefore, all countries should already start to design social policies that will be needed to address this phenomenon, another legacy of the past neglect of the population factor (May 2012).

Two other factors need to be mentioned here: the *internal migration*⁵⁴ and *urbanization* patterns. The urban population will continue to grow even faster than the total population because of the ongoing urbanization process. Future growth of the urban population will be driven by both natural increase and rural-urban migration. The cities of the continent have now reached such sizes and youthfulness that their natural increases exceed rural urban migration, despite lower fertility levels in urban areas. But rural-urban migration will continue and it will be higher if fertility and population growth remain high in rural areas. In short, future growth urban population is not independent from rural population growth. Fertility levels will have a major impact on the dynamics of urban as well as rural populations. For example, in Côte d'Ivoire, Ghana, and Nigeria, where about half the population is already urban, urbanization will continue and urban populations will keep growing, even if fertility levels decline rapidly. In these countries, rural populations can stabilize in a less distant future (about 20 years) if fertility declines rapidly. In a few countries, however, urbanization rates are expected to level off.

B. Population and Urbanization Projections

This section presents for Africa the 2010 United Nations Population Division World Population Prospects, which were released in May 2011 as well as the 2011 UN World Urbanization Prospects, released in 2012.

As the United Nations stated, “future trends cannot be known with certainty”. That is the reason why several projections variants are produced, including the constant-fertility variant, which indicates what would happen if fertility was staying at its 2005-2010 levels. Contrary to what many users of these projections believe, the Medium variant is not the most probable scenario. The United Nations also produces every two years a report “World Urbanization Prospects”, using the results of the preceding year’s World Population Prospects (United Nations 2012a). The 2011 World Urbanization Prospects provided estimates for urban areas and various cities of the world based on the Medium population estimates of the 2010 World Population Prospects. The 2010 World Population Prospects and the 2011 World Urbanization Prospects are based on the most recent population data available for each country in 2010 and 2011, respectively. The assumptions underlying the projections are presented in Annex 3.

1. Projected Total Population

Keeping these assumptions in mind, we can now examine the future total population of Africa in 2030 and 2050. First, between 2010 and 2030, the population of the continent will increase roughly from 1 billion in 2010 to 1.5 billion with the Low variant, or to 1.7 billion with the High variant (and up to 1.8 billion if we consider the Constant-fertility variant). Such an increase of at least half a billion people in 20 years represents a big challenge for many sectors, such as health, education, food security, and infrastructure.

By 2050, the continent’s population will reach roughly 2 billion with the Low variant, 2.5 billion with the High variant, and up to 3 billion if we consider the Constant-fertility variant (see Table 4.1). Between 2010 and 2050, the share of Northern and Southern Africa in the total population will decrease

⁵⁴It is expected that *international migration* will have a negligible impact on population growth and dynamics, except in small island-settings where emigration plays a safety-valve function.

markedly from 21% to 13% and from 6% to 3% respectively. By contrast, the total share of Eastern, Middle, and Western Africa will increase from 74% to 84%.

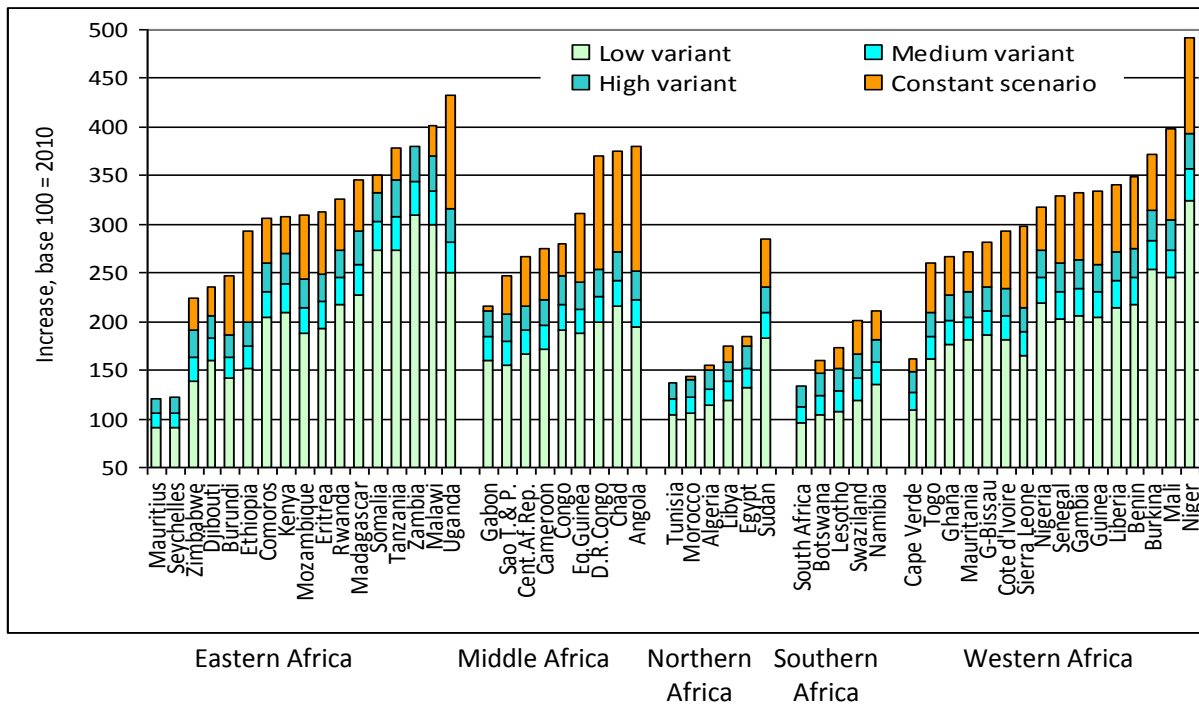
Of course, future total population increases between 2010 and 2050 vary from one country to another as seen in Figure 4.7. With the Low variant, most countries of Eastern, Middle, Western Africa and Sudan will experience an increase in their total population from 50% to 100%. But with the High variant, these countries will experience at least a doubling of their population (and even a tripling if we consider the Constant-fertility variant). Only the Northern and Southern countries (with the exception of Sudan) and the three island-countries (Cape Verde, Mauritius, and Seychelles), which are already well advanced in their fertility transition, will experience lower increases.

Table 4.1: Projected total population by 2050 of Africa and African regions according to the variants adopted in the 2010 United Nations population projections

	2010	Low variant 2050	Medium variant 2050	High Variant 2050	Constant variant 2050
Total population (in thousands)					
Africa	1 020 650	1 929 690	2 189 117	2 466 930	2 993 939
Sub-Saharan Africa	811 721	1 650 342	1 867 560	2 099 714	2 594 286
<i>% sub-Saharan Africa</i>	<i>79.5%</i>	<i>85.5%</i>	<i>85.3%</i>	<i>85.1%</i>	<i>86.7%</i>
Eastern Africa	322 994	685 549	778 037	877 023	1 073 293
Middle Africa	126 689	245 146	278 350	313 955	441 545
Northern Africa	208 929	279 348	321 557	367 216	399 653
Southern Africa	57 780	56 680	67 327	79 083	81 199
Western Africa	304 257	662 967	743 846	829 652	998 250
Percentage in total population					
Africa	100.0%	100.0%	100.0%	100.0%	100.0%
Sub-Saharan Africa	79.5%	85.5%	85.3%	85.1%	86.7%
Eastern Africa	31.6%	35.5%	35.5%	35.6%	35.8%
Middle Africa	12.4%	12.7%	12.7%	12.7%	14.7%
Northern Africa	20.5%	14.5%	14.7%	14.9%	13.3%
Southern Africa	5.7%	2.9%	3.1%	3.2%	2.7%
Western Africa	29.8%	34.4%	34.0%	33.6%	33.3%

Source: United Nations 2011

Figure 4.7: Projected increase of total population between 2010 and 2050 (base 100 = 2010) of African countries according to fertility scenarios, by increasing order for each region



Source: United Nations 2011

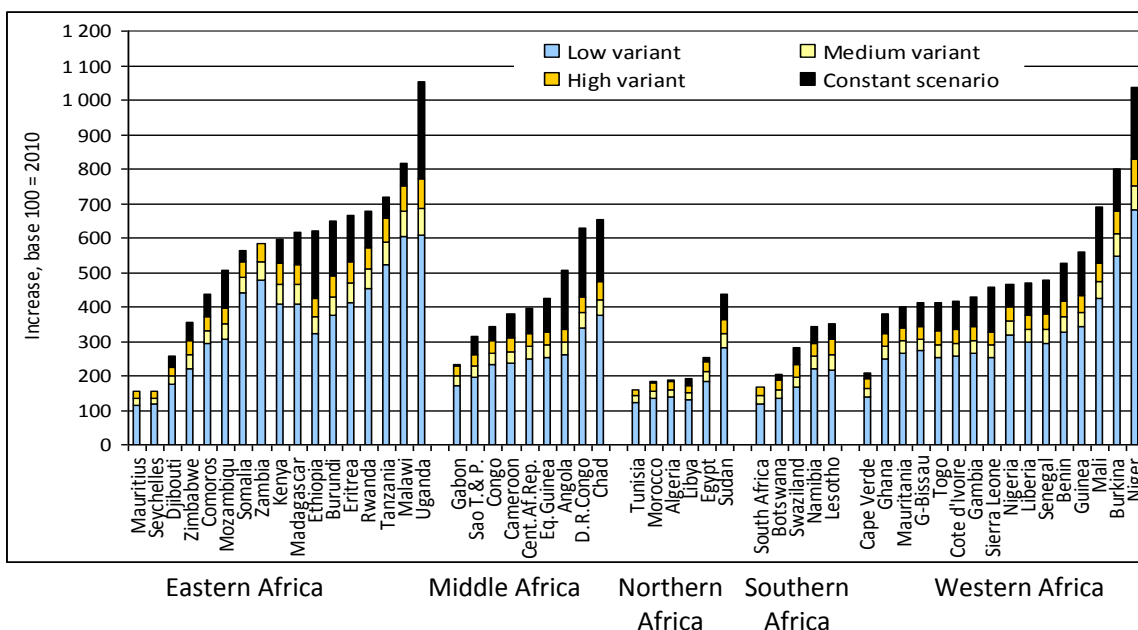
2. Projected Urban Population and Mega-Cities

The 2011 World Urbanization Prospects applied the projected percentages of urbanization only to the Medium variant projections, but in this chapter we have explored the combined impacts of increased urbanization and fertility decreases on future urban growth, according to the High, Medium, and Low, as well as the Constant-fertility variants. At the continental level, the urban population will increase from 400 million in 2010 to about 750 million in 2030 with the Low variant, or to nearly 800 million with the High variant, and above 800 million if we consider the Constant-fertility variant. These increases correspond more or less to a doubling of the urban population in the next 20 years. This represents a big challenge for governments and urban planners in terms of infrastructure, services, job creation, transportation, sanitation, and security.

By 2050, with nearly 60% of African people living in urban areas, the continent's urban population will reach between 1.1 billion with the Low variant, and 1.4 billion with the High variant (and up to 1.7 billion if we consider the Constant-fertility variant). This means that because the combined effects of increased urbanization and still high fertility levels, the African urban population will more or less triple in the next 40 years (or even quadruple if fertility declines are slower than anticipated in the High variant). But because of their initial lower levels of urbanization, the urban populations of Eastern, Middle, and Western Africa will grow more rapidly and they will be multiplied by a factor of 4 to 5 by 2050 (and more in the High variant). The urban population of these three regions will represent 82% of the urban population of the continent by 2050, compared to 65% in 2010.

Urban population increases between 2010 and 2050 will vary by country and sub-region (see Figure 4.8). Most Eastern, Middle, Western African countries and Sudan will see their urban populations multiplied by a factor of 3 to 7, depending on the fertility decline variant considered (and by a greater factor with the Constant-fertility variant). The increases will be more important in most Eastern countries, because they had the lowest urbanization rates in 2010. Conversely, increases will be more modest in Northern and Southern countries because they had generally higher urbanization rates in 2010. In these countries, urban populations will be multiplied roughly by a factor between 2 and 3 in the next 40 years.

Figure 4.8: Projected increase of urban population between 2010 and 2050 (base 100 = 2010) of African countries according to fertility scenarios, by increasing order for each region



Source: United Nations 2012

These rapid increases of urban populations will be associated with the advent of several cities of more than 5 million people, as well as mega-cities of more than 10 million people. The 2011 World Urbanization Prospects offer projections of the population of cities of more than 750,000 inhabitants in 2010 up to 2025. In this chapter, we have tried to explore the possible future size of these cities up to 2050. The results are presented in Table 4.2.

Table 4.2: Estimated population of African cities with more than 5 million inhabitants in 2010, 2030, and 2050

Country	City	% in urban population in 2010	Population Million in			Ratio 2050/2010
			2010	2030	2050	
Ethiopia	Addis Ababa	20.0%	2.9	5.7	10.3	3.5
Kenya	Nairobi	34.0%	3.2	7.4	15.1	4.7
Madagascar	Antananarivo	30.0%	1.9	4.7	9.2	4.8
Malawi	Lilongwe	33.0%	0.7	1.9	5.2	7.0
Somalia	Mogadishu	50.0%	1.4	3.9	8.4	5.9
Tanzania	Dar es Salaam	30.0%	3.4	9.1	20.7	6.1
Uganda	Kampala	30.0%	1.6	4.4	10.4	6.6
Zambia	Lusaka	35.0%	1.7	4.1	9.4	5.5
Angola	Luanda	47.0%	4.8	10.2	15.5	3.2
Cameroun	Yaoundé	25.0%	2.3	4.5	6.8	3.0
	Douala	25.0%	2.3	4.5	6.8	2.9
DR Congo	Kinshasa	36.0%	8.4	17.3	30.6	3.6
	Lubumbashi	6.8%	1.5	3.3	5.8	3.9
	Mbuji-Mayi	6.6%	1.4	3.2	5.6	3.9
Egypt	Cairo	31.0%	11.0	16.4	23.0	2.1
	Alexandria	13.0%	4.4	6.9	9.6	2.2
Sudan	Khartoum	41.0%	4.5	8.2	14.2	3.2
South Africa	Johannesburg	13.1%	3.8	5.0	5.7	1.5
	Cape Town	12.0%	3.5	4.6	5.2	1.5
	Ekurhuleni	11.5%	3.3	4.4	5.0	1.5
Burkina	Ouagadougou	50.0%	1.9	6.0	12.9	6.8
Cote d'Ivoire	Abidjan	42.5%	4.2	8.0	12.5	3.0
Ghana	Accra	21.0%	2.5	4.8	7.5	3.0
	Kumasi	17.0%	1.9	3.9	6.0	3.1
Guinea	Conakry	52.0%	1.7	3.8	7.0	4.1
Mali	Bamako	36.0%	1.9	4.5	9.0	4.6
Niger	Niamey	50.0%	1.2	3.9	10.3	8.4
Nigeria	Lagos	14.2%	10.8	22.3	39.5	3.7
	Kano	4.3%	3.3	6.7	12.0	3.7
	Ibadan	3.8%	2.9	6.0	10.6	3.7
	Abuja	3.0%	2.0	4.7	8.3	4.1
	Port Harcourt	2.6%	1.8	4.1	7.2	4.0
	Kaduna	2.1%	1.5	3.3	5.8	4.0
	Benin City	1.8%	1.3	2.8	5.0	3.8
Senegal	Dakar	60.0%	2.9	6.1	10.5	3.6
Number of cities with more than		5 million	3	15	35	
		10 million	2	4	15	

Sources: United Nations 2012a and calculations of the authors

These results indicate that while Africa had only two mega-cities in 2010, i.e., Cairo (11 million) and Lagos (10.8 million), the continent might have four mega-cities and 11 cities of 5-10 million inhabitants by 2030, and 15 mega-cities and 20 cities with a population between 5 and 10 million people in 2050. These 15 mega-cities would represent 20% of the African urban population and 11% of the total population of the continent. This means that one urban African out of five would live in a mega-city (of more than 10 million people) in 2050, compared to 5% in 2010, and one African out of ten (11%) would live in a mega-city in 2050, compared to 2% in 2010. In 2050, the four largest cities could be (in four different regions): Lagos with nearly 40 million; Kinshasa, 31 million; Cairo, 23 million; and Dar es Salaam, 21 million. In Southern Africa, the largest city could be Johannesburg with 6 million people.

It is difficult to envision the magnitude of the problems that will be associated with the rapid urbanization of Africa and the emergence large cities and mega-cities. However, one should note that the difficulty of living in urban settings and large cities has long been compensated by the adoption of urban practices and the vitality of social networks. But these are weakening and the social control that regulated internal tensions has lost part of its strength. Having worked as a rather inclusive machine, African cities are now more and more a place of exclusion, especially from the modern labor market (Dubresson & Raison, 2003: 121). This exclusion process fosters the growing criminalization of many African urban economies.

3. Projected Population of Children and Youth

In 2010, there were 411 million children aged 0-14 years in Africa (155 million children aged 0-4 years and 256 million children aged 5-14 years). By 2030, under the Low fertility variant there will be 486 million (170 million aged 0-4 years and 316 million aged 5-14 years), but 626 million (227 million aged 0-4 years and 399 million aged 5-14 years) under the High fertility variant. By 2050, under the Low fertility variant there will be 520 million children aged 0-14 years (174 million aged 0-4 years and 346 million aged 5-14 years), but 839 million (302 million aged 0-4 years, and 537 million aged 5-14 years) under High fertility variant, that is 329 million more (see Table 4.3).

Table 4.3: Projected population aged 0-14 years by 2050 of Africa and African regions according to the variants adopted in the 2010 United Nations population projections

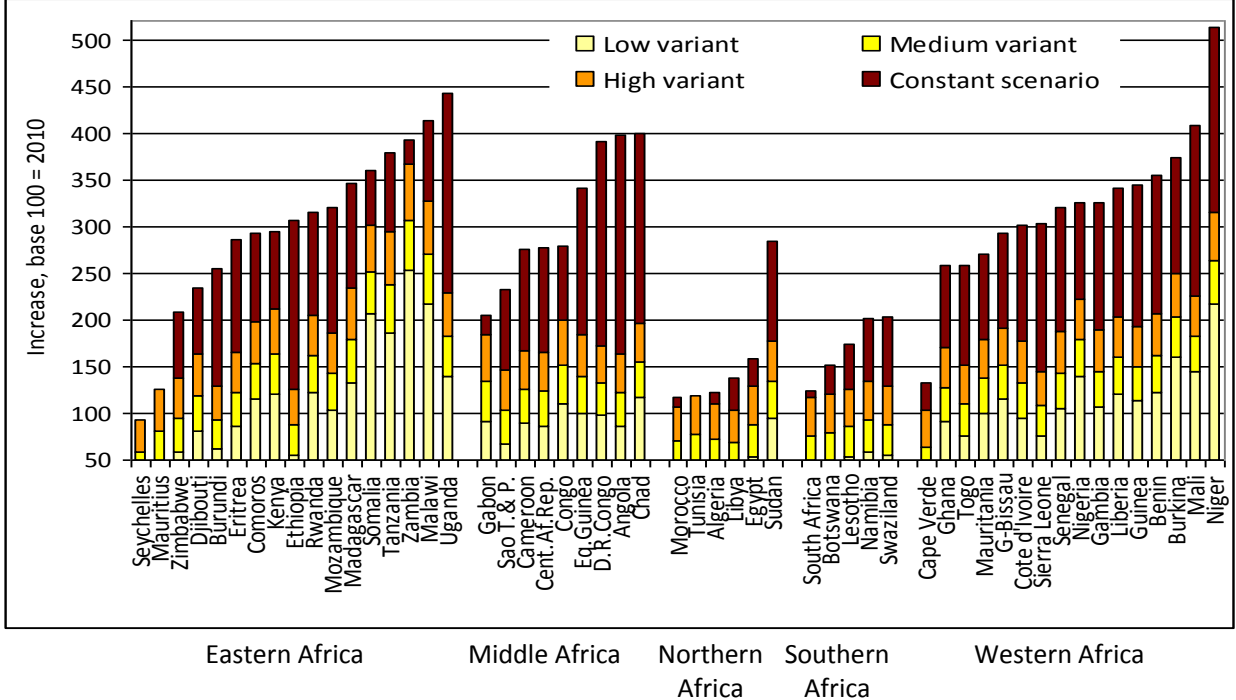
	2010	Low variant 2050	Medium variant 2050	High variant 2050	Constant variant 2050
Population aged 0-14 years (in thousands)					
Africa	411 265	519 780	670 595	838 717	1 238 240
Sub-Saharan Africa	345 292	473 880	603 481	747 109	1 122 545
<i>% Sub-Saharan Africa</i>	<i>84,0%</i>	<i>91,2%</i>	<i>90,0%</i>	<i>89,1%</i>	<i>90,7%</i>
Eastern Africa	139 885	199 153	254 570	316 117	462 583
Middle Africa	56 765	64 764	84 569	106 611	201 239
Northern Africa	65 974	45 900	67 114	91 608	115 695
Southern Africa	17 858	9 245	14 527	20 843	22 899
Western Africa	130 784	200 718	249 816	303 538	435 824
Increase 2010 - 2050					
Africa	2.65	3.35	4.32	5.41	7.98
Sub-Saharan Africa	2.62	3.60	4.58	5.67	8.53
Eastern Africa	2.64	3.76	4.81	5.97	8.74
Middle Africa	2.59	2.96	3.87	4.87	9.20
Northern Africa	2.81	1.96	2.86	3.91	4.93
Southern Africa	2.98	1.55	2.43	3.48	3.83
Western Africa	2.57	3.95	4.91	5.97	8.57
Percentage in total population aged 0-14 years					
Africa	100.0%	100.0%	100.0%	100.0%	100.0%
Sub-Saharan Africa	84.0%	91.2%	90.0%	89.1%	90.7%
Eastern Africa	34.0%	38.3%	38.0%	37.7%	37.4%
Middle Africa	13.8%	12.5%	12.6%	12.7%	16.3%
Northern Africa	16.0%	8.8%	10.0%	10.9%	9.3%
Southern Africa	4.3%	1.8%	2.2%	2.5%	1.8%
Western Africa	31.8%	38.6%	37.3%	36.2%	35.2%

Source: United Nations 2011.

The Low fertility variant will lead to a “fiscal gain” resulting from a lower financing requirement for the expenses for health and education, etc. in the next 40 years. This gain can be used to improve the quality of children’s health and education, as well as to invest more in young adult education, vocational training, and job creation. Therefore, the adoption of policies and programs aimed at slowing down future population growth constitutes a crucial strategic choice, both at national and regional levels, which should not be overlooked by African leaders, as has been the case in the past.

At the country level, the size of this “fiscal gain” will depend on the future course of fertility in each country. The urgency to adopt policies and programs aimed at slowing down future population also varies from one country to another. Let us consider first the future numbers of children aged 0-4 years. Between 2010 and 2050, under the high fertility variant, the number of children aged 0-4 years will double (and even triple in some cases) in a third (18) of the countries and increase by 50% to 100% in another third (17) of the countries, primarily in Eastern, Middle, and Western Africa (see Figure 4.9). By contrast, under the Medium fertility variant, the number of children aged 0-4 years will decrease, stabilize (as happened in many emerging market countries) or increase by less than 50% in two-thirds (34) of the countries. However, the number will more than double in a third (19) of the countries, mainly in countries with “slow and irregular or very slow and/or incipient” fertility transitions. Finally, with the Low fertility variant, the number of children aged 0-4 years will decrease in most countries (47 out of 53), or will stabilize or increase by less than 50%.

Figure 4.9: Projected increase of population aged 0-4 years between 2010 and 2050 (base 100 = 2010) of African countries according to fertility scenarios, by increasing order for each region



Source: United Nations 2011.

Similar results are found with future numbers of children aged 5-14, but these results are somewhat amplified. For example, under the High fertility variant, the number of children aged 5-14 will double or triple in almost half (24) of the countries. Similarly, under the Medium fertility variant, the number of children 5-14 will continue to increase by more than 50%, and it will more than double in more than a half (29) of the countries.

These results indicate clearly the urgency of launching programs and actions to slow down the growth of the population, especially in the countries with “slow and irregular” or “very slow and/or incipient”

fertility transitions, which represent nearly 60% of the continent's population and 70% of the population of sub-Saharan Africa. This is all the more important since these countries are generally those that still have very high maternal and child (under 5 years) mortality levels. Indeed, these countries are confronted today with the need to improve the coverage of maternal and health care and, at the same time, they have to expand their health and education services to respond to the needs of a continuously growing number of children and pregnant woman, and maintain adequate infrastructure and equipment as well as sufficiently trained personnel. Such programs and actions will have an impact in a relatively short term provided they are adopted right away.

4. Projected Labor Force

The impact of programs and actions to slow down population growth on the labor force will not be as rapid. In fact, the number of youth entering the labor force will continue to grow rapidly because most future workers (aged 15-64 or 20-64, depending on the definition retained) are already born. The same is even truer for the elderly people, since all the people who will be 65+ by 2050 are all already born. As a result, the dependency ratio (number of dependents aged less than 15 or 20 years and 65+ divided by the working age population aged 15-64 or 20-64) will decrease and be more favorable to economic growth only if the relative importance of the youth in the total population declines rapidly (as envisioned for instance in the Low fertility variant) (see below).

Today, in all but three African countries, the youth aged 15-29 represents a huge proportion, namely more than 40% of the adult population (above age 15), a phenomenon known as the "youth bulge". It will take some time to reduce this proportion. By 2030, with the Low fertility variant only 15 countries (about a quarter) that are more advanced in their fertility transition will have a percentage below 40% of 15-29 years old. But by 2050, most countries (45 out of 53) can hope to get rid of their "youth bulge" if they follow the Low fertility variant. However, with the High fertility variant, half of the countries (26) will still have more than 40% of 15-29 year olds in their adult population.

As already mentioned, the dramatic increase in the number of youth and the corresponding jobs required will be the biggest challenge most countries of the region will need to confront during the next decades. Crude estimates of new arrivals on the African labor market can be derived from the number of youth aged 15-24 years. They were estimated at 205 million in 2010. By 2030, they will reach 293 million under the Low fertility variant, and 311 million under the High fertility variant. The difference between the two variants is minimal, but the increase in the next 20 years of about 100 million youth is important.

By 2050, the number of youth aged 15-24 years will reach 331 million under the Low fertility variant and 452 million under the High fertility variant (see Table 4.4). In this case, the difference is important (120 million) and this is largely the result of higher numbers of births between 2025 and 2034, resulting from the higher fertility of the High variant compared with the Low variant. If we assume that most of these youth will enter the labor market during the 10 years, when they are 15-24 years old, and if we take a participation rate of 70%, this corresponds today to about 14 million jobs to be created every year for the entire continent. With the same assumptions, the annual jobs needed by 2030 will be around 21 to 22 million for both the Low and High variants. However, by 2050 the annual jobs needed under the Low

variant will be 23 million, a considerable figure, but which remains close to the 2030 figure (a consequence of the stabilization of the number of births starting in the 2030s with the Low variant). By contrast, under the High variant the number of jobs to be created annually will continue to increase and reach 32 million by 2050, more than double the number of jobs needed today. Clearly, an accelerated fertility transition would translate into reduced pressure on the labor market in the future.

Table 4.4: Projected population aged 15-24 years by 2050 of Africa and African sub-regions according to the 2010 United Nations population projections

	2010	Low variant 2050	Medium variant 2050	High variant 2050	Constant variant 2050
Population aged 15-24 years (in thousands)					
Africa	205 063	331 121	391 063	452 085	550 878
Sub-Saharan Africa	163 808	296 708	346 286	396 774	488 432
<i>% Sub-Saharan Africa</i>	<i>79,9%</i>	<i>89,6%</i>	<i>88,5%</i>	<i>87,8%</i>	<i>88,7%</i>
Eastern Africa	66 554	122 960	143 982	165 373	202 808
Middle Africa	25 563	44 146	51 863	59 742	83 609
Northern Africa	41 255	34 413	44 777	55 311	62 446
Southern Africa	11 795	7 806	10 491	13 252	13 776
Western Africa	59 895	121 795	139 950	158 408	188 239
Increase 2010 - 2050					
Africa	1.00	1.61	1.91	2.20	2.69
Sub-Saharan Africa	1.00	1.81	2.11	2.42	2.98
Eastern Africa	1.00	1.85	2.16	2.48	3.05
Middle Africa	1.00	1.73	2.03	2.34	3.27
Northern Africa	1.00	0.83	1.09	1.34	1.51
Southern Africa	1.00	0.66	0.89	1.12	1.17
Western Africa	1.00	2.03	2.34	2.64	3.14
Percentage in total population aged 15-24 years					
Africa	100.0%	100.0%	100.0%	100.0%	100.0%
Sub-Saharan Africa	79.9%	89.6%	88.5%	87.8%	88.7%
Eastern Africa	32.5%	37.1%	36.8%	36.6%	36.8%
Middle Africa	12.5%	13.3%	13.3%	13.2%	15.2%
Northern Africa	20.1%	10.4%	11.5%	12.2%	11.3%
Southern Africa	5.8%	2.4%	2.7%	2.9%	2.5%
Western Africa	29.2%	36.8%	35.8%	35.0%	34.2%

Source: United Nations 2011.

The biggest challenge in this respect will be in Eastern, Middle, and Western Africa where the number of youth aged 15-24 years will double in the next 40 years under the Medium variant (and will triple, if we consider the Constant variant) with only a slightly less rapid increase under the Low variant and a slightly

more rapid increase with the High variant (a consequence of the fact that youth aged 15-24 years by 2050 will be those born between 2025 and 2034, thus during a period when the fertility transition will still be far from completed in most countries). Conversely, in Northern and Southern Africa, where the fertility transition is already well advanced, the number of youth aged 15-24 years by 2050 will be more or less the same as in 2010 and may even decrease under the Low variant. These trends are likely to have consequences on international migration trends in both regions. In Northern Africa, traditionally affected by large outward movements, the pressure to leave the region may lessen. In Southern Africa and in particular in South Africa, the stabilization of the number of people aged 15-24 may become an incentive for further immigration from neighboring countries.

It should be noted that we defined in this chapter the working age population as the numbers of those in age group 20 to 64, in order to take into account the need to provide for *secondary* education for the majority of the youth up to their 20th anniversary.

In 2010, the working age population aged 20-64 was estimated at 466 million for the whole continent, and at 353 million for Sub-Saharan Africa. By 2030, it will reach 774 million for the whole continent (a 66% increase), and 616 million for Sub-Saharan Africa (a 74% increase). The figure is the same for all fertility variants (since those aged 20-64 years in 2030 were 0-44 years old in 2010). By 2050, the 20-64 years old will reach 1.097 billion with the Low fertility assumption, and 1.249 billion with the High fertility, that is 152 million more. In both cases, the increases between 2010 and 2050 are huge: 2.4 times and 2.7 times the 2010 number, respectively (see Table 4.5). These increases are higher for Eastern, Middle, and Western African where the numbers of people aged 20-64 years will more or less triple between 2010 and 2050. In Northern and Southern Africa, increases will be much more modest, 70% and 30%, respectively, for the Medium variant.

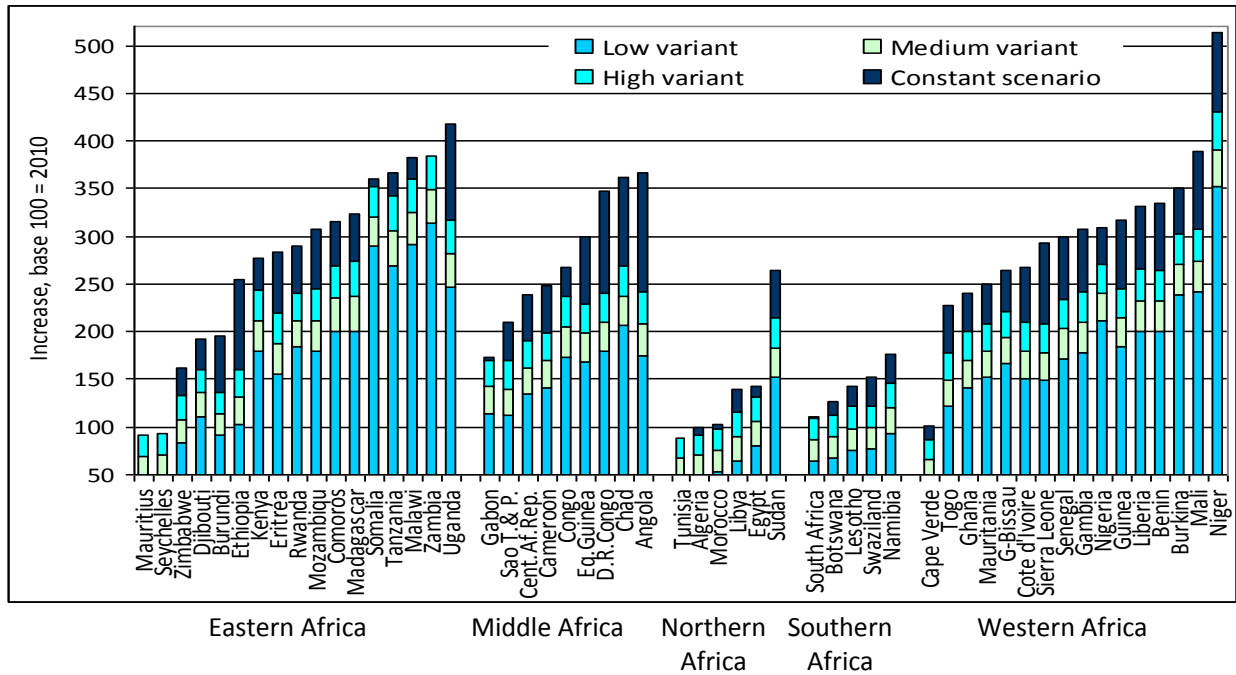
Table 4.5: Projected population aged 20-64 years by 2050 of Africa and African regions according to the 2010 United Nations population projections

	2010	Low variant 2050	Medium variant 2050	High variant 2050	Constant variant 2050
Population aged 20-64 years (in thousands)					
Africa	465 511	1 097 068	1 172 957	1 249 000	1 315 553
Sub-Saharan Africa	353 227	925 003	985 284	1 045 699	1 108 301
<i>% Sub-Saharan Africa</i>	<i>75,9%</i>	<i>84,3%</i>	<i>84,0%</i>	<i>83,7%</i>	<i>84,2%</i>
Eastern Africa	137 558	381 917	407 399	432 930	459 961
Middle Africa	52 419	144 249	153 373	162 522	180 903
Northern Africa	112 284	172 064	187 673	203 301	207 252
Southern Africa	31 417	37 172	41 143	45 125	44 809
Western Africa	131 833	361 664	383 369	405 123	422 628
Increase 2010 - 2050					
Africa	1.00	2.36	2.52	2.68	2.83
Sub-Saharan Africa	1.00	2.62	2.79	2.96	3.14
Eastern Africa	1.00	2.78	2.96	3.15	3.34
Middle Africa	1.00	2.75	2.93	3.10	3.45
Northern Africa	1.00	1.53	1.67	1.81	1.85
Southern Africa	1.00	1.18	1.31	1.44	1.43
Western Africa	1.00	2.74	2.91	3.07	3.21
Percentage in total population aged 20-64 years					
Africa	100.0%	100.0%	100.0%	100.0%	100.0%
Sub-Saharan Africa	75.9%	84.3%	84.0%	83.7%	84.2%
Eastern Africa	29.5%	34.8%	34.7%	34.7%	35.0%
Middle Africa	11.3%	13.1%	13.1%	13.0%	13.8%
Northern Africa	24.1%	15.7%	16.0%	16.3%	15.8%
Southern Africa	6.7%	3.4%	3.5%	3.6%	3.4%
Western Africa	28.3%	33.0%	32.7%	32.4%	32.1%

Source: United Nations 2011

These regional figures are the result of the evolution at the country level. Increases in the numbers of youth aged 15 to 24 years between 2010 and 2050, age of arrival on the labor market, can be seen in Figure 4.10. Most countries of Northern and Southern Africa and the island-countries, which are more advanced in their fertility transition, will see the numbers of their 15-24 years old decrease with the Low fertility variant, but remain more or less the same with the High fertility variant. In most other countries, the numbers of 15-24 years old will increase by about 50% with the Low fertility variant, but double (and even triple in the case of Burkina Faso, Mali, and Niger) with the High fertility variant.

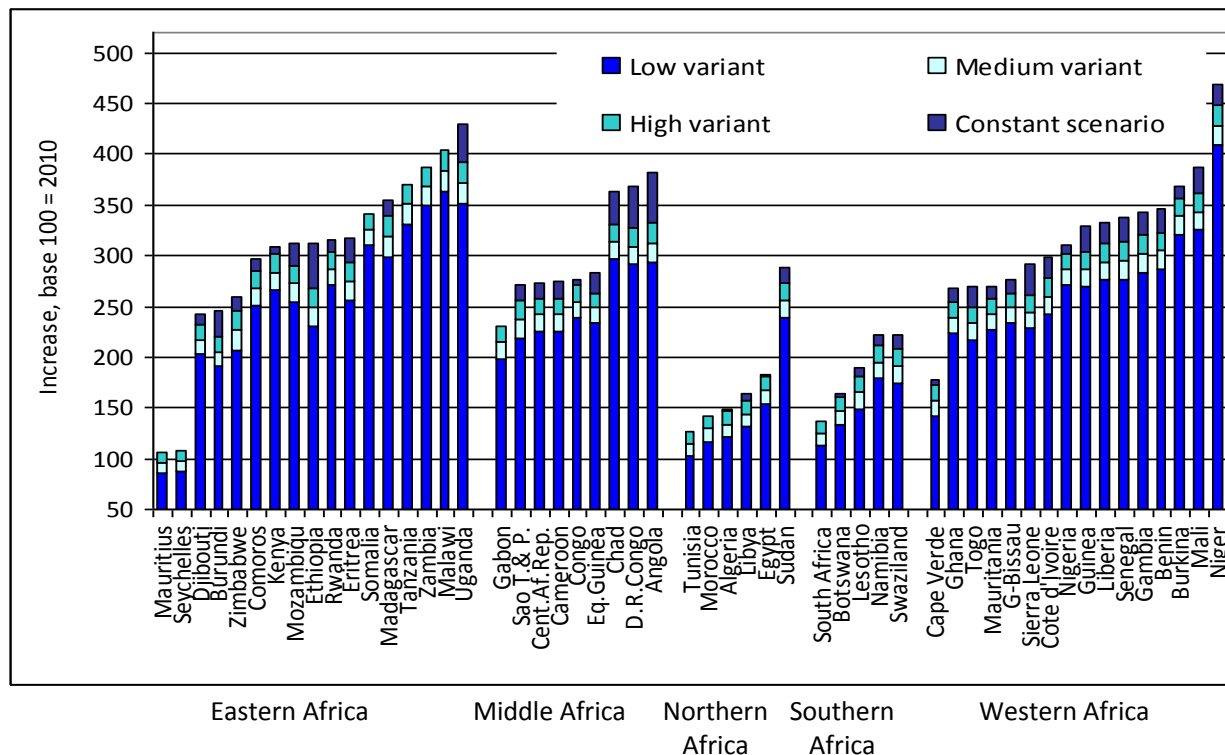
Figure 4.10: Projected increase of population aged 15-24 years between 2010 and 2050 (base 100 = 2010) of African countries according to fertility scenarios, by increasing order for each region



Source: United Nations 2011.

Increases in the size of the working age population aged 20-64 in each country can be seen in Figure 4.11. As already mentioned, many of the people who will be between 20 and 65 years by 2050 are already born. Therefore, the paths of the fertility decline between 2010 and 2050 will affect only marginally the size of the working age population in 2050. First, the labor force will remain more or less the same in four countries, i.e., Mauritius, Seychelles, Tunisia, and South Africa, whatever the fertility variant being considered. In the other countries of Northern and Southern Africa, it will increase roughly between 50 and 100%. However, in almost all the other Eastern, Middle, and Western African countries, the working age population will be multiplied by 2 or 3. It is clear that the challenges associated with these figures will be significant.

Figure 4.11: Projected increase of population aged 20-64 years between 2010 and 2050 (base 100 = 2010) of African countries according to fertility scenarios, by increasing order for each region



Source: United Nations 2011.

5. Projected 65+ Population and Dependency Ratios

At the same time, almost all African countries will experience dramatic increases of their elderly populations. In 2010, the number of persons aged 65 years and more was estimated at 36 million. By 2030, this number will double and reach 70 million, and quadruple by 2050, reaching 144 million. These numbers are the same for all fertility assumptions because all the 65+ years old in 2050 were already born in 2010 (see Table 4.6). But their share in the total population will vary according to the fertility variant. By 2050, the 65+ years old will represent 7.5% of the continent population with the Low fertility variant, but 5.8% with the High fertility variant, compared with 3.5% in 2010. However, the higher percentage, i.e., 7.5% in 2050, remains half of the equivalent percentage in Europe in 2010 (16.2%) and in all developed countries (15.9%). Therefore, Africa will definitely remain the youngest continent of the world in 2050. However, Northern Africa will have in 2050 a percentage of 65+ years old close to today's developed countries' percentages, from 12% with the High variant to 16% with the Low variant, followed by Southern Africa, i.e., from 8% with the High variant and 11% with the Low variant. But by 2050, Eastern, Middle, and Western Africa despite the rapid increases of their elderly, will still have very low percentages of 65+ years old in their population, ranging from 4% to 6%. At that time, developed countries will have between 23% and 29% of 65+ years old in their population, and this will also be the case for the countries of Eastern Asia.

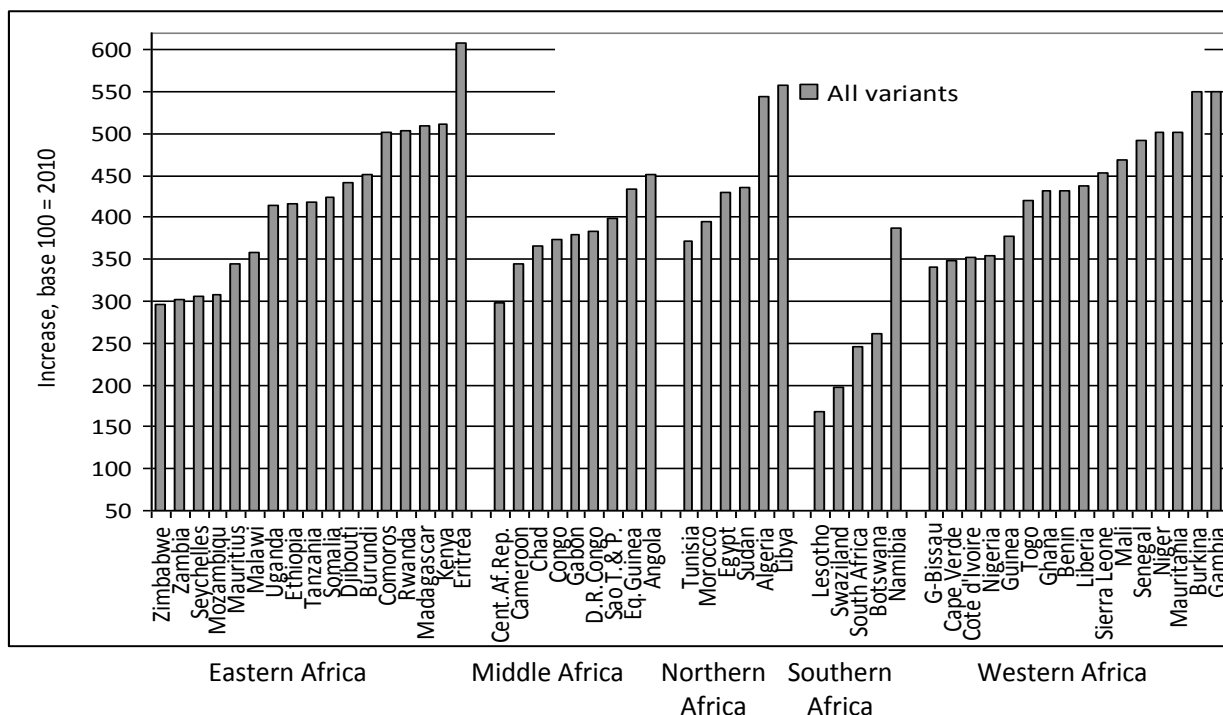
Table 4.6: Projected population aged 65 years and more by 2050 of Africa and African regions according to the 2010 United Nations population projections

	2010	All variants 2050	2010	All variants 2050	2010	All variants 2050
	Population aged 65 years + (in millions)		Increase 2010 - 2050		Percentage in total population aged 65 years+	
Africa	35,8	143,8	1.00	4.01	100,0%	100,0%
Sub-Saharan Africa	25,8	99,4	1.00	3.84	72,1%	69,1%
<i>% Sub-Saharan Africa</i>	<i>72,1%</i>	<i>69,1%</i>	-	-	-	-
Eastern Africa	9,9	41,3	1.00	4.16	27,7%	28,8%
Middle Africa	3,6	13,9	1.00	3.79	10,2%	9,6%
Northern Africa	10,0	44,3	1.00	4.43	27,9%	30,9%
Southern Africa	2,6	6,5	1.00	2.47	7,3%	4,5%
Western Africa	9,6	37,7	1.00	3.91	26,9%	26,2%

Source: United Nations 2011.

All African countries will be affected by the rapid increase of their population aged 65+, as it can be seen in Figure 4.12. Between 2010 and 2050, the lowest increases (between 50% and 250%) will be observed in 4 of the 5 Southern African countries. This is primarily the consequence of the deaths due to HIV/AIDS in these countries, which are the most affected by the epidemic. In all other countries, the population aged 65+ will be multiplied by a factor between 3 and 5. This phenomenon will call for specific socioeconomic policies.

Figure 4.12: Projected increase of population aged 65 years and over between 2010 and 2050 (base 100 = 2010) of African countries according to fertility scenarios, by increasing order for each region



Source: United Nations 2011.

The combined effect of the population dynamics just described will cause: a) varying proportions of youth in the total population depending on the fertility variant considered; b) important increases of the proportion of those aged 15-64 years or 20-64 years, i.e., the working age population; and c) modest increases in the proportion of the 65+ years old, despite the huge increase of their numbers. As a result, the dependency ratio (number of dependents aged less than 20 years and 65+, divided by the working age population aged 20-64 years) will decrease more or less, depending primarily on the rapidity of the fertility decline.

In 2010, the dependency ratio for Africa was 119 dependents for 100 working age persons aged 20-64, and it was 129 dependents for Sub-Saharan Africa, the highest in the world (see Table 4.7). These ratios were more or less double those of Eastern Asia (56), Europe (60), and Northern America (66), and much higher than the ratio in Latin America (78). By 2030, the African ratio will decline slightly to 91 with the Low fertility variant, but only marginally to 112 with the High fertility variant. By 2050, it will reach 76 with the Low fertility variant, and 97 with the High fertility variant. These levels remain well above the 2010 ratio in Eastern Asia and the developed countries. However, by 2050, because of the projected ageing of their population, the ratio of Eastern Asia will increase reaching between 76 and 87, and those of the developed countries will range from 86 to 98 (United Nations 2011). South Asia (including India, Bangladesh, Pakistan, Indonesia, Vietnam, etc.), which is already well advanced in its fertility transition (see Figure 4.2), may become the region with the lowest dependency ratios in the world in 2050 (i.e.,

between 55 with the Low fertility variant and 75 with the High fertility variant). Therefore, the countries of South Asia might be in a more favorable situation than Africa with respect to their dependency ratios.

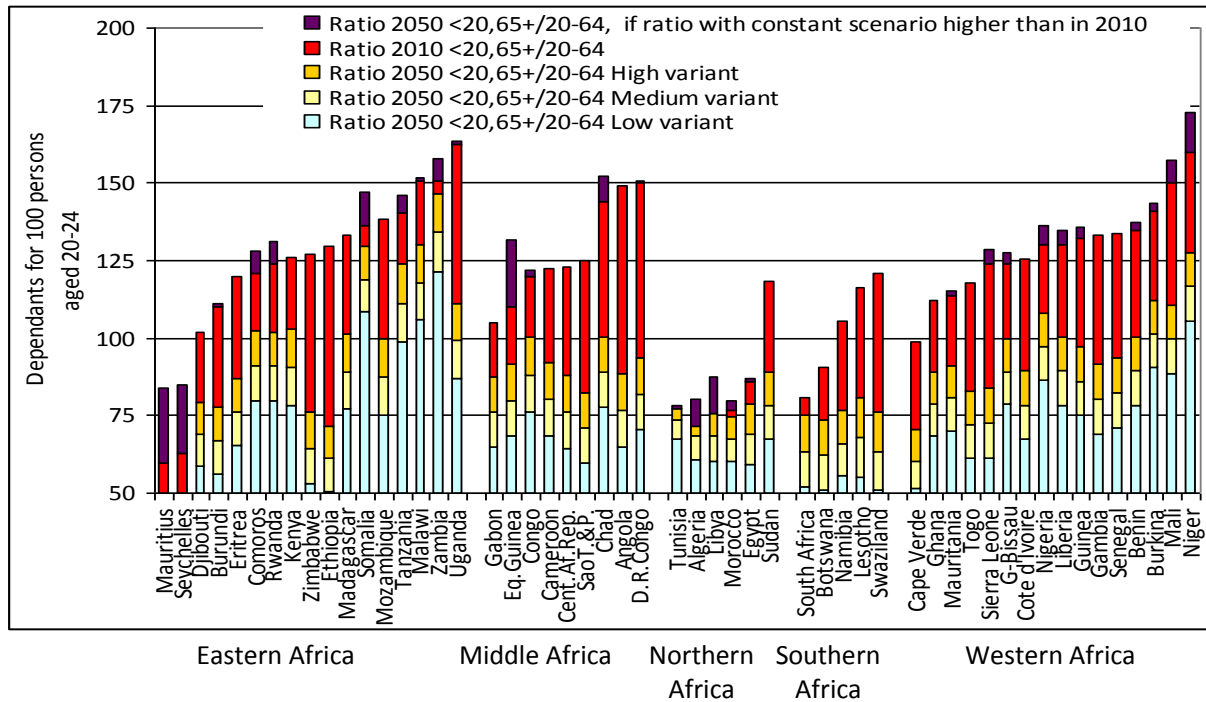
Table 4.7: Projected dependency ratios in percent (numbers of 0-19 years old and 65 years and more/20-64 years old) by 2050 of Africa and African sub-regions according to the 2010 United Nations population projections

		Low variant 2050	Medium variant 2050	High variant 2050	Constant variant 2010
	2010				
Dependency ratio (>20 and 65+/20-64 years)					
Africa	119	76	87	97	128
Sub-Saharan Africa	129	78	89	100	133
Eastern Africa	135	79	91	103	133
Middle Africa	142	70	81	93	144
Northern Africa	86	62	71	81	93
Southern Africa	84	52	64	75	81
Western Africa	131	83	94	105	136

Source: United Nations 2011.

By region, in 2010 Eastern, Middle, and Western Africa had very high dependency ratios, above 130 dependents per 100 people of the working age population aged 20-64 years. By 2050, the dependency ratios will be at best around 80 under the Low variant, and around 100 under the High variant, that is about double the present dependency ratios observed in Eastern Asia (56). By 2050 and considering only the dependency ratio, these three regions will obviously still be far from a favorable demographic age structure allowing them to capture the demographic dividend. At the national level, the dependency ratios will decrease more or less rapidly depending on the initial levels of fertility and the importance of the fertility decreases projected (see Figure 4.13).

Figure 4.13: Number of dependents aged 0-19 years and 65+ years, for 100 persons aged 20-64 years for African countries by increasing order of 2010 value for each region in 2050



Source: United Nations 2011.

With the Low fertility variant, only 14 countries out of 53 will have dependency ratios in 2050 comprised between 52 and 59, comparable to the present dependency ratios of Eastern Asia, and half (28) of the countries of the continent will have dependency ratios in 2050 between 60 and 78. However, with the High fertility variant, the dependency ratio will be much higher: 9 countries will have dependency ratios between 70 and less than 80 and a third (19) of the countries will continue to have dependency ratios above 100, which means that they will still be in an unfavorable situation to save, invest, and create jobs.

This underlines again the urgency for governments and policymakers to seriously take into account the population dimension into their development planning, and for the countries still far from completing their fertility transition, to accelerate their fertility decline.

IV. Demographic Vision for 2050

Fulfilling a vision of prosperity and inclusive growth for Africa by 2050 is intrinsically linked to the attainment of a modern demographic regime. The demographic picture that underlies the Vision for Africa for 2050 is that all African countries would have a “modern” demographic regime of low mortality and low fertility, like most emerging market economies today (Guengant 2009). A modern demographic regime corresponds to fertility levels between two or three children per woman and contraceptive prevalence rates (CPRs) between 50% and 65% (against 10% to 30% in about two countries out of three today). This would enable them to be in a position to capture a demographic dividend, realize inclusive growth, reduce poverty levels, and achieve economic convergence.

The goal of reaching a modern demographic regime by 2050 implies a convergence of the high levels of mortality and fertility observed today in most African countries, to those observed presently in the emerging countries but also in most other developing countries. For mortality, this assumes the pursuit of the mortality decline, not only of infant and child (under-five) mortality but also of adult mortality (especially through sustained efforts to reduce the impact of HIV/AIDS and major progress in the reduction of cardio-vascular mortality). For fertility, this implies reaching fertility levels between two or three children per woman.

Reaching these levels will imply that most African countries continue their efforts to reduce mortality levels, whilst at the same time implementing public policies to initiate, accelerate, and complete their fertility decline, depending on the specific situation of each country. This will be a daunting challenge and will require an extraordinary effort; it would imply that population growth in African countries follow the low variant.

Indeed, even if the countries were to follow the 2010 United Nations Medium fertility variant decline path, fertility levels in 2045-2050 would remain above 3 children per woman in 15 countries (out of 53), but in only seven countries if they were to follow the Low fertility variant, and, by contrast, in 30 countries if they were to follow the High fertility variant.

The demographic transition is usually accompanied by other major changes, namely the epidemiological transition, i.e., a shift in health patterns from communicable to non-communicable diseases (May 2012: 20-25). In addition, populations going through their demographic and epidemiological transitions do experience other broad-based socioeconomic changes. Generally, their economy shifts gradually from agricultural to industrial production, and eventually to a services-based economy. They also experience important migratory movements from rural to urban areas, which lead the majority of people to live in urban settings. International migratory movements do often occur as well, and the remittances sent by emigrants may have an important economic impact.

V. Agenda for Realizing the Vision

In this context and based on the analysis of past and present demographic trends and future population trends and characteristics as it can be envisioned using the 2010 and 2011 United Nations World Population and Urbanization Prospects, the measures necessary to realize the demographic vision for Africa in 2050 can be summarized, as follows:

- For all countries, there is a need to foster the decline of infant and child mortality rates and increase survival prospects for adults to entice people to prepare for their future, with an overall increase of life expectancies at all ages.
- *For the countries still far from achieving their fertility transition*, there is a need to trigger a much more rapid decline in fertility levels (total fertility rates) along with a much more rapid increase in the contraceptive prevalence rates (CPRs) (namely, realizing the contraceptive revolution). The ultimate goal will be to reach by 2050 total fertility rates of around 3 children per woman (or less) in all African countries.

- *For all countries, there is a need to attain or maintain favorable dependency ratios* as the result of the demographic transition, in particular for the youth below age 20, as compared to the working age population (age group 20 to 64). For those few countries that have completed or are close to completing their fertility transition, it is important that fertility remain around replacement levels, to avoid increases in the dependency ratio resulting from the expected increases in numbers of people aged 65 years and over.

- In order to accelerate the mortality and fertility transition and to achieve this 2050 demographic vision, sound policies and programs will be necessary. In this respect, the role of policies and leadership commitment is crucial (May 2005, 2012). In particular, two major policy shifts that should translate into vigorous, broad-based, and far-reaching interventions, are urgently needed:
 - First, there is a need for a much stronger commitment and engagement on population and family planning issues on the part of public authorities, civil society organizations, and international donors alike⁵⁵. This stronger commitment must be based on the recognition not only of the benefits of family planning for improving maternal and health, but also for reasons of better economic and social planning. This commitment must be based also on the unambiguous recognition of everyone's rights of access to sexual and reproductive health services. For most countries, this implies more important and especially more regular funding flows for population and family planning programs over the next decades. For the 40 countries which are today still far from completing their fertility transition, and in particular in the 25 countries with "slow and irregular transition" or "very slow and/or incipient transition", this requires to setting programmatic objectives for family planning programs, in the form of rapid increases of contraceptive prevalence rates (CPRs). Such increases should be of at least 1.5 percentage points per year, as it has been observed in today's emerging market countries (see Figure 4.4). This will enable SSA countries to realize contraceptive revolution, since they must eventually reach CPRs of at least 60% in 2050 to reach "modern" and lower levels of fertility.

 - Second, there is a need for a much stronger drive toward the empowerment of women. This implies that a number of countries do enact legislative changes such as *inter alia* rising the legal age at marriage, adopting inheritance laws and/or practices that do not disadvantage women, adopting new *Family Codes* to guarantee equal rights and duties for males and females, and removing the husband's and/or parents' consent to allow women and young girls to have easy access to family planning services. This will require also the promotion of reproductive rights, while at the same time making sure that women and couples can exert their reproductive choices freely and without coercion. Furthermore, social, cultural and even religious norms will also have to evolve for a rapid fertility decline to happen.

⁵⁵ After almost 20 years of neglect of family planning internationally, a first step in the right direction was the July 2012 London Conference on Family Planning convened by the Department for International Development (DFID) and the Bill & Melinda Gates Foundation.

Broad-based and far-reaching interventions are urgently needed to accelerate the demographic transition, which will be initiated by rapid declines in fertility that in turn will bring about more favorable dependency ratios. The improvement of the dependency ratios will help strengthen human capital (i.e., education and health), provided sound policies and investments are put into place at the same time (see Beaujeu et al. 2011). This is one of the absolutely necessary conditions, along with adequate macroeconomic policies that are needed to fulfill a vision of prosperity and inclusive growth for Africa by 2050.