

INTER-AGENCY REGIONAL ANALYSTS NETWORK

AN ACF AND IRIS INITIATIVE

**Nigeria Trend Analysis:
Challenges and Opportunities of the
Demographic Shift and its Link to Stunting
An Outlook To 2030**

March 2016



Foreword

The overwhelming wave of population growth forecasted to dramatically alter the societal make-up of Nigeria in the coming half-century is a critical feature of the present day context despite the fact that it will take decades to manifest. As with all demographic dynamics, the opportunity for key stakeholders to change the current path of this heavy trend requires sustained investments to be made with some immediacy. The Action Against Hunger Country Office in Nigeria, cognisant of the effect that such a striking demographic shift would have on the country, requested an outlook to analyse how the evolution of the demographic dynamics in Nigeria could affect the macro-drivers of around stunting.

This report was not intended to propose a technical analysis on stunting but to breakdown the general system and explore the linkage between the demography evolution and stunting in Nigeria. This report will provide an outlook of the demographic shift evident today, and forecasted to continue, with an outlook to 2030¹. Subsequently it will assess the potential impact of this evolution on the three macro-drivers of change that impact stunting grouped by: household structure, the economic context and the infrastructure of basic services. This breakdown will be interspersed with analysis on what the main uncertainties are within the system that could affect not only the relationship between demographic change and stunting but the evolution of demography in Nigeria itself.

Introduction

Nigeria is the most populous country in Africa and the eighth most populous country in the world. With 182 million inhabitants² in 2015, Nigeria accounted for 5% of births globally (and one fifth of all births on the African continent) but by 2050 it is projected that one in every ten children worldwide will be born in Nigeria³ indicating a significant increase in both the absolute number of births and children in Nigeria over the course of the outlook. Despite declining fertility, Nigeria's population is expected to continue to grow to 262 million by 2030 and 398 million by 2050 on current trends.

In 2015, Nigeria was listed as 22nd largest economy in the world⁴ however human development indicators have not kept pace with economic growth. Typical of oil-rich economies, Nigeria exhibits severe economic inequality and poverty. The GINI index was last measured at 42 in 2010⁵ and about 62% of the population lives on \$1.25 a day or less. This is in part due to forms of population related stress meaning that the rise in the number of people has outpaced the translation of economic growth into higher standards of living for the majority of the population. Nigeria is ranked 17th of the countries that have the greatest demographic vulnerability⁶ in the world. Areas of particularly high stress include political instability, environmental degradation,

¹ Some of the figures indicated in the document are projections by 2050 (and not only 2030) to better show the long run trend.

² United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision, custom data acquired via website.

³ UNICEF (2014) Generation 2030|Africa

⁴ World Bank reference: <http://data.worldbank.org/data-catalog/GDP-ranking-table>

⁵ Source : Nigeria Millenium Development Goals Report (2013), page 24

⁶ Population Institute's ranking 2015. Report Where population growth?

poverty and hunger⁷. With over 11 million stunted children in 2013, Nigeria ranks second behind India among all countries with the highest number of stunted children.

Though there are many vulnerabilities, population growth can also be an opportunity. One consequence of prolonged population growth coupled with reducing fertility rates is that Nigeria is on the verge of a potential *demographic dividend*; the economic growth due to the increase in the share of a country's working age population. However, there are a number of underlying vulnerabilities that could transform this opportunity into a risk including, persistently low levels of education, sub-optimal employment practices and opportunities and, the timing of childbearing⁸. A lack of investment into the human resources of a country in the early stages of demographic transition can reinforce a negative feedback loop whereby demographic changes exacerbate underlying vulnerabilities in the economic, social and political dynamics and, in turn, undermine efforts to reduce the population growth to replacement levels.

What is Demographic vulnerability?

Demographic vulnerability is the degree and forms of vulnerability for a country or a region faced with its demographic evolution. More specifically, this term has been used to define the challenge multiplier that is population growth for developing countries. In a world of finite space and limited resources projected, population growth can imperil human and economic development, putting millions of people at greater risk for hunger, poverty and water scarcity. Population pressures are also contributing to environmental degradation and political instability. Demographic vulnerability, as it is defined, is confined to countries with rapidly growing populations. Countries with populations that are both shrinking and aging face their own set of demographic challenges, including potential labor shortages and a shrinking tax base, but the challenges associated with aging populations are quantitatively and qualitatively different.

To assess how the dynamics in population growth will affect the system in Nigeria and consequently, the underlying causes of stunting, it is critical to understand the dynamics of the demographic trend and its influence on social development in the country.

I. Demographic trends

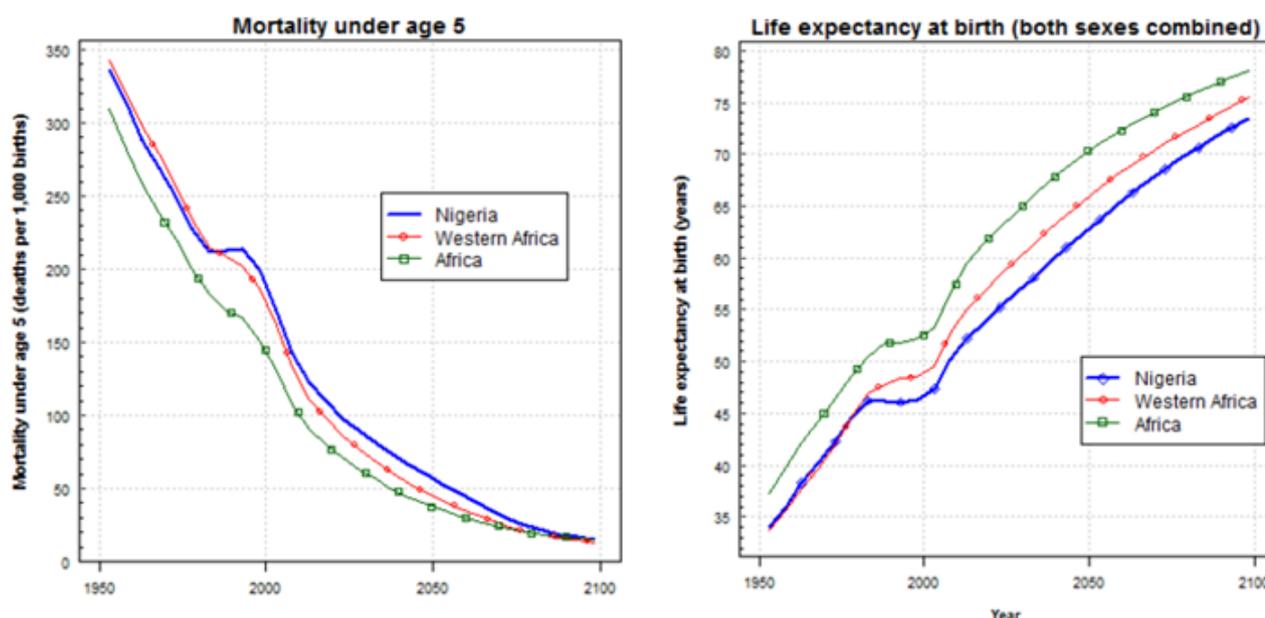
Three key population parameters are critical in underpinning population dynamics: migration, mortality patterns and fertility indicators.

⁷Population Institute proposes a ranking composed of several indicators to define the degree of demographic vulnerability. These indicators flag demography as hunger and malnutrition, severe poverty, water scarcity, resource and environmental degradation and political instability (Global Hunger Index, Multidimensional Poverty Index, Water Stress Score, Percent of Bio capacity in Use, Fragile States Index, Lifetime Births per Woman, Population rate of Natural Increase, Projected population growth, Birth control (% of married women using modern contraceptive). These rankings also take into account factors that could serve to increase or decrease the stresses associated with rapid population growth (changes in climate, regional conflict, government corruption and gender inequality on one hand; natural resources, foreign assistance, family planning policies).

⁸ International Monetary Fund, Lee, Ronald and Mason, Andrew (2006) [What is the demographic dividend?](#)

In Nigeria, with a net migration rate of -0.4^9 , **migration** has a relatively limited effect on demographic trends. Formulating assumptions about future trends in international migration is extremely challenging. However, in a country such as Nigeria where migration flows have had little impact on the demographic dynamics in the country, we adopt the assumption that migration will remain relatively constant throughout most of the projection period¹⁰.

Nigeria's **mortality** and health indicators continue to lag far behind other countries. Shorter life expectancy has been attributed to the HIV/AIDS epidemic as well as other infectious diseases, and poor health care infrastructure, particularly in rural areas. However, despite relatively limited gains in life expectancy, Nigeria has experienced a general decline in the four mortality indicators: infant, child and under-five mortality rates, and maternal mortality rates. This has been particularly prominent in all levels of childhood mortality: results from the 2013 National Demography Health Survey show that infant mortality has declined by 26% over the last 15 years, while under-5 mortality has declined by 31% over the same period¹¹. As illustrated in the following graphs, the trend of declining mortality is expected to continue positively in the coming decades, having a direct impact on life expectancy progression, which sustains the high pace of population growth.

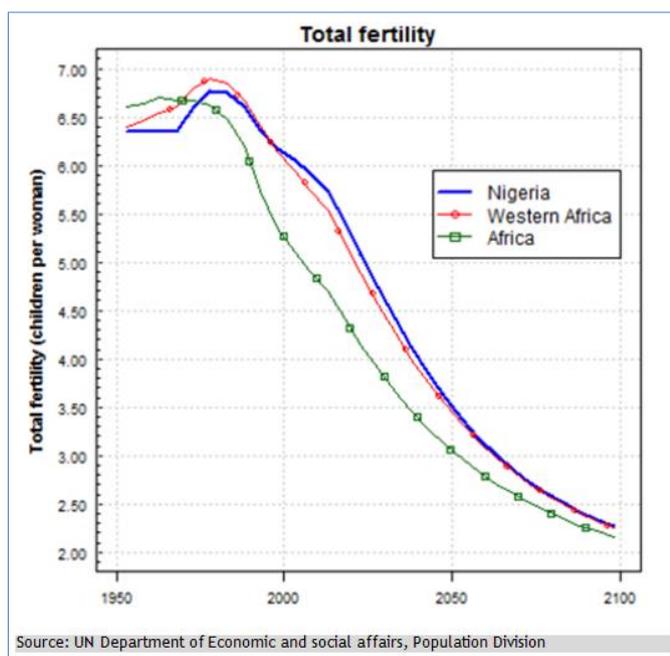


Source: United Nations Department of Economic and Social Affairs/Population Division. World Population Prospects: The 2015 Revision, Key Findings and Advance Tables

⁹ Source: UNPD, 2009 International Migrant Stock Database.

¹⁰ UN population projections used the normal migration assumption, under which the future path of international migration is set on the basis of past international migration estimates and consideration of the policy stance of each country with regard to future international migration flows. For more details, see 'Methodology of the United Nations Population Estimates and projections 2015 revision'.

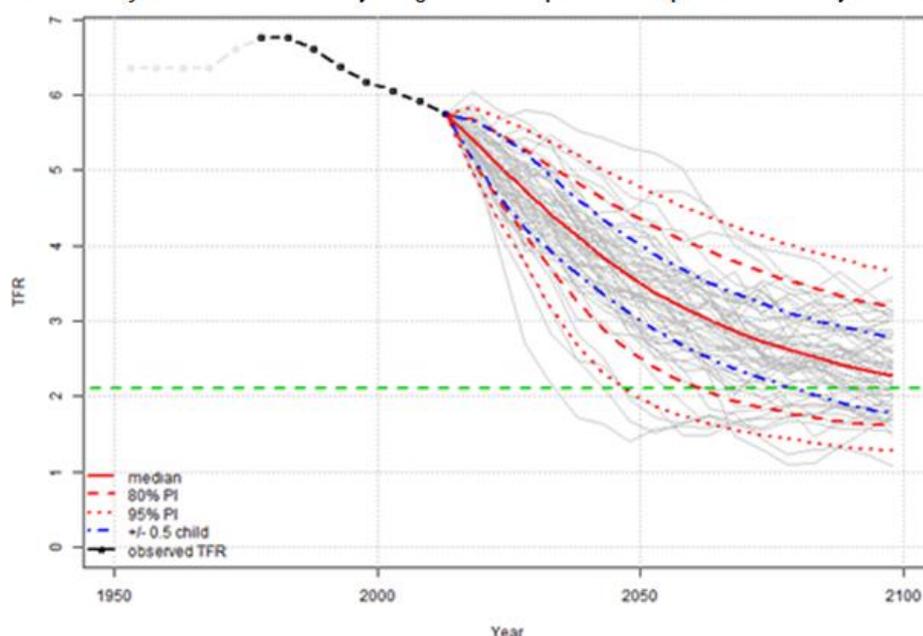
¹¹ According to NDHS 2013 page 147. Please note that "mortality trends can also be examined by comparing data from the NDHS surveys conducted in 2003, 2008, and 2013. The infant and under-5 mortality rates reported in these surveys show a continuous declining trend. Under-5 mortality declined from 201 deaths per 1,000 live births in the 2003 survey to 128 deaths in 2013, while infant mortality declined from 100 deaths per 1,000 live births in 2003 to 69 in 2013."



Whereas child survival has improved in Nigeria, thereby reducing the mortality rate, declines in fertility have generally been slow. Though it is decreasing, Nigeria's total fertility rate remains quite high compared to countries at a similar economic level¹².

Total fertility rates in Nigeria have assumed a downward trend from an average of 6 children per woman in 1990 to 5.5 in 2013¹³. Projections assume that Nigeria is currently a medium-fertility country; in other words, although fertility is still well above replacement level, it is declining and expected to continue to decline.

Probabilistic Projections of Total Fertility using UN World Population Prospect 2015 fertility estimates



Source: UN Department of Economic and Social Affairs, Population division.

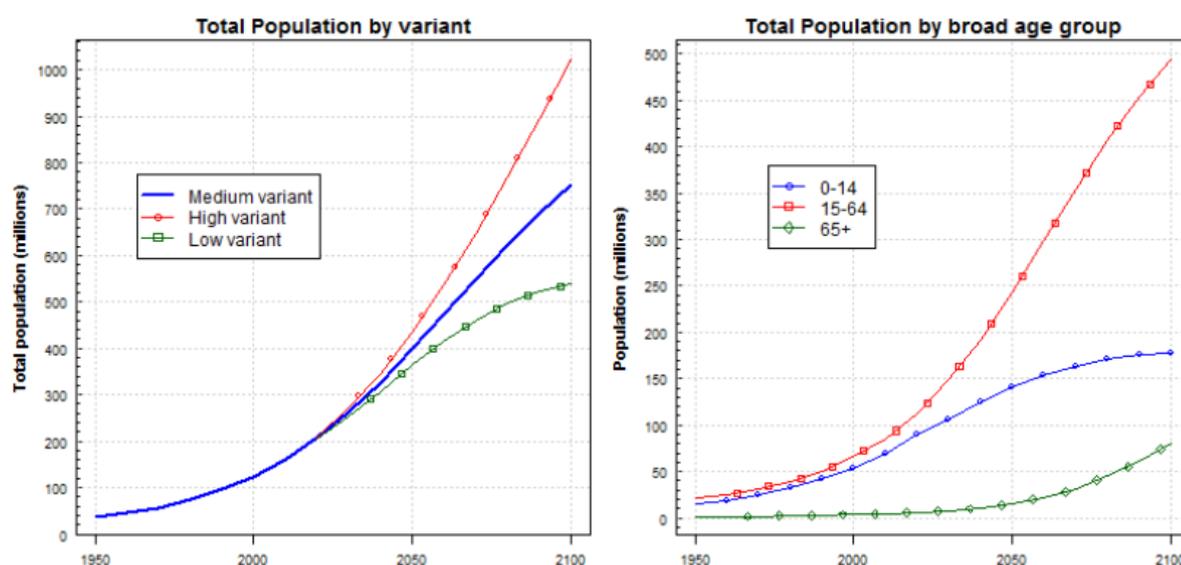
Although it is projected to continue to decline, there are questions about whether this decline is inevitable and whether it will continue at the current pace. The rate of decline can have a substantial impact in a country like Nigeria; if fertility declines more rapidly, according to the low-variant assumption, Nigeria could reach replacement level fertility by 2050, but if fertility declines slow or stall, then fertility could still be as high as about 3 children per woman by 2050.

¹² <http://esa.un.org/unpd/wpp/Graphs/DemographicProfiles>

¹³ Source: Akanni Ibukun Akinyemi and Uche C. Isiugo-Abanihe 2014, Demographic dynamics and development in Nigeria African Population Studies, page 240.

As Nigeria's total fertility rate is currently still over 5 children per woman, even with the assumption of a steady decline, it is still not expected to reach replacement level fertility by the end of 2030. For the purpose of this outlook therefore we will assume a decline based on current trends but interventions to increase this are considered one of the critical uncertainties of this analysis as success in the uptake of contraception and a reduction in fertility could be a game-changer.

Persistently high fertility rates leads to high population growth. The population growth rate is reinforced by the demographic distribution of the population. In 2013, 70% of the population was under age 30 and about 46% of the over 176 million people were aged less than 15 years¹⁴. This already represents that a very high proportion of the population is of childbearing age and this cohort will grow in the coming decade. Despite a forecasted reduction in the rate of increase the proportion of children/youth aged between 0 and 14 by the middle of the century the population of children and youth will still be quite a large cohort of Nigeria's total population, with 35.2% of the people under 15 by 2050¹⁵. The heavily skewed population structure will underpin the rapid rate of population growth over the course of the outlook.



Source: United Nations Department of Economic and Social Affairs/Population Division. World Population Prospects: The 2015 Revision, Key Findings and Advance Tables

Other than concerns over the results of relatively high fertility rates among a youthful population, with respect to its age structure, at first glance the country appears to be in a very promising situation, with this large cohort of young people entering adulthood (and the workforce) while fertility rates are falling¹⁶.

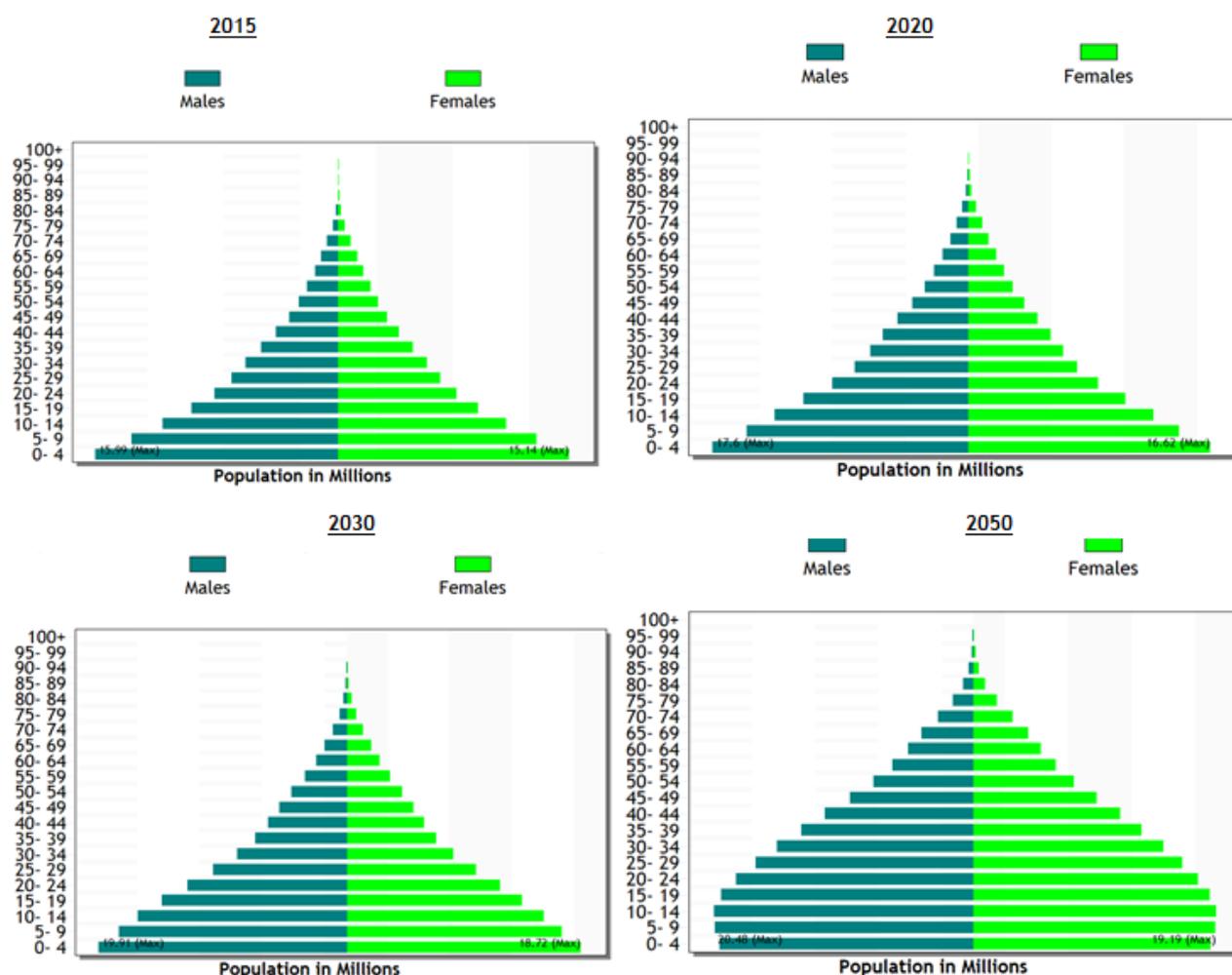
¹⁴ According to the 2013 Nigeria Demography and Health Survey

¹⁵ Medium radiant estimation. Source : United Nation

s Department of Economic and Social Affairs/Population Division. World Population Prospects: The 2015 Revision, Key Findings and Advance Tables, page 27.

¹⁶ A drop in fertility rate will give an opportunity of economic growth to a country, but it isn't automatic. Important investments in education and health are needed to realize demographic dividend. If the drop of the fertility rate happens when the critical threshold of population density has already been reached (resources are already drained) the dividend can be very small or inexistent. If fertility rate drop doesn't guarantee prosperity it is a prerequisite to

Population distribution for Nigeria



Source: The International Futures (IFs) modeling system, version 7.14. Padree Center Denver University¹⁷

However, this very large cohort of young people, and particularly of young children, who will be entering the educational system (if opportunities are provided) and then the labour market presents an enormous challenge. The youth bulge has a direct bearing on education and labour force among other factors. It can be an asset only if investment in Nigeria's children and youths are prioritized- nutrition, education, jobs, infrastructure and health care. However, the time for making such investments is passing quickly and unless they are made now, the demographic dividend and its golden opportunity will be missed. In such a case, the country is at risk of an increase of poverty, rising instability and a general worsening of human development indicators.

economic prosperity. (Unless a country is very flourishing thanks to natural resource like oil for example, it is difficult to reach economic prosperity with a high fertility rate).

¹⁷ Extended definition: medium fertility variant total population, annually for 1960-2010; data source: UN population Division 2012. More information on this demographic model here: www.du.edu/ifs/help/understand/demography/flowcharts/index.html

Large cohorts of unemployed or underemployed young people can destabilize their societies and create conditions where civil unrest becomes more likely.

Considering the steady trends both in fertility and mortality, the inertia of such drivers and their impact on the population growth rate, the population projections for Nigeria can be accepted with a high degree of confidence. As such, this report will assess the impact of the demographic evolution on the root causes of stunting based on the assumption that the population of Nigeria should be 262.5 million¹⁸ by 2030 and 398.5 million in 2050.

II. Consequences of the demographic shift in relation to stunting

By 2030, Nigeria will still have a huge number of children and women of childbearing age. This is a concern for a country where, in 2013, 2 in 5 Nigerian children are affected by stunting¹⁹. The changing population dynamics significantly impact the drivers of stunting. Indeed the access to basic services, the size of households and the economic outlook will be affected by the demographic shift and each have an influence on levels stunting in the population.

ECONOMIC CONTEXT VERSUS DEMOGRAPHIC EXPANSION

Demographic growth leads to an increased need for resources both at national and family level to ensure acceptable living conditions and prevent poverty. As malnutrition is strongly linked to income poverty²⁰, the economic capacities of Nigeria to face the demographic trend directly will influence the relationship between demography and stunting.

Economic context

At the assumed rate of demographic expansion, the country requires a much faster growth rate than the current 6.0% to 7.0% achieved annually. However, the robust growth of around 7% for the past decade is threatened by macroeconomic challenges, particularly exchange-rate volatility and falling global oil prices that impact government revenues and, as a result, public-sector spending. The Federal Government is focusing on measures to increase non-oil based revenues primarily through improved tax administration and policy, and deepening structural reforms for economic diversification but despite the reforms, declining oil revenue may reduce budgetary disbursements for social and development projects. Rapid population growth undermines the connection between economic growth and poverty reduction through a number of channels, including pressure on the infrastructure, declining productivity and the higher cost of providing and maintaining social services. In Nigeria, robust growth over the past decade has been accompanied by increasing inequality and vulnerability. The official poverty rate has not sufficiently fallen and stands at 46% of the population (adult equivalent approach), or 62% in per

¹⁸ Medium radiant estimation. Source : United Nations Department of Economic and Social Affairs/Population Division. World Population Prospects: The 2015 Revision, Key Findings and Advance Tables, page 27.

¹⁹ Source: Nigeria Federal Ministry of Health (2015). Malnutrition, Nigeria silent crisis

²⁰ See World bank report for the rationale : World Bank (2006). Repositioning Nutrition as Central to Development: A Strategy for Large-Scale Action, Chapter 1: Why invest in nutrition?

capita terms²¹. The majority of the poor (66%) are to be found in the north. Poverty is also more prevalent in rural areas. Considering high regional and social inequalities in Nigeria, specific interventions are needed to face up to the demographic challenge and avoid a significant increase in poverty numbers. The Nigerian government and its partners will need to redouble their efforts in social protection and employment²².

Employment is the key

The youth bulge that Nigeria will experience in coming decade is a challenge in terms of provision of basics services for a massive number of children and young people. But this is also an opportunity of economic growth. A growing working-age population relative to the dependent population that requires support is one important contributor to economic development. But one of the key contributors to this equation is job creation. If Nigeria's large population of young adults can find productive employment, then the country can enjoy a first demographic dividend, raising the current standard of living and spurring the economy²³. The World Bank estimates that 13.6 % of youth were unemployed in Nigeria in 2014 and to match the pace of population growth, Nigeria needs to create between 40 - 50 million additional jobs by 2030²⁴. To reduce poverty and promote more inclusive growth, these jobs need to be more productive and provide higher incomes than are available in 2016. The majority of adult Nigerians are underemployed; locked into low-productivity and low-income work, with no job or income security²⁵. Income levels are insufficient to escape poverty, or attain middle class status for their households. The public sector is still the largest employer of formal labor and with cuts to government expenditure due to falling oil prices, the new number of jobs in the public sector will decline. The private sector will have to lead the way for employment creation in Nigeria.

Household size and poverty

At household level, the demographic boom impacts on the ability of families to take care of their members if the increase of the household size is not matched by an increase in income. In Nigeria, the average household size is already large, with over 30% of households having at least five people and almost 10% having at least 9 members. The average household size is 4.6 persons in 2013, as compared with 4.4 in 2008²⁶. Simple resources constraints inhibit poor families from investing more resources in their children. A study from the African development bank Group

²¹ Data from the last comprehensive household survey (NHLSS) in 2009/2010

²² The government has started working on a comprehensive social-protection scheme in February 2014. This scheme builds on the various programs piloted across the country including the SMOL program (maternal and child health); conditional cash transfer programs in several states; and various community-driven development programs. In parallel, various initiatives are implemented to support job creation including the Subsidy Reinvestment and Empowerment Program (SURE-P) initiatives within the Graduate Internship Program; public works programs; community service; Youth Enterprise with Innovation in Nigeria (YouWiN!) and job-creating activities under the agricultural transformation agenda. There has also been a particular focus on women.

²³ If resources generated by this first demographic dividend are invested in physical capital and in children's health and education, then Nigeria can achieve a second demographic dividend that will boost economic growth over a longer period. The magnitude of this second dividend depends largely on how resources generated during the first dividend are used.

²⁴ World Bank (March 2016). 'More, and More Productive, Jobs for Nigeria'

²⁵ Half of working Nigerians are in small-holder farming and another 30 percent working as self-employed in small or micro household enterprises in the non-agricultural sector.

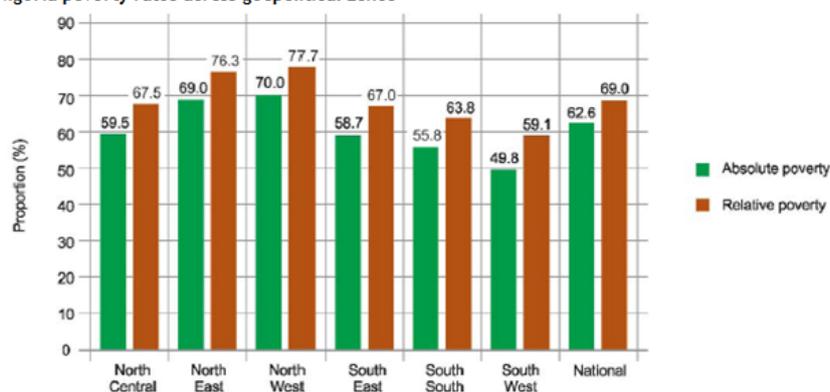
²⁶ NDHS

shows there is correlation between the levels of poverty and the size of the household. According to this report, Nigerian poverty is high for large households. While households with one person showed the least incidence of poverty, households with more persons especially those with seven persons and above showed the highest incidence of poverty. For example, the incidence of national poverty with the least size (i.e. one person) was 22.60 per cent comparably, incidence of poverty for households with more than 7 people was estimated at 97.61 per cent in 2010. Household size is driven by demographic evolutions and drives abilities of household to take care of all members of the family. As such it is central in the way demography can influence stunting.

“Two Nigerias”? Unequal abilities to face the demographic challenge:

A wide spatial variation of poverty rates among the geopolitical zones in Nigeria is evident. The majority of the states with absolute poverty (per capita) of more than 57.0% are in the North West and North East geopolitical zones of the country. The statistics show that generally, poverty is more widespread and deeper in the northern

Nigeria poverty rates across geopolitical zones



Source: UNDP Nigeria Millennium Development Goals 2013 report, BNS data.

parts of the country. The predisposing factors of widespread poverty in the northern region have included the collapse of key industries like textiles, low female participation in the labour force, weak education and other infrastructure, and increased insecurity.

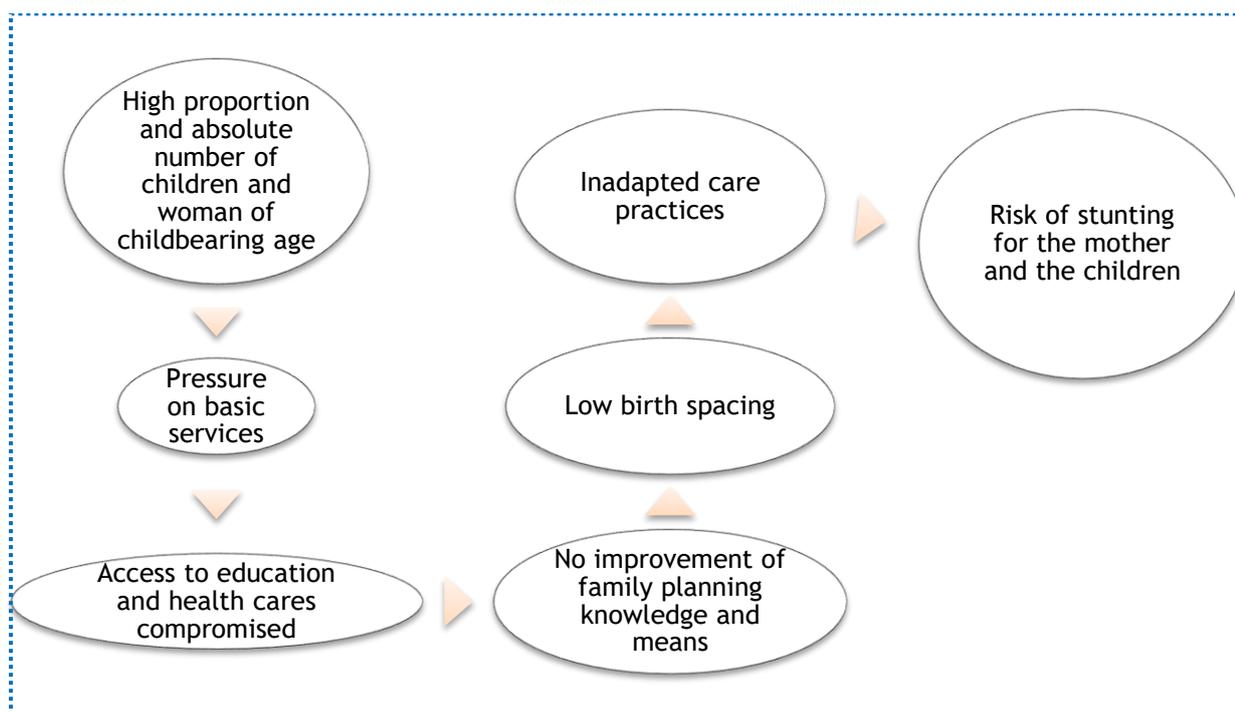
As far as unemployment is concerned, the studies show that “two Nigerias” seem to be emerging: one in which high and diversified growth provides more job and income opportunities, and one in which workers are trapped in traditional subsistence activities. The reports also show a geographic divide, with northern Nigeria having low levels of education access and high youth underemployment than the South. The high variability in the demographic indicators and in the employment and poverty rates across the states of the country underscores the compelling need for well-targeted local initiatives, strategies and programs to tackle local economic challenges.

In the coming decade, Nigeria will have the opportunity to transform the demographic shift into a sustainable improvement of the economic and social situation in the country. This could be a turning point in reducing vulnerabilities, such as stunting. To achieve this, Nigeria faces several challenges: reduce the structural weaknesses in its current economy; create millions of jobs to ensure sufficient incomes for households and support large households and vulnerable regions. Though it is a critical contextual driver, the economy isn't the only variable that will determine how demography will impact Nigeria's vulnerabilities; access to basic services is also essential.

CHALLENGES TO THE INFRASTRUCTURE AROUND ACCESS TO BASIC SERVICES

The continuous population growth at the assumed rate and the population distribution is likely to mean that basic services are overwhelmed over the course of the outlook. Given the proportion of children this is likely to particularly impact on health and education. Limited access to quality health and education services has a significant effect on the quality of life and access to opportunities of the population (especially those in lower socio-economic groups) as can be exemplified by the effect of poor basic services infrastructure on stunting.

How population patterns influence stunting through pressure to basic services:



Access to health, the heart of the demography- stunting relationship

Access to health is already a cause of concern in Nigeria. Even, if the country has made notable gains in improving childhood survival it still struggles to ensure adequate health care for its population, particularly for women and children. The provision of a sufficient number of skilled medical human resources, health materials, equipment and infrastructure to meet the pressure of demographic expansion is a serious challenge. The Nigerian National Strategic Health Development Plan states that “There is a dearth in the quality, quantity and mix of health care workers with a skewed distribution towards urban and southern population, alongside the existence of multiple categories of health care providers from orthodox to traditional”²⁷. The latest data registered for Nigeria by the World Health Organization listed a rate of 0,408 physicians to 1000 people. But Nigeria’s current stock of practicing physicians is about 35% of the officially quoted numbers because the data hasn’t been updated since 1963²⁸. As a consequence,

²⁷ FMOH, 2009

²⁸ Nigeria has a formal health information system (HIS) that is meant to be nationwide in its coverage however it is still unable to provide usable information on health. The Federal Ministry of Health in collaboration with the World Health

the density of HRH is much lower than is acknowledged. With an estimation of 0.17 doctors to 1000 population²⁹, Nigeria's physician density would be among the lowest in the continent. Major investments in health sector are necessary to both solve common impediments to accessing health care in Nigeria (inadequate information, financial barriers, and lack of access to transport) and answer to the increasing needs of health services. Even without the forecasted exponential population growth, access to health services will be severely limited by the resources available in country over the course of the outlook.

Nigeria will have large numbers of children and women of childbearing age by 2030. Maternal and child healthcare services in particular will be put under pressure. Access to health care for pregnant and lactating women and children is critical to prevent stunting. The situation is already worrying. Only 36% of births in Nigeria are delivered in a health facility and 38% percent of deliveries are attended by a skilled birth assistant, two interventions which have been shown to improve maternal and child-health outcomes. Pre and post-natal care are central in reducing poor maternal and neonatal health outcomes by promoting best care practices such as breastfeeding and longer birth intervals among other things. Therefore a reduced coverage of maternal and infant health care due to the increase of population will likely have a negative effect on rates of stunting. Moreover health services are often the sole opportunity where women can access information regarding care practices and to family planning services, which influences birth spacing. As a result, not only does it exacerbate the rate of stunting but limited access to healthcare creates a feedback loop reinforcing the trend of exponential population growth and likely increasing the absolute number of stunted children in Nigeria over the course of the outlook.

As far as family planning is concerned, at the present time the Ministry of Health estimates that only about one third of the potential demand for family planning is being met. Using government data it can therefore be posited that if all currently married women who say they want to space or limit the number of children they have had access to family planning methods, the contraceptive prevalence rate would immediately increase to 31%³⁰. The lack of access to contraceptives is a critical component of the persistently high fertility rate and as a result a driver of population growth. Mass media and interpersonal communication can be major sources of family planning messages diffusion but in Nigeria 62% of women and 47 % of men reported not receiving any family planning information. This lack of access to information limits knowledge about family planning topics and availability. Findings show that birth spacing of less than three years can have tremendous health hazards to the mothers and their children, including increasing the risk of stunting

The demographic shift will overwhelm the education and health system and as a result could lead to an increase in stunting. However, if Nigeria and its partners redouble investments in reproductive health and family planning, particularly in parts of the country with poor health

Organization and the United States government commenced the establishment of the National Human Resources for Health Information System (NHRHIS) in 2010. The system is expected to amongst other things present Nigeria's Human Resources health status in relation to local and international benchmarks. No data has yet been produced by the NHRHIS

²⁹ International Organization for Migration (2014). Needs assessment of the Nigerian health sector, funded by the European Union

³⁰ According to Nigeria National Demographic and Health Survey.2013

indicators, then fertility levels may begin to decline more significantly and surviving children will be more likely to achieve better basic levels of health. In parallel, with better health and education, parents will choose to invest more in fewer children, giving those children a much better chance of living a healthy and prosperous life.

The education opportunity

The education sector similar to other basic services will be confronted with the age structure of the population over the course of the outlook. The youth budge which Nigeria is entering brings the challenge of educating more than 65 million³¹ children and young people by 2030. In a country where 10.5 million Nigerian children of primary age were out of school³² in 2010, population growth could push the sector into crisis over the course of the outlook. Education is central to understand how demographic phenomenon can influence stunting and broader societal vulnerability several ways.

Women's education especially is considered a highly effective means of lowering fertility and as such could be a game-changer in the system. This relationship is "one of the most clear-cut correlations"³³. Female schooling could affect fertility through knowledge and more effective use of contraceptive methods or by increasing female autonomy and bargaining power in family planning decisions. In Nigeria, the latest data available demonstrates the correlation between fertility rates and level of education. Women with more than a secondary education have a total fertility rate of 3.1, as compared with a total fertility rate of 6.9 among women with no education. This impact is passed from generation to generation: educated mothers have healthier and more educated children, accelerating the demographic transition, enabling a society to maximise its demographic opportunities, and helping to create the wealth that can support greater human capital investment for future generations

Education delays women's entrance to marriage which indirectly delays the first birth. The median age at first birth increases with level of education. Women with no education have their first birth at a median age of 18.1 years, as compared with 22.4 years among women who have a secondary education, a difference of almost four years. The percentage of teenagers who have started childbearing also decreases with more education. Teenagers with no education represent about half of those who have begun childbearing, while only 2 percent of teenagers with more than a secondary education have children. Though there could be a more direct link between education and fertility rates through sex education in school, many schools do not have trained guidance counselors to teach adolescents basic things such family planning, despite the fact that curricula have been developed for this purpose. Socio-cultural taboos shield off adolescents from relevant reproductive health services.

Attendance at school takes adolescents out of the traditional environment, increases literacy and exposure to new ideas. In doing so, it affects the perception of the cost and utilities of children.

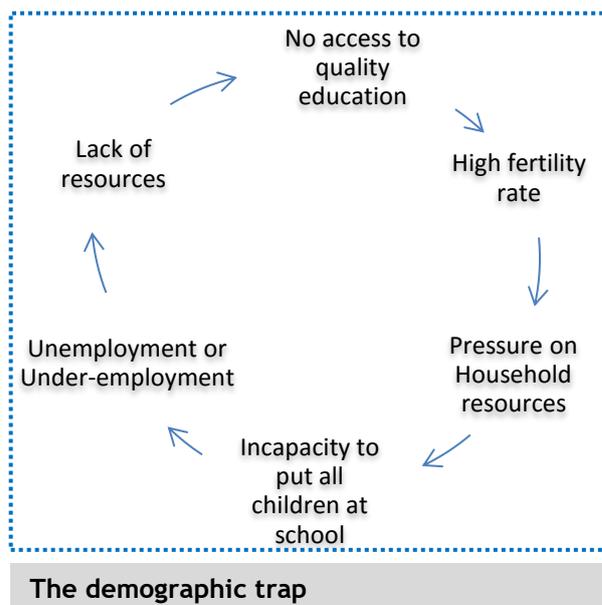
³¹ 65, 6 million people between 5 and 14 years old

³² UNICEF UNESCO Institute for Statistics (March 2012). Nigeria Country Study, global Initiatives on Out-of-School Children, page 26. See also : <http://www.premiumtimesng.com/news/top-news/188590-10-5m-children-out-of-school-in-nigeria-unicef.html>

³³ Cochrane 1979, quoted in African population Studies mar 2014

The better parents are educated, the higher the socioeconomic and cultural aspirations for their children. This phenomenon also leads to postpone childbearing until the couple can provide for their children.

The level of education also influences the perception of the relationship between the number of children and economic prosperity. A connection is observed between poverty and demographic growth. In countries where there is a lack of or an insufficient social protection system, parents rely on their children to take care of them in advance age. The poorer cohort of the population tends to have a lot of children requiring a greater economic security. However, a big household sizes reinforces the cycle of poverty if parents are unable to feed and educate their children; the demographic trap epitomized (see figure).



The trend of demographic growth could have a noticeable effect on the education system (both in the quality and access) and as a result can impact stunting trends in the long term. Education is an important component of reproductive health and the economic capacity of the young, burgeoning population of Nigeria. As such, the education prospects of the growing population will be a significant determinant of development indicators, including rates of stunting, over the course of the outlook.

Access to education is a priority for Nigeria. Both the federal and state governments are intensifying collaborative efforts to promote access to basic education through targeted local interventions for enhancing primary school enrolment and retention. However, despite efforts to improve the situation, all the states in Nigeria will be unlikely to devote enough resources to both health and education and geographic discrepancies will continue. Northern areas of the country in particular will have the greatest challenge because of limited resources available, local cultural impediments, insecurity and the eve growing needs.

Geographic variations:

Human development achievements have continued to be underpinned by rural-urban gaps as well as sharp geographic differences. It is very important to note that there are wide variations in education and health indicators rates across regions and states. The North-eastern zone has the highest rates in child and maternal deaths while the South-west has the lowest. Childhood stunting varied significantly across the different states. The northern states have a higher proportion than the southern states. These discrepancies are expected to continue to widen over the coming decades, with regions and states experiencing different stages of the demographic cycle. There also exists a religious divide, with the small numbers of people who hold traditionalist religious beliefs continuing to have very high fertility. The uneducated and poor are also unlikely to have completed the demographic transition, resulting in parents continuing to stretch limited resources over larger numbers of children.

At local and federal level huge efforts are required to improve the poor level of investment in human capital. As a baseline in 2009, 90% of investment in education and health came from private expenditure, and only 10% from the government. In 2009 Nigeria ranked last of 24 countries for its investment in human capital³⁴. Given the forthcoming wave of population growth a lack of investment in the human resources of Nigeria will translate into a critical vulnerability affecting many development indicators including the rate of stunting.

Key uncertainties:

❖ **The behavior of religious and traditional authorities** can have huge consequences in terms of access to education and health, especially in family planning and care practices. Awareness of traditional and religious leaders about the consequences of demographic issues on education and health and the linkage to the wellbeing of future generations is uncertain. Traditional structures and authorities offer alternative ways to give women adapted family planning information and have strong impact on birth spacing and on maternal and infant care practices.

❖ **The level of involvement of private sector** on birth spacing and family planning issues: So far public/private partnerships in the sector aren't very developed but this can be used a tool for the states to increase resources and be able to meet their electoral promises. In parallel, the private sector can reflect the economic interests of having a healthier consumer market and a better educated workforce in the long run that will have a bigger purchasing power and contribute to the economic development of the country. The dynamic and strength of the private sector could have massive impact on community awareness and accessibility of certain services.

❖ **Female status and degree of female empowerment.** Women's literacy, education and employment status are all key factors of population change and strong determinants of the health the national economy. The added efficiency of having women in the workforce on the development and growth of the Nigerian economy are not yet realized because there is a big disparity between women and men in almost all the sectors. There is significant disparity between male and female levels of education according to household economic status, in the poorest households, 40% of men are literate compared to 13 % of women¹. Progresses in these areas would have a strong impact on the role of women in society and at home and will consequently yield a plurality of knock-effects over the course of the outlook. This could durably change both how the household structure influences stunting and the demographic structure itself.

³⁴ Source: Lee, R., Mason, A. 2009a. "Low Fertility, Human Capital, and Macroeconomics", in European Journal on Population.

Conclusion:

The relationship between demographic change and stunting is complex. In Nigeria, the dynamics of the demographic trend have a strong influence on social development and, through it, on the main drivers of change that impact stunting.

The demographic shift Nigeria will experience by 2030 is evident today. In the long-run the current trend could be altered by the intensity of the pace at which fertility and mortality decrease. 262 million people are expected to live in Nigeria in 2030 and almost 400 million in 2050. The challenge for Nigeria is to make use of the opportunity presented by the youth budge to realize the demographic dividend. This opportunity can be transformed to a risk of durable degradation if major investments in education, employment and health sectors aren't meeting the weight of population growth.

The changing population dynamics significantly impact the drivers of stunting. Indeed, given the rate of population growth and the proportion of children that will characterize Nigeria by 2030, this trend is likely to be particularly impactful on the health and education sectors. Access to basic services, especially for health and education is already raising concerns about insufficiencies, not to mention huge geographic and socio economic variations. Access to health, will be put under pressure by the growing numbers of children and women of childbearing age, risking reducing the coverage rate of maternal and child services and indirectly increasing risks of stunting for most vulnerable population. Increasing difficulties for access to maternal and child health services will also have an influence on the level of exposure to family planning messages and services, and impact on both stunting and on population growth. The education sector as with other basic services will be confronted with the age structure of the population over the course of the outlook. Access to quality and inclusive education for the coming Nigerian generations is a key for the future of Nigeria. Education has important impact on reproductive health and on the economic capacities of the households. As such a perceptible degradation or improvement in education can indirectly impact both stunting levels and demographic evolution.

Population growth will also lead to an increased need for resources both at national and family level. Economic growth projections are good for Nigeria in the middle term, but still: more than half of its population lives in poverty. The capacities of Nigeria and its partners to create a favorable economic environment, to provide enough jobs and increase targeted social initiatives will be central to prevent the demographic wave from increasing vulnerabilities including stunting.

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