University of Dar es Salaam, Department of Economics

AFIDEP

African Institute for Development Policy

Bridging Development Research, Policy and Practice

PROSPECTS AND CHALLENGES FOR HARNESSING THE DEMOGRAPHIC DIVIDEND IN TANZANIA

JULY 2014

TABLE OF CONTENTS

List of Figures

List of Tables

Acknowledgements

This research report was commissioned and funded by the USAID-Funded Evidence to Action Program through Pathfinder International (Tanzania). The technical report was written by Dr. Joel Silas Lincoln, Dr. John.K.Mduma, Mr. Wilhelm Ngasamiaku, and Dr. Eliba Luvanda of the Department of Economics, University of Dar es Salaam and Dr. Eliya Msiyaphazi Zulu and Ms. Eunice Mueni William of the Nairobi based African Institute for Development Policy (AFIDEP). Mr. Mustafa Kudrati, Mr. Patrick Kinemo, Mr. Josiah Otege and Dr. Pasiens Mapunda at Pathfinder International (Tanzania) provided inputs at all stages of the study. The report benefited from technical modelling input from the USAID funded Health Policy Project at the Futures Group, USA, through Dr. Scott Moreland.

Acronyms

AfDB	African Development Bank
AFIDEP	African Institute for Development Policy
ANC	Ante Natal Care
BRN	Big Results Now
CBD	Community Based Distributors
CET	Common External Tariff
CPR	Contraceptive Prevalence Rate
DHS	Demographic and Health Survey
DTM	Demographic Transition Model
EAC	East Africa Community
FDI	Foreign Direct Investment
FP	Family Planning
FYDP	Five Year Development Plan
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
HBS	Household Budget Survey
HPP	Health Policy Project
HSSP	Health Sector Support Project
IDD	Iodine Deficiency Disorder
ILFS	Integrated Labour Force Survey
ILO	International Labour Organization
IMCI	Integrated Management of Childhood Illnesses
ITN	Insecticide Treated Nets
LTPP	Long Term Perspective Plan
MAIR	MKUKUTA Annual Implementation Report
MDGs	Millennium Development Goals
MMR	Maternal Mortality Rate
MNCH	Maternal Neonatal and Child Health
MOH	Ministry of Health
MoHSW	Ministry of Health and Social Welfare
NBS	National Bureau of Statistics
NCD	Non Communicable Disease
NISR	National Institute of Statistics of Rwanda
NSGRP	National Strategy for Growth and Reduction of Poverty
OCGS	Office of the Chief Government Statistician
PEM	Protein Energy Deficiency
PMTCT	Prevention of Mother to Child Transmission
PPI	Post-Partum Infecundability
PRB	Venture Strategies for Health and Development
RDT	Rapid Diagnostic Test
SEDP	Secondary Education Development Programme
TACAIDS	Tanzania Commission for AIDS
TDHS	Tanzania Demographic Health Survey

TFR	Total Fertility Rate
THIMS	Tanzania HIV/AIDS and Malaria Indicator Survey
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
URT	United Republic of Tanzania
USAID	United States Agency for International Development
VSHD	Venture Strategies for Health and Development
WEF	World Economic Forum
ZAC	Zanzibar AIDS Commission

Executive Summary

Introduction

The past and current high levels of fertility in the midst of steadily declining child mortality rates have created a youthful population with a high child dependency ratio in Tanzania. The country's population has grown from 12.3 million in 1967 to 44.9 million in 2012. According to the medium variant UN projection, the population will more than double to 129 million by 2050. The 2006 National Population Policy notes that rapid population growth and the consequent high child dependency burden is a key bottleneck undermining socioeconomic development in Tanzania. The policy notes that the strains caused by rapid population growth are felt most acutely and visibly in the public budgets for health, education and other human resource development sectors.

Over the past decade, Tanzania has experienced an impeccably steady economic growth rate of over 7 percent. This impressive economic growth, coupled with other emerging economic opportunities including discovery of gas and other mineral resources, increasing foreign direct investment due to growing regional integration and partnership with the East, have given a spark of hope that the country's development aspirations articulated in Vision 2025 can actually be achieved by 2025 or a few decades later. The vision seeks to transform Tanzania from a least developed country characterized by low productivity agricultural economy to a semi-industrialized middle-income country with a modernized economy and high quality human capital. Recently the Government of Tanzania has adopted the Big Results Now (BRN) initiative to galvanize action towards the realization of the development ideals set out in Vision 2025. The BRN is modeled on the development approach followed by Malaysia, one of the Asian Tigers that achieved phenomenal socioeconomic transformation since 1970.

Tanzania's population dynamics and the emerging economic opportunities can be turned into a valuable demographic dividend if the country can adopt the policy roadmap followed by the East Asian Tigers. The demographic dividend refers to the economic benefit a society enjoys when fertility declines rapidly and the ratio of working-age adults significantly increases relative to dependents. Experience from the Asian Tigers shows that in order to harness the demographic dividend, countries should also prioritize investments in development of quality human capital, enforcing accountability in use of public resources, and acceleration of economic growth and job creation to ensure that the "surplus" labour force is gainfully employed and has strong purchasing power.

Study Objectives

This study examines Tanzania's prospects of harnessing the demographic dividend in the light of its long-term development plans articulated in Vision 2025 and the BRN Initiative. The study examines past trends and current status of demographic and economic fundamentals

of the country and explores the relative impact of various demographic and economic policies on the country's development prospects between 2010 and 2050. The study also outlines key policy options that the country can adopt to facilitate fertility decline and enhance the economic competitiveness and overall productivity of its labour force and economy in order to optimize its chances of harnessing the demographic dividend.

Methodology

This study is based on the review of the general literature on the demographic dividend and on population dynamics and economic changes in Tanzania. The study also reviews trends in national demographic and socioeconomic indicators derived from Population Censuses, Household Budget Survey, Demographic and Health Survey, macroeconomic and planning data from the National Bureau of Statistics and Ministry of Health and Social Welfare; and the UN Population Division. In order to demonstrate the potential benefits of the demographic dividend and illustrate the relative impact of various multispectral policies and investments required to achieve those benefits in Tanzania the study uses the modeling tool DemDiv, developed by the USAID supported Health Policy Project (HPP)at the Futures Group. The modeling is based on four policy scenarios presented in the results section.

Key Findings

The study shows that Tanzania's demographic indicators and emerging economic opportunities can be turned into a huge impetus for the socioeconomic transformation envisaged in Vision 2025 and the BRN initiative if it prioritizes investments aimed at simultaneously creating a globally competitive economy and accelerating economic growth and job creation as well as accelerating reduction in fertility through voluntary and rights based interventions in education and family planning.

Under the ***Business as Usual Scenario***, where the prevailing lackluster performance in both the economic and demographic environments will continue, Tanzania would achieve limited economic growth and development and the per capita GDP would increase from USD 513 in 2010 to USD 2,513 in 2050. This level of economic growth falls far short of the aspirations in Vision 2025.

Under the ***Economic Emphasis Scenario*** where the country prioritizes economic reforms and investments to the level articulated in Vision 2025 and the BRN initiative, per capita GDP would increase to USD 5,871 in 2050.

Under the ***Economic Emphasis and Moderate Family Planning Scenario,*** where the country makes moderate investments in family planning and education while maintaining economic indicators at the Economic Emphasis Model level, Tanzania would have a per capita GDP of USD 7,316. Thus, the country would earn a demographic dividend of USD 1,445 per person

(compared to Economic Emphasis model). This level of family planning and education would reduce the current level of fertility (5.4) to 3.0 children per woman.

Under the ***Combined Economic and Demographic Emphasis Scenario*** where the country prioritizes economic, social and demographic factors to achieve the socioeconomic transformation envisaged in Vision 2025 and the BRN Initiative, per capita GDP would increase to USD 9,018. Thus, if Tanzania unleashes its full potential and simultaneously prioritize reforms and investments in economic, demographic and human capital development and facilitate a reduction in fertility to 2.0 (the level that Malaysia and other Asian Tigers have attained), it would earn a much larger demographic dividend of USD 3,147 per person.

Policy Actions for harnessing the demographic dividend

In order to harness the demographic dividend, Tanzania should simultaneously prioritize investments in the following five pillars:

1. Accelerating fertility decline through investments in family planning female education, and child survival
2. High-level education to develop a well-educated, skilled, innovative, and globally competitive labour force
3. Health care to nurture a healthy and productive labour force
4. Fast-track economic reforms to accelerate economic growth and job creation for the rapidly expending labour force by prioritizing development of economic infrastructure and export oriented industrialization.
5. Fiscal policies and governance reforms to improve savings, attract foreign direct investment and ensure efficiency and accountability in use of public resources.

A starting point is to facilitate voluntary decline in fertility by ensuring universal access to family planning by all women and their partners who need to use contraception. Experience from the Asian Tigers and other African countries show that it is possible to facilitate a rapid increase in contraceptive use and decline in fertility. Already, Tanzanian women and their partners are having more children than they would like to have and there is high unmet need for family planning. Further educational campaigns and diffusion effects will generate more demand for contraception. Tanzania can accelerate fertility decline if its commitment to participate in the FP2020 programme is backed up with strong political will, robust and client centered family planning services with strong community based ownership and distribution of contraceptives, sustained funding, strong accountability frameworks reinforced by strong population coordination organs within government and vibrant evidence based advocacy and programming.

Tanzania can build on its impressive economic growth over the past decade to accelerate economic growth and job creation. The BRN initiative provides a good framework for identifying and prioritizing sectors with the greatest potential for industry-based growth and job creation. Failure to create enough jobs for the growing youthful labour force could lead to political instability. Tanzania needs to reform its education system to ensure universal enrolment at secondary and tertiary levels and that the system produces well skilled, industrious, and innovative graduates ready to steer industrialization and a competitive service sector. Continuing to invest in the health sector will also ensure that the country has a healthy labour force that will live longer and contribute to more to development.

Conclusion

It is possible for Tanzania to emulate the development miracle that Asian Tigers achieved, but to do so, a lot needs to be done and the country should break away from the prevailing business-as-usual culture. A major enhancement of the impressive economic growth the country has achieved over the past decade, improving investment in education and health to develop quality human capital, improving governance and optimizing accountability in use of the country's immense natural resources, and simultaneously walking the talk on its FP2020 and education commitments will give Tanzania the best chance of braking its development shackles and transforming into a middle income country in the next four decades. There is urgent need to mobilize citizens, government machinery, and private sector, development partners, etc. to act in order to build a new and globally competitive Tanzania economy. In order for Tanzania to take full advantage of the demographic dividend in transforming its economy into an upper middle-income country, it should adopt multi-pronged policy and programme interventions in the five pillars or themes. That is precisely what Malaysia and other Asian Tigers did over a forty-year period between 1970 and 2010.

1. Introduction

1.1 Population Change and Implications for Development

Tanzania's population presents challenges as well as opportunities for the country's development. The past and current high levels of fertility in the midst of steadily declining child mortality rates have created a youthful population with a high child dependency ratio in Tanzania. The country's population has grown at about 2.9 percent per annum leading to a trebling of the population size from 12.3 million in 1967 to 44.9 million in 2012 (NBS, 2013). Given this growth rate, the population is projected to double to 86 million by 2050 (United Nations Population Division, 2012). About 44% of the population comprises children aged less than 15 years, denoting a high dependency burden in the population. There has been a slight decline in the total fertility rate, from 6.3 in 1991/92, to 5.7 in 2004/05 and to 5.4 in 2010 (NBS and ICF Micro, 2011). Decline in under-five mortality rate has been more impressive, from 137 in 1996, to 112 in 2004/05 and then to 81 in 2010. As noted in the 2006 National Population Policy (URT, 2006), rapid population growth and the high dependency burden is one of the key factors undermining socioeconomic development in Tanzania. The policy notes that "rapid population growth tends to retard growth in national output through slow capital formation, as the increased consumption draws resources away from saving for productive investment. The strains caused by rapid population growth are felt most acutely and visibly in the public budgets for health, education and other human resource development sectors."

If birth rates decline steadily, Tanzania's age structure will change, resulting in a population with more working age people relative to dependent children. This shift in the age structure can present Tanzania with a huge impetus for accelerating the socioeconomic transformation envisaged in Vision 2025 and the BRN Initiative if the country can make requisite investments to accelerate economic growth and job creation and in human capital development to ensure that the big labour force will be healthy, well educated, skilled, and gainfully employed.

Tanzania is experiencing rapid urbanization and this will potentially be an important indicator of population and economic growth in the country. According to UN projections, the proportion of urban population will increase from the current level of 37% to about 55% by 2015 (United Nations Population Division, 2014). Given the massive advantages that urbanization has traditionally provided to national socioeconomic transformation efforts in developed and emerging economies, effective management of the urbanization process can augment attainment of the Vision 2025 and BRN Initiative goals.

1.2 Economic Outlook and Opportunities

Over the past decade, Tanzania has experienced an impeccably steady economic growth rate of over 7 percent, creating optimism that the country may finally be on its way to decisively unlock its development potential and break the shackles that have undermined its development efforts since independence in 1962. The GDP per capita increased from USD 308 to USD 525 between 2001 and 2010, while the GDP increased from USD 10 billion to USD 22.9 billion during the same period (World Bank World Development Indicators, 2014). This impressive economic growth, coupled with other emerging economic opportunities including discovery of natural gas and other mineral resources, increasing foreign direct investment due to growing regional integration and partnership with the East, has given a spark of hope that the country's development aspirations articulated in Vision 2025 can actually be achieved by 2025 or a few decades later.

1.3 Opportunity to Earn a Demographic Dividend in Tanzania

Tanzania's population dynamics and the emerging economic opportunities can be turned into a valuable demographic dividend if the country can adopt the policy roadmap followed by the East Asian Tigers. The Demographic Dividend is the economic benefit a society enjoys as the ratio of working-age adults significantly increases relative to dependents (Bloom, Canning and Sevilla, 2003). This occurs when the birth rate decreases substantially, shifting the age structure in such a way that there are more working-age adults relative to dependents in the population. This shift in the age structure can accelerate economic growth through increased productivity of the "excess" labour force if the economy generates adequate quality jobs, greater household savings, and lower costs for basic social services provided to a young population.

Analyses of the phenomenal socioeconomic development experienced by the East Asian countries like Malaysia, South Korea, Thailand, Singapore, Hong Kong and Thailand show that the demographic dividend could account for a quarter to a third of the economic growth that these countries experienced between 1970 and 2000 (Bloom and Williamson 1998; Mason 2001). Countries like Malaysia and South Korea were at the same level of development and had the same level of fertility as Tanzania in the 1960s, but took a drastically different development path through sustained investments in family planning, education, health, and export oriented economic reforms that helped to accelerate economic growth and job creation. Evidence from other developing countries shows that African countries like Tanzania can also harness the demographic dividend if similar commitments to human capital development and economic reforms are adopted and decisively implemented. Tanzania's economic and demographic opportunities are well articulated in Vision 2025 and the BRN Initiative.

1.4 Pathways for Earning the Demographic Dividend

Achieving rapid fertility decline and creating an age structure with more working age adults than dependent children is necessary but not sufficient to harness the demographic dividend. Indeed, the demographic dividend is not automatic; countries must earn it by implementing policies that will not only accelerate rapid decline in fertility, but also ensure that the resulting surplus labor force is well educated, skilled, healthy, and economically engaged. Having quality human capital is key to optimize productivity and associated socioeconomic benefits that a country can harness from the demographic transition. Even more critically, the economy must have the capacity to generate enough quality jobs for the surplus labor force in order to harness the demographic dividend. Finally, in order to instil confidence in both local and foreign investors, there should be good governance, foresightedness, and economic infrastructure such as energy, communications and transport in order to ensure business efficiency. Captivating a visionary culture of national responsibility and accountability in use of public resources and delivery of social services will increase resources available for investment in development of human capital and infrastructure needed to stimulate economic productivity.

Therefore, appropriate country-specific economic and governance reforms should be adopted to attract local savings and foreign direct investment to stimulate sectors and industries of comparative advantage in accelerating economic growth and creating quality jobs for the rapidly growing labor force. Tunisia and South Africa present two good illustrations of how a demographic transition that is not accompanied by sustained job-oriented economic reforms can get countries to miss out on harnessing the full demographic dividend.

The effects of the demographic dividend operate in two major phases. The first demographic dividend refers to the increase in economic output as a result of the increase in the number of workers. The second demographic dividend refers to the increase in output that is created by the enhanced human capital investments per child and increased savings and investments that households and governments make as a result of reduced costs of taking care of children. Having quality human capital and more financial resources help enhance capital formation and development of economic infrastructure, which are critical for attracting capital formation and igniting further economic growth.

Decomposition of the two components of the demographic dividend for East and South Asia show that the first demographic dividend accounted for 0.59 percentage points per year of the actual growth in GDP per effective consumer between 1970 and 2000, while the second dividend accounted for 1.31 percentage points per year of the growth (Mason 2005).

Pathways for Harnessing the Demographic Dividend

The First Demographic Dividend

1. Bigger labor force following rapid fertility decline can increase overall economic productivity if the labor force is gainfully employed.

2. Reduced fertility enables women to spend more years in school, participate in formal economic activities, and enhance overall economic productivity.

3. Reduced fertility lowers total costs of taking care of dependent children (nutrition, health, education), enabling parents to have more disposable income that they can use to enhance the level of human capital investment per child (which would help improve productivity when the children grow into working adults)

The Second Demographic Dividend

4. Due to reduce expenditure on children as a result of lower fertility, increased household incomes resulting from greater participation of women in the labor force and improved health and longevity of workers, savings for old age security increase, providing greater impetus for further investment and capital formation.

5. Low fertility enables governments improve quality of health and education services and accumulate savings that can be diverted to capital formation and development of economic infrastructure, which are critical for attracting direct foreign investment

The comprehensive reforms that countries need to enact and implement in order to harness the demographic dividend can be categorized into the following five pillars or wheels:

Five policy pillars/wheels for harnessing the demographic dividend

1. **Accelerating demographic transition** through investments that facilitate rapid fertility decline, enhance child survival, and improve education and general empowerment of women.

2. Enhancing **investments in high-level education** to develop a well-educated, skilled, and innovative labor force

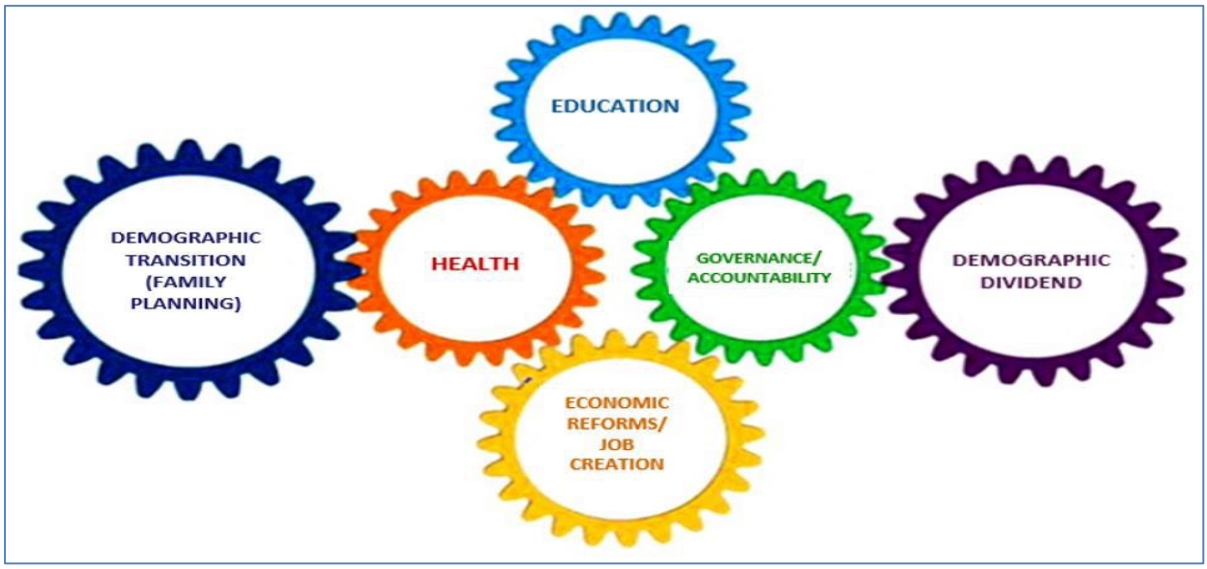
3. Enhancing **investments in health status** to nurture a healthy and productive labor force

4. **Economic reforms to accelerate economic growth and job creation** for the rapidly expanding labor force

5. **Fiscal policies and governance reforms** to enhance savings, attract foreign direct investment (FDI) and ensure efficiency and accountability in use of public resources.

The key point is that all the five policy pillars or wheels are interrelated; they reinforce each other; and should be implemented concurrently in order to drive the country towards the economic prosperity that can accrue from the demographic dividend (as illustrated in Figure 1.1). If any of wheels breaks down or is dysfunctional, all the other wheels will be slowed down, thereby limiting the extent to which a country can harness the demographic dividend. Furthermore, the demographic dividend is not an event that happens or is achieved in a given year – it's an accumulation of economic gains that accrue to the economy over many years as the population age structure changes in favor of having more working age people and the requisite investments are made in human capital development and job-oriented economic reforms.

Figure 1.1: Five Policy Wheels for Creating and Earning Demographic Dividend



Source: Adapted from Harnessing the Demographic Dividend: A PRB ENGAGE Presentation, 2013

1.5 Vision 2025 and BRN Initiative – Roadmap to Upper Middle-Income Status

The vision seeks to enable Tanzania graduate from a least developed country to a middle-income country with a high level of human development. The vision aims at transforming the economy from a low productivity agricultural economy to a semi-industrialized one, with modernized and highly productive agricultural activities that are effectively integrated into supportive industrial and service activities. The three principal objectives of Vision 2025 are:

i. Achieving quality and good life for all, with access to food security and self-sufficiency, universal primary education, quality primary healthcare-including reproductive health services, improved life expectancy and free from abject poverty.
ii. Good governance and the rule of law, with a people empowered with the capacity to make their leaders and public servants accountable, with a culture of accountability, and able to effectively curb corruption and other vices.

iii. Building a strong, stable and resilient economy that can effectively withstand global competition, with substantial industrial sector, adequate level of physical infrastructure and a growth rate of 8% per annum or more.

These objectives also include social issues such as education, health, the environment and increasing involvement of the people in working for their own development.

Recent evaluations of the Vision 2025 framework show that implementation of the vision has been very weak and it is unlikely that the country will achieve its key development goals set in the vision by 2025 if decisive action is not taken to break away from the business as usual culture of doing things (United Republic of Tanzania (URT), 2011). Indeed, there is a general understanding in Tanzania that unless the country steps up its gear and walk the talk in optimizing its areas of comparative advantage and related opportunities and addressing factors that continue to undermine its development efforts, Vision 2025 will become one of the many examples of well-intended development strategies that change nothing because of lack of seriousness in implementation. For example, Vision 2025 does not specifically highlight population growth and high child dependency ratio as key challenges that need to be addressed for the country to develop.

The Big Results Now (BRN) initiative represents the most recent push to galvanize action towards the realization of the development ideals set out in Vision 2025. The initiative is aimed at identifying key projects and sectors that have the great potential in accelerating economic growth and poverty alleviation. The initiative is modeled on the Big Fast Results approach followed by Malaysia, one of the Asian Tigers. However, the BRN initiative and other development blueprints such as the V2025 tend to emphasize only the economic aspects of the development path that countries like Malaysia followed and largely understate or overlook the important role of investments that the Asian Tigers made in facilitating decline in fertility, general empowerment of women, and education.

1.6 Study Objectives

This study examines Tanzania's prospects of harnessing the demographic dividend in the light of its long-term development plans articulated in Vision 2025 and aspirations to follow the development path followed by Malaysia as articulated in the increasingly popularised BRN initiative. Specifically, the study examines past trends and current status of demographic and economic fundamentals of the country and explores the relative impact of various demographic and economic policies on the country's development prospects between 2010 and 2050. These policy scenarios illustrate the net benefits of concurrent investments in economic reforms on the one hand and family planning and education on the other in increasing economic growth and overall human development on the other hand.

The study was commissioned by Pathfinder International (Tanzania) and other development partners in population and development field in Tanzania in order to enhance understanding of the demographic dividend concept and outline policy options that can be used by policymakers, researchers, and other stakeholders in order to optimize the country's potential and chances of seizing the role of the demographic dividend in its socioeconomic development. Researchers from the School of Economics, University of Dar es Salaam and the Nairobi based African Institute for Development Policy conducted the study. The Futures Group provided technical input and the modelling tool used for modelling the impact of various policy scenarios and the demographic dividend on economic growth and overall human development.

1.7 Study Methodology

This study is based on the review of literature on the demographic dividend and analysis of various projection scenarios based on Tanzania's datasets. Data analysis has involved the computation of statistics such as ratios, and trends analysis using charts and tables and modeling. Early results of the analysis were subjected to stakeholders' consultative workshop held in Dar es Salaam. The comments from the workshop informed the current version of the report.

This study has used data from various sources, including:

- 1988, 2002 and 2012 Census data
- 1991, 2001 and 2007 Household Budget Survey data from NBS.
- Demographic Health Survey (DHS) data for 1992, 1996, 2004 and 2010 from NBS
- Macroeconomic data (Bank of Tanzania).
- Employment, education, health and family planning data from the NBS, and Ministry of Health and Social Welfare
- UN Population Division data

In order to demonstrate the potential benefits of the demographic dividend and identify the multisectoral policies and investments required to achieve those benefits in Tanzania we used the modeling tool, DemDiv, developed by the USAID supported Health Policy Project at the Futures Group (Moreland et al. 2014). DemDiv is structured as a two-part model that projects demographic and economic changes with equations to estimate employment and investment, along with an estimation of gross domestic product (GDP) and GDP per capita. The model is scenario and projection based, comparing several different possibilities for future development against each other to show the varying benefits of different combinations of investments. In particular, the model allows design of multiple scenarios showing how the combined power of policy investments in family planning (FP), health, education, and the economy can generate a demographic dividend, which could play a key role in accelerating socioeconomic development in Tanzania as envisioned in the Vision 2025 and the BRN Initiative.

2. Demographic Change and Socioeconomic Development in Tanzania

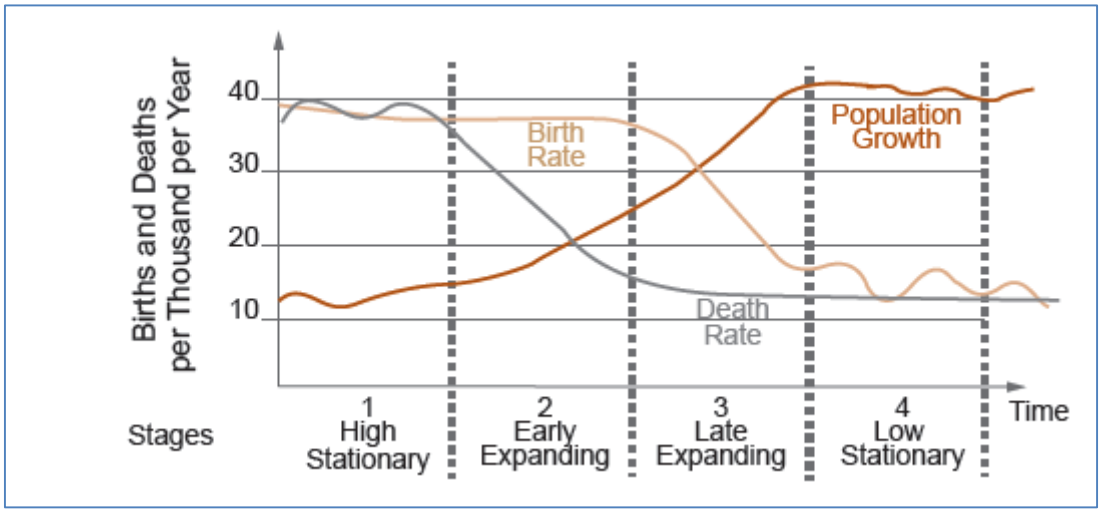
2.1 Demographic Transition in Tanzania

A review of the history of population change and its linkages to economic development shows that countries typically pass through 4 main stages of transition from high birth and death rates to low birth and death rates as they transform from an agrarian economic system to an industrialized-urbanized economic structure (see Figure 2.1).

The first stage is characterized by high birth and death rates and low population growth rates. The death rate is high because of high levels of disease, famine, lack of clean water and sanitation, and poor health care. In response to the high death rates, couple have many children in order to have assurance that some will survive to adulthood. The high fertility regime is also characterized by dependence on subsistence farming and high demand for child labour, universal and early marriage, and low levels of school enrolment, especially for girls, and low demand for and use of contraception.

The second stage is characterized by a rapid increase in the rate of population growth. This happens as a result of a sharp decrease in the death rates due to improvement in nutrition, sanitation, and public heath that leads to reduction in infant and childhood morbidity. In this stage the birth rate also start decreasing, but not as rapidly as the death rate because the high fertility is entrenched in cultural and economic values that take time to change.

Figure 2.1: Phases of the Demographic Transition



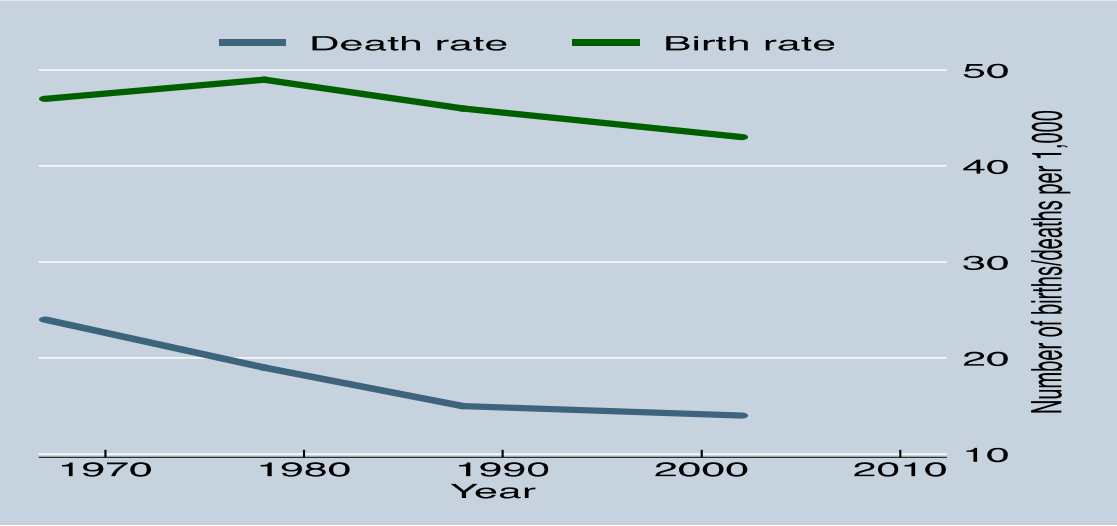
Source: http://geographyfieldwork.com/ DemographicTransition.htm

In the third stage, the birth rate also decreases rapidly due to a range of factors including, increased use of contraceptives, access to female education and employment, urbanization, reduced child mortality, and declining importance of child labour. During this stage, population growth rates remain high but start declining.

The fourth stage is characterized by high but stable population growth due to low birth rates and death rates. Improved control of diseases and reliable availability of food keeps the death rate at low level. Increased women access to contraception, more opportunities in terms of the choice of number of children a family would like to have, increased women access to employment opportunities are among the main reasons for low rates of birth. Most of the developed countries are in stage four of the demographic transition. During the course of the demographic transition, average number of births from women declines from about 7 or more to the replacement level of about two births or lower.

Review of Tanzania's mortality and fertility data show that Tanzania is in the second stage of the demographic transition with falling mortality rates and persistently high birth rates (Figure 2.2). While the current death rate (about 12 per 1,000) is about half of the rate in the 1960s (24 per 1,000), the current rate of birth (about 41 per 1,000) is more than 80 percent of the rate in 1960s (47 per 1,000). The persistent high birth rate poses a risk for Tanzania falling in demographic trap, a situation in which a country does not progress to further stages of demographic transition.

Figure 2.2: Trend of Birth and Death rates in Tanzania (1967 – 2012)



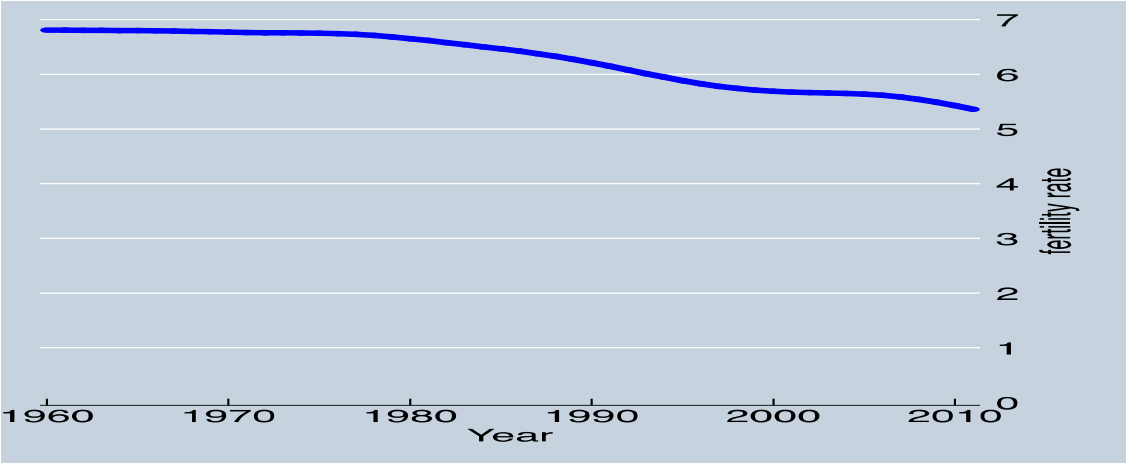
Source: Population Census, 1967, 1978, 1988, 2002 and DHS 2010

Fertility Trends

The Fertility rate in Tanzania remains high and has declined very slowly (Figure 2.3). Since the 1980s, fertility has declined slowly, reaching 5.4 in 2011 (NBS and ICF Macro, 2011). Tanzania is one of the 27 high fertility African countries where fertility has not changed much in the past decades and has changed a little since the 1990s. Compared to Malaysia, the development benchmark country for Tanzania, where fertility declined rapidly from 6.0 in 1960 to 2.5 by 2000 and 2.1 in 2010, Tanzania has to accelerate its fertility decline.

One of the main characteristics of the high fertility problem in Tanzania is that to a large extent it's a rural phenomenon. According to Demographic and Health Survey [DHS] report (2010), fertility rate in rural Tanzania is 6.1, whereas the rate for urban areas is only 3.1. Given that more than 70 percent of the population in Tanzania live in rural areas, addressing the factors that sustain high fertility in rural areas should be at the center of any policy and programme efforts to accelerate demographic transition in Tanzania. The 2010 DHS data show similar differentials by poverty status, education attainment and geographical location. Fertility rates range from 3.2 among the richest 20% to 7.0 among the poorest 20%, and from 3.9 in Eastern Region to 7.1 in Western. The fertility rate for women with at least secondary education was 3.0 while for those without education was 7.0 (NBS and ICF Macro, 2011).

Figure 2.3: The Trend in Total Fertility Rate



Source: *Population Census and DHS 2010*

Drivers of High Fertility in Tanzania

The slow fertility decline has been attributed to persistence of cultural beliefs that favour big families, early marriages and high school dropout rates for girls, and low demand, supply, and use of contraception. Demand for many children remains high with the ideal number of children in 2010 for both men and women being 5.3 children. The wanted fertility rate, which gives fertility rates only for births that are wanted, was 4.7 (NBS and ICF Macro, 2011). This means that Tanzanian women are having about one child more than they would like to (Table 2.1). The gap between actual and wanted fertility rates is smallest among the urban bases (3.7 versus 3.3) and the richest 20% (3.2 versus 3.0) and highest among the poorest 20% (7.0 versus 6.3), those living in Lake (6.3 versus 5.1) and those living in rural areas (6.1 versus 5.3) (NBS and ICF Macro, 2011).

One of the key factors hindering rapid fertility decline in Tanzania is low contraceptive use. The 2010 DHS data shows that slightly above one quarter (27%) of married women use modern contraceptives, and when all women are considered, this proportion drops to 23.6% (NBS and ICF Macro, 2011). The same data shows that a quarter of all women of reproductive

age who would like to postpone the next birth (by at least two years) or stop childbearing altogether are not using a modern method of contraception, and have unmet need for FP. Low contraceptive use in Tanzania is due to a combination of low demand for family planning and failure of the family planning programme in ensuring that all women who need to use family planning are able to access and use effective means of contraception.

Table 2.1: Trends in fertility and fertility preferences and determinants

Indicator	1991/2	1996	1999	2004/5	2010
Fertility Rate	6.3	5.8	5.6	5.7	5.4
Wanted fertility	5.6	5.1	4.8	4.9	4.7
Modern CPR	6.6	13.3	16.9	20	27.4
Unmet need for family Planning	30.1	23.9	21.8	21.8	25.3
Median age at first birth (20-49)	18.5	19	19	19.4	19.5
Median age at first marriage (20-49)	18.3	18.4	18.4	18.6	18.9

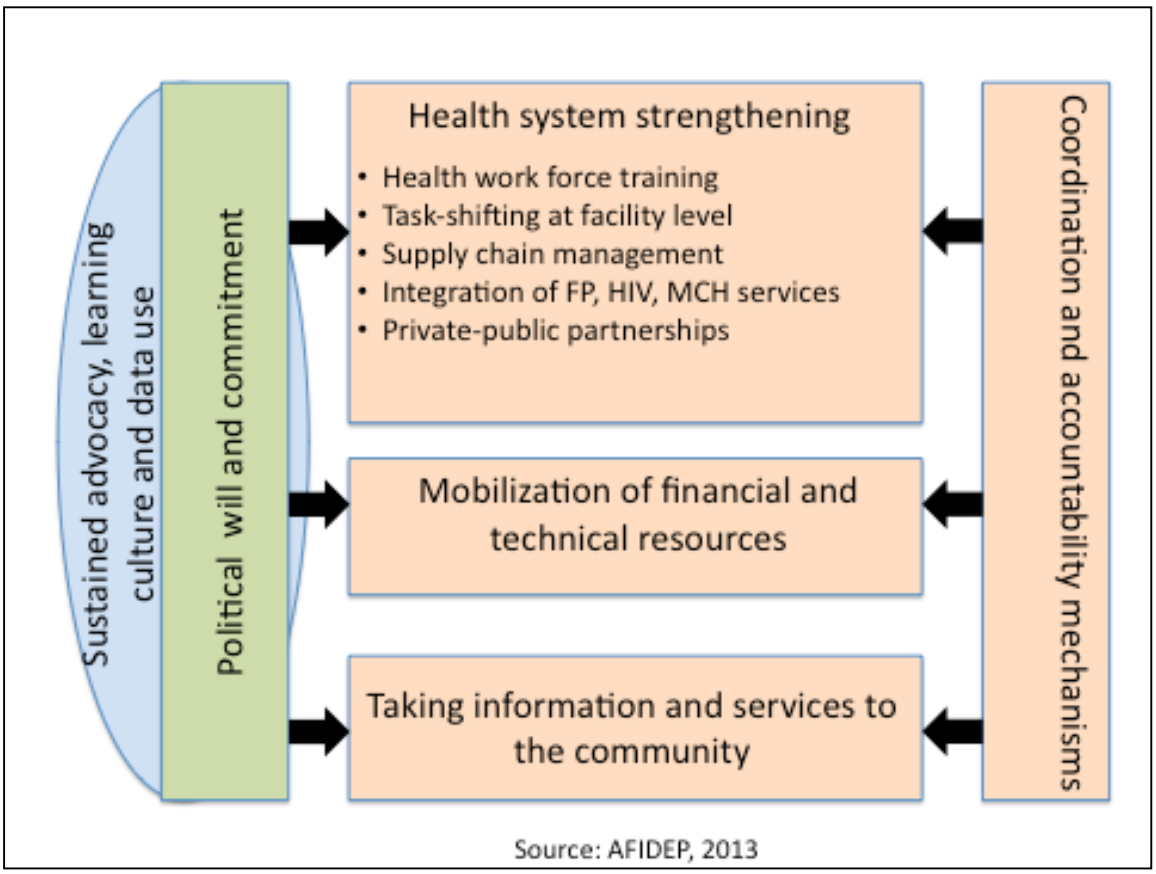
Source: Tanzania DHS reports

Further, low levels of education and economic opportunities for women especially in rural areas is another key contributor to low contraceptive use and high fertility in Tanzania. Although primary school net enrollment is universal and shows gender equity, dropout rates are also high, coupled by low secondary and tertiary level enrollment. Gender inequity at higher levels of education in Tanzania is appalling. In 2012 45% and 33.5% of all students enrolled in secondary and tertiary institutions, respectively were female (URT, 2013). Girls who stay in school longer initiate childbearing later and end up having fewer children than those who drop out of school. More educated women also tend to use health services for themselves and their children and families, including family planning, more than their uneducated counterparts. Tanzania has one of the lowest medium ages at first marriage and childbearing and high adolescent birth rates in the region. According to the latest DHS, girls are starting child bearing early (19.5 years) and getting married at even an earlier age (18.8 years) (NBS and ICF Macro, 2011). Desegregating these numbers by education level shows a difference of four years in age at first birth between those with secondary education and those with none.

Majority of women are also not actively involved in labour force, with exception of subsistence farming. Promoting general empowerment of women should, therefore, be at the centre of efforts to facilitate fertility decline. Empowered women have greater autonomy to make informed decisions that positively influence their reproductive health. This entails investing in their education and participation in economic activities. Low level of schooling are often linked to early marriage and high fertility, which undermine social capital and reduce women labour force participation rates.

Experience from the Asian Tigers and other African countries show that strong government-led family planning programmes can play a key role in making contraception universally acceptable and accessible and to facilitate voluntary and rights based fertility decline. In Rwanda, for example, strong political commitment and an effective family planning programme managed to help increase modern contraceptive use from 4.3% in 2000 to 45.1% in 2010 (NISR, MOH, and ICF International. 2012*)*. A study conducted to identify key policy and programme drivers of progress in increasing contraceptive use in Ethiopia, Malawi, and Rwanda between 2000 and 2010 summarized the drivers in the framework in Figure 2.4 (AFIDEP, 2013). The study showed that strong political will, robust family planning programmes backed up by strong community based ownership and distribution of contraceptives (including injectables), sustained funding, strong accountability frameworks reinforced by strong population coordination organs within government and vibrant evidence based advocacy and programming (AFIDEP, 2013). The study, which included Tanzania and Kenya as control cases, noted that key areas that undermined program effectiveness in Tanzania included lack of political champions, slowness in learning and adopting lessons making progress in other countries (like the distribution of injectables by CBDs) and weak advocacy and coordination bodies.

Figure 2.4: Policy and programme drivers of progress in contraceptive use: Lessons from Malawi, Rwanda, and Ethiopia



If Tanzania is to experience rapid demographic transition and harness the demographic dividend of the magnitude enjoyed by the Asian Tigers like Malaysia, the country needs to do much more than the status quo in addressing cultural, socioeconomic, psychosocial, and contraceptive supply bottlenecks that are preventing decline in fertility. South Korea and Malaysia reduced their fertility rate from 6.3 to 1.5 children and from 6 to 2.5 children, respectively between 1960 and 2000 (United Nations Population Division, 2012). This amounts to reducing fertility by about 5 and 4 children for South Korea and Malaysia, respectively in 40 years. The government therefore should prioritize investments in FP at national and sub-national levels, address barriers of demand, access and use of FP among married and unmarried couples, delay onset of child bearing by promoting school progression beyond primary schools, and avail FP to adolescents who are sexually active. Furthermore, interventions to reduce child mortality should be reinforced because fertility decline is only possible when parents are assured that their children will survive.

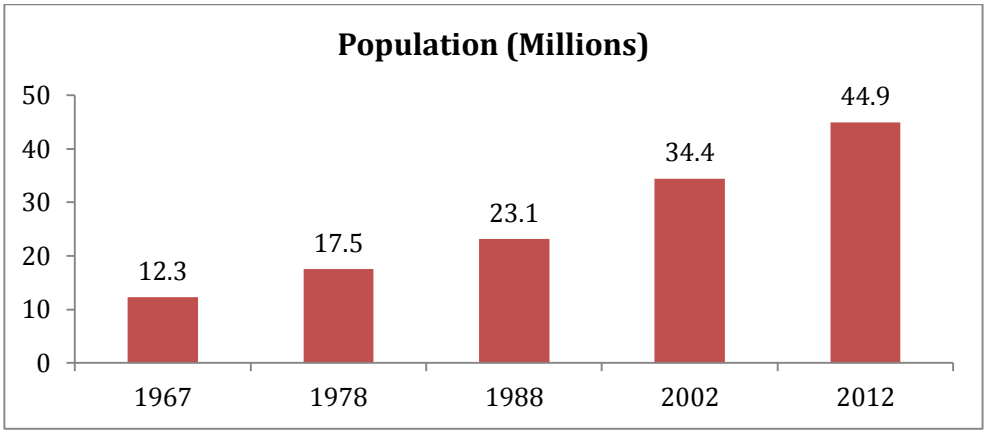
Tanzania is one of the countries that have committed to the FP2020 programme, which seeks to provide effective methods of FP to 120 million new users by 2020. Tanzania has committed to double contraceptive users from 2.2 million to 4.2 million to attain 60 percent contraceptive prevalence rate by 2020. While this target looks too ambitious, it provides a strong policy base on which to mobilize the country and place it on an accelerated fertility decline roadmap. But for this to happen, the country will need to decisively and enthusiastically provide political leadership, commit financial and technical resources and mobilize all key stakeholders to address the supply and demand barriers of access and use of family planning.

2.2 Past and Projected Population Growth

2.2.1 Past Population Growth

Due to the persistence of high fertility amidst steady declines in child mortality, Tanzania's population has almost trebled in the past four decades, from 12.3 million in 1967 to 44.9 million persons in 2012 (Figure 2.5). The growth rate has not changed during this period; 2.8% (1978-1988), 2.9% (1988-2002) and 2.7% (2002-2012) (NBS, 2013).

Figure 2.5: Trends in Population Growth in Tanzania



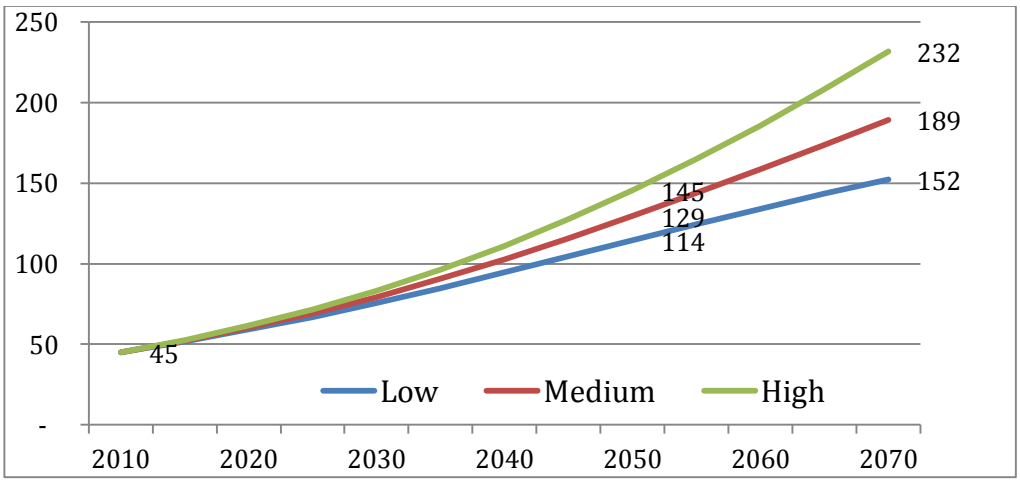
Source: National Bureau of Statistics, 2013

2.2.2 Projected Population Growth

The 2012 UN Population projections indicate that the country's population could grow to 114 and 152 million by 2050 and 2070, respectively, following the low projection variant (Figure 2.6) (United Nations Population Division, 2012). However, if the country follows the high projection variant, the population would grow to 145 and 232 million by 2050 and 2070, respectively. Under the Medium variant, the respective numbers would be 129 and 189 million.

The main determinant of future population growth is how fertility will pan out in future. The UN medium fertility variant assumes that the current level of fertility in Tanzania will decline to 4.3 by 2030, 3.3 by 2050, and 2.7 by 2070. The low fertility variant is half a child lower than the medium variant while the high variant is half a child higher than the medium variant. Therefore, projected fertility under the low variant would be 2.8 by 2050 while for the high variant it would be 3.8 (United Nations Population Division, 2012).

Figure 2.6: UN Population Projections under the Low, Medium and High Variants, Tanzania (Millions)

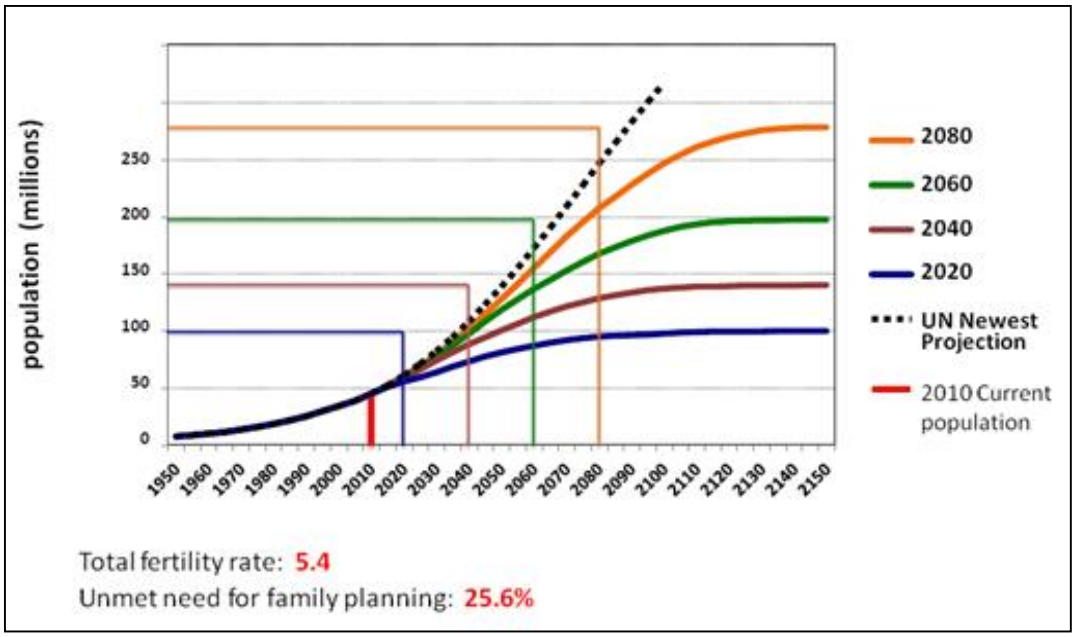


Source: United Nations World Population Prospects, 2012

2.2.3 Population Momentum

Due to high levels of fertility, young people, dominate Tanzania's population with about 44% of the total population aged below 15, according to the 2012 census data. A youthful population also creates a high population momentum, which refers to the tendency for populations to continue growing for several generations after reaching replacement level fertility (approximately 2.1 births per women). This happens due to the relatively high concentration of people in childbearing ages. As Figure 2.7 below shows, if Tanzania attained its replacement level fertility by 2020, its 2010 population of about 45 million people would continue growing and stabilize at around 100 million around 2180 (AFIDEP and Venture Strategies for Health and Development (VSHD), 2012). However, if replacement level fertility is attained in 2060, the population would stabilize at 200 million around 2120. If replacement level fertility is attained in 2080, the population would stabilize at about 275 million around 2140. Therefore, the year when Tanzania reaches replacement level fertility will affect both the timing and level at which the population size will peak before it stabilizes.

Figure 2.7: Projected effect of population momentum on the size at which the population of Tanzania would stabilize



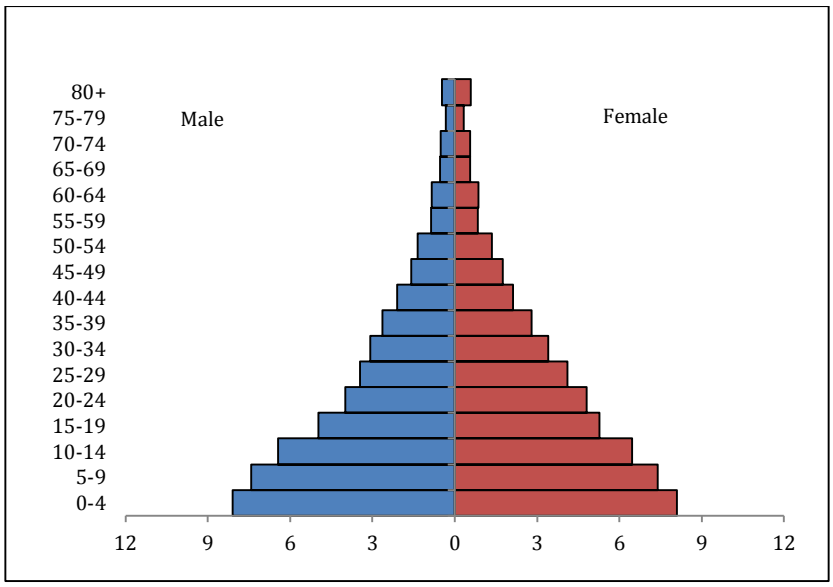
Source: African Institute for Development Policy (AFIDEP) and Venture Strategies, 2011

Therefore, Tanzania is guaranteed to have a big population due to the high fertility and concentration of young people who are yet to enter their childbearing ages. In order to turn this abundant population into a valuable human resource for socioeconomic transformation and development, the country should focus on enhancing its quality through investments in high level education, health, and economic reforms that will stimulate its innovation, productivity and purchasing power.

2.3 Population Structure

Figure 2.8 shows the age-sex distribution of the Population of Tanzania, based on the 2012 Census data. The population is very youthful; 16.2 per cent of the total population being under age 5 and 44 per cent under age 15.

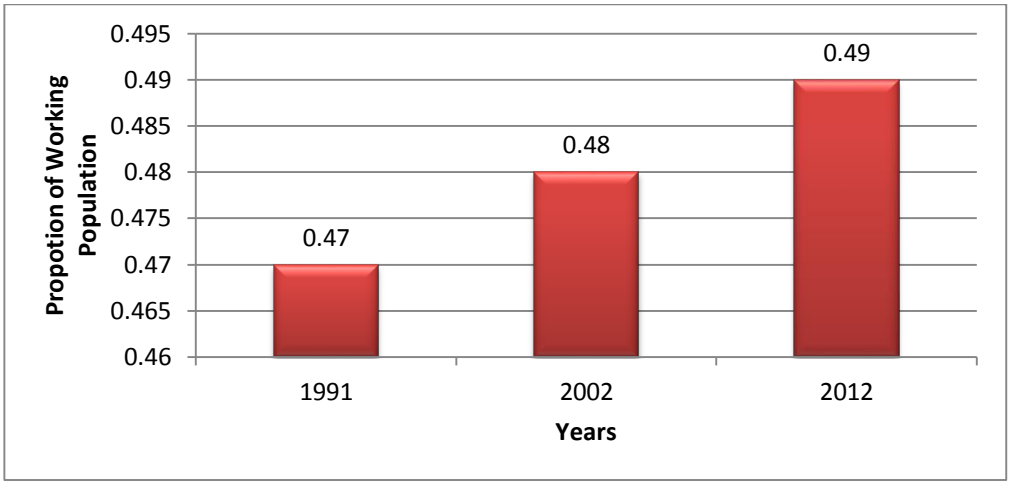
Figure 2.8: Tanzania's Population Pyramid, 2010



Source: Population and Housing Census, 2012

As a result of high fertility rate, the ratio of working age persons to total population is relatively low in Tanzania and has been increasing very slowly over the past two decades (Figure 2.9). Such youthful populations create a huge dependency burden for both families and governments since resources are mostly spent on making provisions for people who are not in the labor force and, therefore, not contributing to economic productivity. High fertility also undermines social capital and women's participation in economic productivity. The young age structure however presents an opportunity for economic development. If birth rates decline rapidly, Tanzania's age structure will change, resulting in a population with more working age people than children, which if the appropriate investment are put in place, can accelerate economic growth through the demographic dividend.

Figure 2.9: Working age population as Percentage of Total population



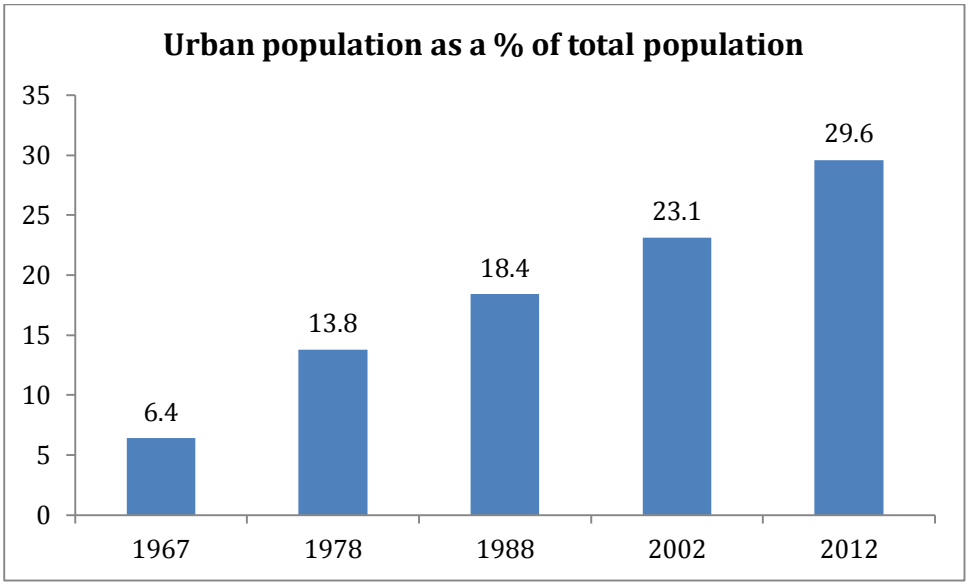
Source: Household Budget Survey 1991, Population Census 2002, 2012

2.4 Urbanization

Another major change that is occurring in Tanzania's population dynamics is rapid urbanization. According to census reports, urban population has grown from under 1 to 13.3 million people between 1967 and 2012. The proportion of people living in urban areas rose from 6.4 percent in 1967 Census to 29.6 percent in 2012 Census (NBS, 2013) (Figure 2.10). Urban population continues to increase as many people from rural areas migrate to towns in search of employment, and also due to natural increase in urban areas. The UN 2014 Urbanization Prospects report projects that the urban population of Tanzania will continue to grow and that by 2050, more than half (53%) of the total population will be living in urban areas (United Nations Population Division, 2014).

Urbanization has been a key engine for accelerating economic growth and socioeconomic development in the developed and emerging economies. However, in the African setting, including Tanzania, the rapid economic growth has been associated with increasing urban poverty and poor health outcomes due to poor social amenities and services and lack of jobs for the rapidly expanding urban working age population. For instance, UN-Habitat estimates that 65% of Tanzania's urban population lacks basic social amenities including proper sanitation, water, and housing and is, therefore, likely to live in slum settlements (UN Habitat 2010). As shown in Figure 2.11, the proportion of urban population that lives in slums decreased from 77.4% in 1990 to 63.5% in 2009 (UN Habitat, 2012). The extent to which Tanzania will benefit from urbanization will, therefore, depend on proper planning and how quickly the country can develop proper urban economic infrastructure and jobs, as well as basic social amenities.

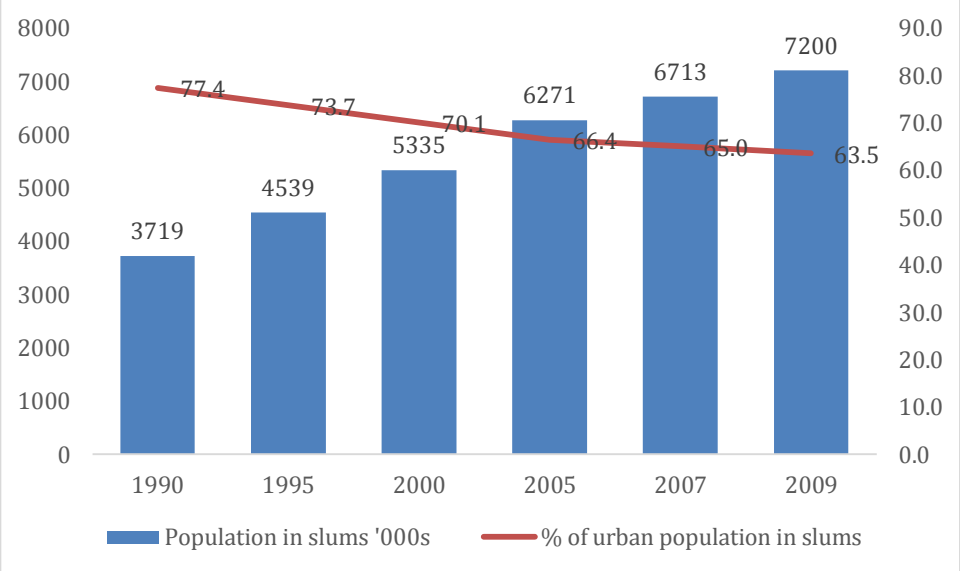
Figure 2.10: Growth of Urban Population in Tanzania



Source: National Bureau of Statistics, 2013

Efforts to achieve socioeconomic transformation in Tanzania should, therefore, include prioritization of development of urban economic infrastructure, including energy, communication, and mass transportation systems and provision of quality basic social services, amenities, and livelihoods for the rapidly growing urban population to address the growing incidence of urban poverty clustered in slum settlements.

Figure 2.11: Proportion of Urban Population Living in Slums



Source: UN Habitat, 2012 State of the World's Cities Report 2012/2013

3. Challenges and Opportunities for Improving Human Capital Development in Tanzania

3.1 Quality of Education and Skill Development in Tanzania

For Tanzania to harness the DD, its labour force needs to be well educated and have quality skills that will make the country competitive in the global market. Vision 2025 prioritizes high quality education as an enabler in responding to development challenges and effectively competing regionally and internationally, and thus aims at attaining a level of tertiary education and training that is commensurate with a critical mass of high quality human resources required to effectively respond to and master the development challenges at all levels. However, Tanzania is far from achieving this. Although net enrolment rates in primary education is almost universal (94% in 2011), high dropout rates throughout the primary school ages are high. According to the 2011 Poverty and Human Development Report, one-third of all children dropped out of school before they had completed their primary education in 2011. The low pass rates at the end of primary education translate to only about one third of eligible population being enrolled in secondary schools. The pass rate is deteriorating, decreasing from 70.5% in 2006 to 53. % in 2010 (URT, 2012). The primary school completion rate also decreased from 78.5% in 2006 to 53.5% in 2010, but increased to 62.6% in 2011. This completion rate is much lower than the MKUKUTA target of 90%.

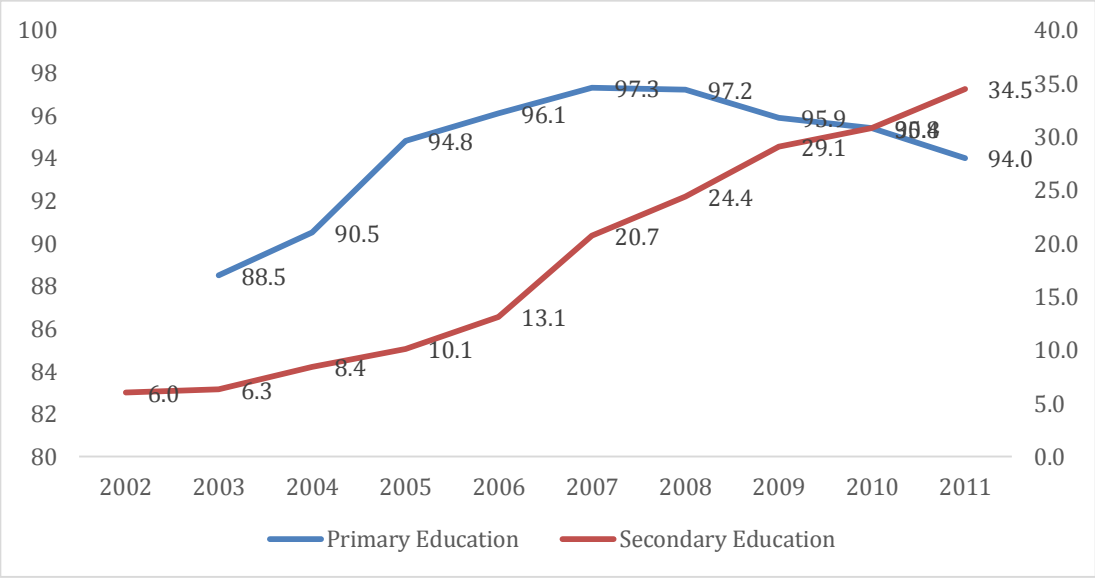
The transition rate to secondary school increased form 12% in 2002 to 60% in 2006 when the secondary school development programme (SEDP) was started, but has since decreased to 45%. This resulted to increase net enrollment rates, increasing from 6% in 2002 to 35% in 2011, although it's lower than MKUKUTA'S target of 50%. Despite this programme, dropout rate has increased to 4.2% in 2010, up from 1.9% in 2007. In addition, pass rate for the final examination declined from 78.4% in 2000 to 50.4% in 2010 (URT, 2012). As opposed to primary school where gender parity has been achieved (93.7% for boys and 94.2% for girls in 2011), gender parity in secondary and tertiary institutions is still a big challenge, with only 45 and 33.5% of secondary and tertiary students, respectively, being girls.

Enrollment in tertiary level has been increasing, from 31,000 to 140,000 students between 2002/3 and 2011/12 (URT, 2013). However, this is far from the level needed to produce a globally competitive populace.

Other challenges facing the education sector include poor quality education with a good number of children completing primary school without acquiring basic reading and numeracy skills. A recent study that examined basic skills showed that 90% of standard 3 pupils and 50% of class seven pupils could not read a simple standard two leave English story (Uwezo, 2011). The same study showed that, 70% in class three and 20% in class seven could not solve a class two level mathematic problems. The factors that are contributing to low education quality include shortage of facilities and resources (due to expansion in enrolment that puts pressure

on classroom space, desks, textbooks, and qualified teachers) and increasing school expenditure especially private schools (that are thought to offer better quality education), thus are out of reach for the majority of children. The pupil-teacher ratio (48:1 in 2011), has not kept pace with the increasing enrollment rate. These challenges should be addressed to ensure that the next generation of workers is well educated, skilled and well equipped to engineer the country's transformation to a middle-income country and beyond (avoid the middle income trap).

Figure 3.1: Trends in Net School Enrollment Rates



In addition, the current education curriculum is biased against skill development and innovation and in favor of academic knowledge. This problem is becoming more serious following the current wave of converting polytechnic institutions, which were oriented towards imparting skills, into universities. To ensure that the next generation of workers are well equipped with the necessary skills to positively contribute to economic production, the country needs to adopt policies and make appropriate financial and human capital investments that will sustain the high enrolment in primary schools, ensure universal secondary education, and high levels of progression to tertiary levels. The decline in fertility will help families and the government to improve quality of education and reform the education system to be more oriented towards generating productive skills and innovation.

Some improvements in financial allocations are being done, with the education sector receiving the biggest budgetary allocation of all major sectors, and the allocation has also increased from 3.8% to 6.3% of the GDP between 2002/3 and 2010/11. More emphasis is also being given to secondary and tertiary level education, with allocations within the sector increasing from 7.5% to 20.4% and 17.8% to 27.2% for secondary and tertiary education, respectively.

3.2 Health Status of Tanzania Population

Evidence shows that a healthy, skilled and motivated population is important to both workforce participation and productivity. By achieving better outcomes in health, GDP will be increased over the long run, generating a fiscal dividend that could be reinvested in further advances in workforce skills and public health. To ensure that the next generation of the labour force will bear minimal disease burden and to have quality of human capital, Tanzania has to invest in improving public health and general health care services for its populace. The key health issues that will potentially derail development include high levels of malnutrition for children, low coverage of child survival interventions, high prevalence of malaria and HIV/AIDS, and high maternal morbidity and mortality.

Child malnutrition indicators in Tanzania show that a large proportion of children do not receive adequate nutrition; 43% and 16% of all children under five years are stunted and underweight, respectively (NBS and ICF Macro, 2011). This is a manifestation of not only poverty and food insecurity but also of the poor nutrition of reproductive-age women. There is considerable evidence to show that malnutrition affects cognitive development, physical work capacity and exposes people to various chronic diseases during adulthood (Pelletier and Frongillo 2003). Closely related to this is the low coverage of child survival interventions including immunization, IMCI, ITNs etc. The most important child survival interventions are immunization and sleeping under treated mosquito nets and prompt and effective management of common childhood infections like diarrhoea and respiratory infections. Only 66% of children aged below five years had received all the childhood vaccines by one year, according to DHS 2010. In 2011-12, 72% of children under five slept under an ITN the night before the survey (TACAIDS, ZAC, NBS, OCGS, and ICF International, 2013).

Enhancement in coverage and quality of these child survival interventions will go a long way in reducing child mortality and facilitating fertility declines, but also in ensuring that Tanzania's future labour force is healthy and well educated. Although child mortality has declined substantially in Tanzania over the past few decades, the prevailing levels are still quite high, especially when compared to the levels achieved by the countries that Tanzania is benchmarking its development against. In 2010, infant and child mortality rates for Tanzania were 51 and 81 deaths per 1000 live births, respectively, having declined from 68 and 112 deaths, respectively in 2004/5 (NBS and ICF Macro, 2011). The comparable rates for Malaysia in 2010 were 4.1 for infant mortality rate and 5.0 for under-five child mortality rate. Child mortality and fertility reinforce each other - further decline in child mortality rate fuel fertility decline, but further fertility decline would also help reduce child mortality by reducing high risk births including those born to young girls, closely spaced ones, and those born to old women.

Prevalence of Malaria and HIV/AIDS is high. Malaria is one of the major public health problems accounting for over 30 percent of the national disease burden in Tanzania. It is also the

leading cause of morbidity and mortality, especially in children under five years (URT, 2012). The 2011/12 HIV and Malaria Indicator Survey indicated that adult (15-49) HIV prevalence decreased from 5.7 percent in 2007/8 to 5.1 percent in 2011/12. Access to treatment for PLWAs increased to 82% of those who require it (TACAIDS, ZAC, NBS, OCGS, and ICF International, 2013). According to MKUKUTA Annual Implementation Report (MAIR) (URT, 2013), PMTC coverage was 71% by 2012. As these diseases are the key cause of low productivity in the labour force, access to both preventive and curative health care services should be improved to reduce the working time lost to illnesses.

Although the maternal mortality ratio has declined significantly in the last decade, the level is still high by international standards. Maternal mortality ratio declined from 578 deaths per 100,000 live births in 2004/5 to 454 deaths in 2010. Evidence has shown that for every woman who dies in childbirth, 20 suffer from debilitating conditions such as obstetric fistula or other injuries to the vaginal tract (Fortney & Smith, 1996). High levels of maternal morbidity and mortality are a key cause of low economic productivity for women. The loss of women during labour due to death or debilitating conditions impacts negatively on the country's economy, creating a serious pitfall in development. Research reveals that women's incomes go towards food, education, medicine and other family needs, a direct investment in the family's wellbeing (Jowett, 2000). Statistics also demonstrate that the total value of women's unpaid house and farm work is equal to one third of the global Gross National Product (Ronsmans & Graham, 2006). According to evidence, the annual global economic impact of maternal and newborn mortality is a US$15 billion loss in potential production each year (Gill et al, 2007).

Access to improved sources of water (piped water and protected wells and springs) is vital to health and wellbeing of population, as use of unsafe water is directly related to transmission of water borne diseases.

Other challenges facing the health of the people is the growing burden of non-communicable disease such as diabetes and heart diseases and continuing burden of communicable dieases.

So as to have a healthy workforce that will help propel the country to harness the demographic dividend, the country should have a long-term perspective in improving health outcomes. This should start with improvements in child nutrition and investments that will improve child survival to ensure that children reach their full cognitive potential and can excel in school. This will not only facilitate further declines in fertility, but also help produce a healthy labour force in future. The country should also continue to improve the health status of its urban population, focusing on diseases that affect the productivity of the labour force such as malaria, HIV/AIDS, and maternal health challenges.

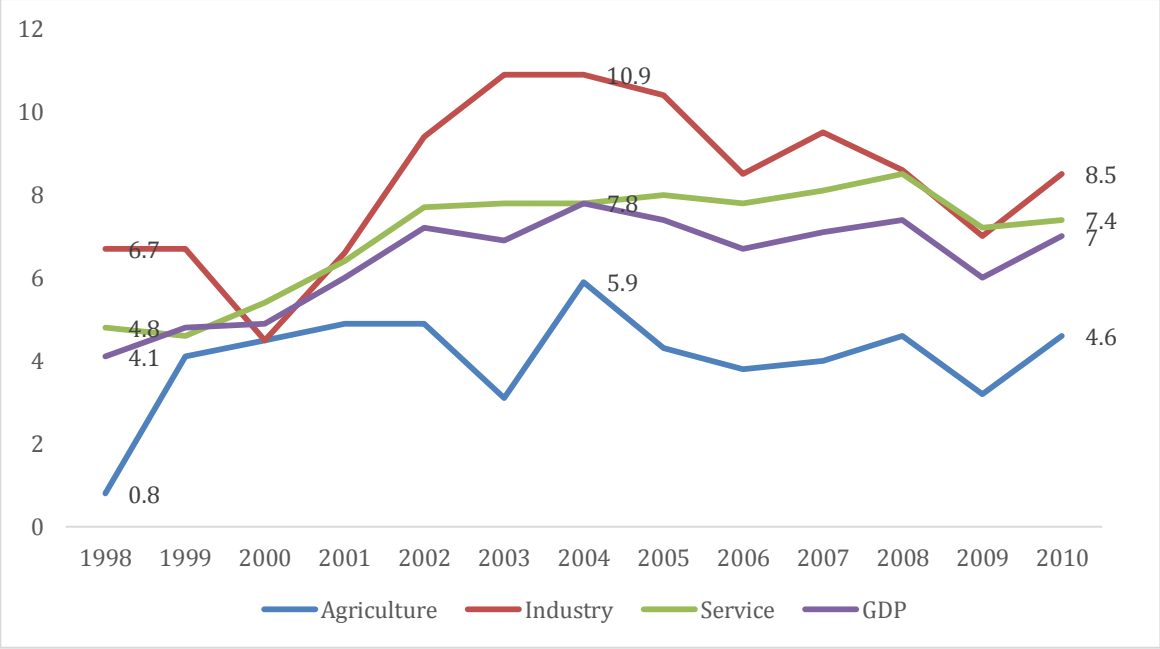
4. Economic Opportunities and Governance in Tanzania

4.1 Promising Economic Trends and Fundamentals

There are positive signs that Tanzania can stimulate its economic growth with the appropriate policy interventions in this context. The economy has grown steadily, there is renewed vigor to revamp socioeconomic transformation through the Big Results Now initiative, and the country has discovered massive deposits of natural resources such as natural gas and other minerals which could help generate the financial resources needed for the economic transformation envisaged in Tanzania Development Vision 2025.

Over the past decade, per capita GDP has been growing at the average rate of 7 percent per year (Figure 4.1). The relatively high growth rate was mainly due to economic and financial reforms and prudent monetary and fiscal policies; all of which promoted domestic and foreign investment. The sectors that contributed to GDP growth were Trading and Repairs, Agriculture, Manufacturing and Real Estates and Business Services. Despite this impressive growth, there has been no significant impact on poverty reduction. This could be explained by the fact that the agricultural sector, where the majority of Tanzania's population are employed (74%), did not record high growth for the last decade (4.2%), compared to other sectors which grew by more that 10%, and which employ only a small proportion of the population (URT, 2012). As such, basic needs poverty rate declined only marginally from 35.7 in 2001 to 33.6 in 2007 (URT,2012).

Figure 4.1: Growth Trends for GDP, Agriculture, Manufacturing and Services Sectors



Source: URT (2012)

4.2 Restructuring Tanzania's Economic Growth to Create More Jobs

The major challenge is that the steady economic growth achieved has not resulted in creation of quality jobs and poverty levels have not declined substantially. One of the reasons why growth has not been pro-poor is that the growth has been driven by sectors that employ a small proportion of people. There are also high levels of unemployment and under employment. In 2005/06, the unemployment rate in Tanzania was 11.7% persons aged 15 years and above, while underemployment rate increased from 5.3% in 2001 to 7.8% in 2006. The youth are faced by the highest unemployment rates with only 13.4% of those aged 15-34 years being employed (URT, 2012).

To a large extent, Tanzania's agriculture uses traditional farming methods and relies on rainfall, and usage of productivity enhancing technologies such as improved seeds and fertilizers remains low. The productivity has therefore remained poor. Reliance on human power (hand hoe) has driven high fertility as more children are needed to provide farm labour. The low productivity in the agriculture also acts as push factor that fuels rural-urban migration of the youth. Since most of them are unskilled, they end up in urban informal sector, which is itself characterized by low productivity.

One of the Vision 2025 target in achieving a strong and competitive economy is to ensure an adequate level of physical infrastructure. This is however far from being achieved. Poor infrastructure and inadequate and unreliable power supply create a big challenge to rapid economic growth. The country is faced by inadequate and unreliable power supply. The condition of roads especially in rural areas is poor. Tanzania has the lowest road density in the East Africa region (only 103 m/km^2), and only 7.4 m/km^2 are paved roads, with only 28 percent of the rural population living within 2 km of an all-weather road (URT, 2012). In addition, declining availability and reliability of water is increasingly evidenced, and all urban centres and production entities are increasingly facing acute water shortages, posing a clear threat for livelihood and production.

Formal labor markets in Tanzania are still underdeveloped and therefore, the employment situation remains one of the major economic policy challenges. These challenges manifest themselves in terms of (i) imbalance between supply and demand of labor, leading to unemployment and more rampantly vivid under-employment; (ii) steady increase in urban employment pressures, due to outflow of rural surplus labor to non-agricultural sectors in urban area; (iii) low labor productivity, partly due to weak human capital investment. According to the Integrated Labour Force Survey (ILFS) 2000/01 and 2005/06 (NBS, 2007), annual labor force growth rate is 4.1 percent. This translates to about 800,000 new labor force entrants each year. Of this, only about 40,000-50,000 are absorbed into public sector.

In pre-reform era, the government of Tanzania and its agencies and parastatals, were the largest formal employment employers. In the reform period, the private sector was expected

fill the gap created by downsizing of the government. To what extent this happened is remain debatable. Table 4.1 shows the pattern of employers since 2001 as extracted from series of integrated labor force surveys (ILFS).

Table 4.1: Selected employment indicators in Tanzania

Employment-to-population ratio (%, age group 15-64 years)	2001	2006
All	84.3	78.2
Men	86.4	80.5
Women	82.2	76.1
Employment status (% of total employment)		
Wage and salaried workers	6.9	10.5
Self-employed workers	89.3	78.1
(Self-employed in the non-agricultural sector)	(5.4)	(10)
Contributing family workers	3.8	11.4
All	100	100
Employment status by sector		
Government (Central & Local)	2	2.2
Parastatal	0.5	0.3
Private- Informal Sector	8.5	11.3
Private- Formal	4.5	7.8
Traditional Agric.	81	74.6
Housework	3.6	3.6

Source: NBS – ILFS reports for respective years

The share of labor force in agriculture sector has been declining, as expected during the development process. Sustainable rural transformation occurs when there is rapid increase in agricultural labor productivity, but this is not what is happening in Tanzania (Moyo et al. 2012). When Tanzania achieves sustainable rural transformation, more labor force, particularly the youth, will be released from agriculture sector, resulting in further rural-urban migration in the absence of sufficient rural non-farm activities (Mduma 2006). As envisioned in the National Development Vision 2025, in order for Tanzania to harness the demographic dividend, the released labor should able to find decent jobs in alternative sectors besides agriculture.

Also, the share of private-formal sector is on the increases as expected, but the rate is not sufficient enough to absorb labor out of the informal sector and agriculture sector. It is estimated that employment in the informal sector increased from 5.7% of total national employment in 200 to 9.3% in 2006, while employment in private sector increased from 2.4% to 8.0% during the same period. There is robust evidence that labor productivity in the informal sector and agriculture is generally lower than in the informal sector (Palmer & Robert, 2008). Between 2000/01 and 2005/06, the formal private sector generated 768,900 new jobs,

which is just about the number of new entrants in the labor force per year (URT, 2008). However, the 2006 ILFS estimated that 87.7% of those working are engaged in vulnerable employment.

The challenge of creating jobs and reducing poverty will become even more formidable if fertility levels do not decline fast and Tanzania's population structure does not shift fast enough to have more people in the working age range than in the dependent age groups. Nevertheless, if Tanzania is able to create enough quality jobs for the labour force, it stands to reap massive economic benefits through the demographic dividend. A starting point would be modernizing agriculture to enhance its productivity. Based on the experience of the Asian Tigers and many of the developed countries, it makes logical sense to industrialize from the agricultural base – which provides livelihoods for most families and has high job multiplier effects than many of the fast growing industries. Improving rural economic infrastructure including electrification, communication, and transport systems will be key to achieve this. Without capacity to create adequate quality jobs for the rapidly growing labour force the country will face potential instability from the unemployed or underemployed youthful working age population.

4.3 Fiscal Policies and Governance

Governance and accountability is one of the key pillars/clusters in Tanzania's National Strategy for Growth and Reduction of Poverty (MKUKUTA). However, various studies show that the proportion of the population that is satisfied with government service has remained low since the end of 2000s, while public opinion about the effectiveness of government anti-corruption measures remains rather low. There is limited accountability in delivery of services and capacity of the population and civil society in holding leaders and government officials accountable to their responsibilities and commitments is quite weak. One of the reasons for poor satisfaction is perception of weak accountability in use of public resources. A number of independent reports also point to wide spread corruption and the trend in Tanzania's rank in the Transparency International Reports are at odd with the zero-tolerance to corruption principle that is highlighted by the Government.

In order to enhance accountability, the government and all stakeholders should address the well-known drivers of grand corruption in Tanzania, including patronage, personal power relationships, and the close intertwining of politics, government and business. This will require strengthening of public institutions that enforce accountability and security, and provide checks-and-balances throughout the government system.

5. Prospects and Potential Contribution of the Demographic Dividend in Tanzania

5.1 Opportunities for Harnessing the Demographic Dividend in Tanzania

Tanzania's demographic profile and economic opportunities can be used to steer the country to economic prosperity if appropriate policies are followed. The high fertility rate presents an opportunity to reap from a large working age population if the fertility declines rapidly. The current youthful population will enter the labour force creating a large working population relative to the dependents thus releasing resources for investment in economic development and family welfare. The shift in the age structure will present Tanzania with a huge impetus for accelerating the socioeconomic transformation envisaged in Vision 2025 and the BRN Initiative if the country can make requisite investments in human capital development to ensure that the big labour force will be healthy, well educated, and skilled. Furthermore, the country will need to adopt economic reforms that will help generate enough quality jobs for the labour force.

Tanzania's National Development Vision 2025 aims at high quality of life for all the population, linking this notion to economic growth and poverty reduction. The BRN Initiative was developed to galvanize action towards the realization of the development ideals set out in Vision 2025. The initiative is aimed at identifying key projects and sectors that have the great potential in accelerating economic growth and poverty alleviation, including agriculture, education, energy, finance, transport and water. The initiative is modeled on the Big Fast Results approach followed by Malaysia, one of the Asian Tigers. According to the 2011 statistical abstract, investments in these areas except in education (human resource) and financial projects improved between 2011 and 2012 (NBS, 2012). The highest increase was made in communication where total investments increased ten-fold while in energy total investments almost quadrupled.

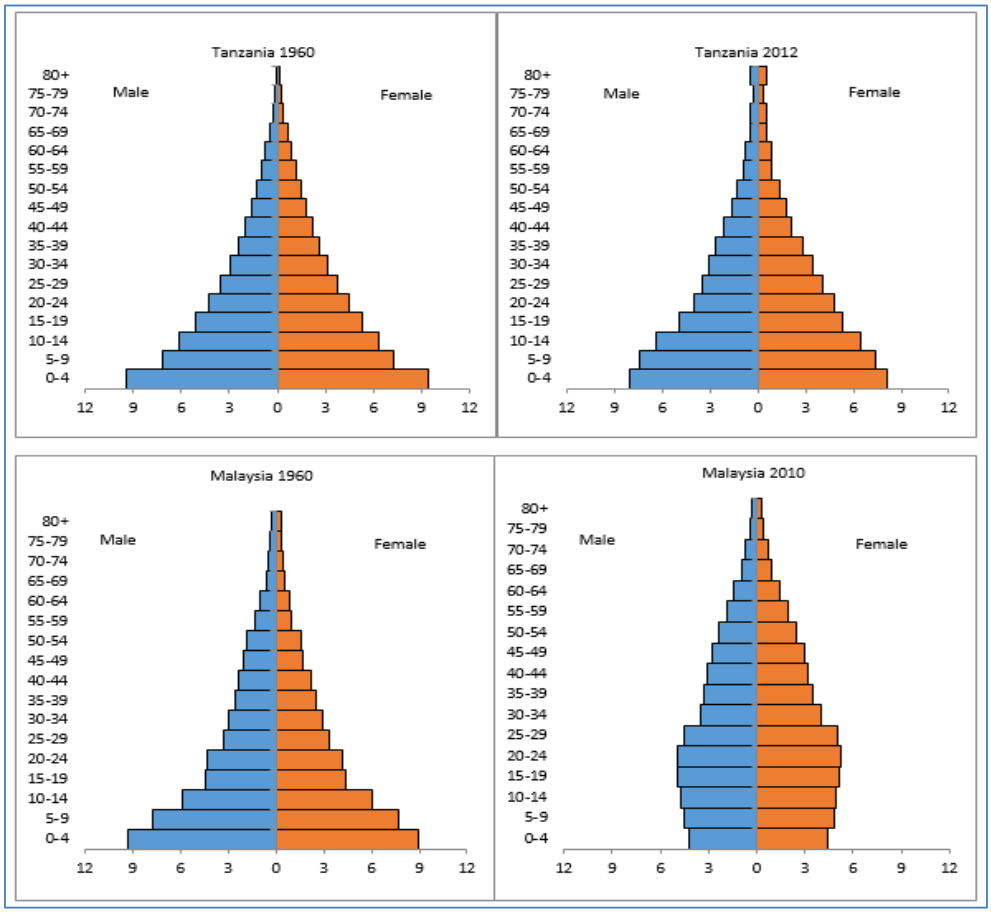
In addition, the country has opportunities that if exploited can result to increased economic growth. Discovery of natural gas, improvement in communication through the mobile phone boom, and increasing foreign investments due to growing regional integration and partnership with the East are likely to help accelerate economic growth, if they are managed well and guided by pro-poor policies and interventions. According to the African Development Bank, Tanzania continued to promote regional integration through tariff reduction. In 2012/13, the Common External Tariff (CET) on electricity was zero-rated (from 10% to 0%), so as to reduce the cost of importing electricity into East African Community (EAC) member states. The report also shows that the volume of trade between Tanzania and EAC partners has more than doubled, from USD 520 million in 2008 to about USD 1.2 billion in 2012. Tanzania remains a major FDI destination, with most of the FDI directed to the extractive and tourism sectors (AfDB, OECD, and UNDP, 2014).

In order for Tanzania to accelerate economic growth and create adequate jobs for the rapidly growing labour force, there is need to identify and enhance investments in export-oriented sectors of comparative advantage in terms of growth and employment potential. As the country transforms from one where the majority of workers depend on the agricultural sector to the one dominated by the service and industrial sectors, it is important to build the industrial base from modernization of agriculture and value addition agro-industries.

Tanzania can achieve its vision 2025 and BRN Initiative and harness the demographic dividend, but the demographic transition must be accelerated, with the right policy options that will result to rapid fertility decline and provision of economic environment that will attract investments and help create jobs for the rapidly increasing labour force.

Figure 5.1 and Table 5.1 shows changes in population age structures, socioeconomic and demographic indictors for Tanzania and Malaysia (the bench mark country for the BRN Initiative) between 1960 and 2011. The population structures were similar in 1960 when the average number of births per woman was 6 in Malaysia and 7.0 in Tanzania and less than 7% of married women were using contraception in both countries. While the age structure for Tanzania is similar to the one for 1960, the latest one for Malaysia is totally different due to the rapid decline in fertility and mortality that the country has experienced since the 1960s. Malaysia also achieved amazing improvement in education and is now close to universal secondary education while a third of the population has tertiary education. All these changes made massive contributions to the accelerated economic growth that Malaysia has experienced, resulting in the GDP per capita of USD 8,754. These trends show the extend of the challenge that Tanzania is facing in order to harness its demographic dividend and achieve the socioeconomic transformation envisaged in Vision 2025 and the BRN Initiative. At the same time, the fact that Malaysia had more or less similar indicators to Tanzania 40 years suggests that the country's BRN Initiative that emulates the development path followed by Malaysia can propel Tanzania to high economic heights if it the Initiative is fully implemented.

Figure 5.1: Comparison of age Structures for Malaysia and Tanzania - 1960-2010



Source: UN World Population Prospects, 2012; National Bureau of Statistics, 2012

Table 5.1: Comparison of Trends in Various Economic and Demographic Indicators,

Indicator	1960		2010	
	Malaysia	Tanzania	Malaysia	Tanzania
GDP per Capita	299.1	319.0	8,754.2	514.0
Total Fertility Rate	6.0	6.9	2.0	5.4
Under five mortality	85	242	9	81
Contraceptive Prevalence Rate (Modern Methods)	6.2	6.1	32.0	27.4
Net Secondary School Enrolment Rate (%)	35	12	96	35
Gross Tertiary Institution Enrolment Ratio (%)	4.0	0.5	37.0	3.9

Source: UN World Population Prospects, 2012; TDHS Various Years; World Bank, 2013.

5.2 Summary of Policy Efforts and Challenges

The discussion in the previous sections show that the Demographic structure of Tanzania and its implications to economic development has been influenced by a number of policies,

including population policies, education policies, health policies, as well as employment policies. Through these policies, Tanzania has achieved significant process in reducing child mortality, improved maternal health, life expectancy, access to education, and expansion in employment in the private sector, and overall economic growth above the regional average in the past one decade. However, notable challenges remains especially with regard to quality of service delivery- e.g. in health and education sectors, as reflected declining pass rate. The review of experiences from other countries show at, the current level of quality of education up to secondary school level is not sufficient to warrant Tanzania to harness its "Youth Bulge". Tanzania is still characterized by substantial unmet contraceptive demands and high fertility rate.

From a holistic viewpoint, the main issue, which will inhibit the ability of Tanzania to harness Demographic Dividend, is the vicious cycle of:

- Slow decline in fertility rate and thus high population increase
- Stress on budget for social services and thus low quality of these services and poor human capital and lower savings for fixed capital formation
- Poverty and demand for large number of children.

Another loop of this vicious cycle is the pressure that the rapid growth of population may have on natural resources and environment. Tanzania's is also rich in natural resources such as forests, wildlife, rivers, lakes, coastal zone, fisheries, minerals, coal and gas. Since 1990s, commercial exploitation of some of these natural resources, particularly fisheries and minerals has increased dramatically and unsustainably, mainly due to population pressure (Mduma, 2014).

5.3 Policy Scenarios and Potential Impact of the Demographic Dividend in Tanzania

Our modelling is based on four policy scenarios, which were selected to demonstrate the net and combined effects on economic growth of focusing on investments in economic and social development reforms. Targets for these policy scenarios were set at Malaysia level. This is because the Big Results Now Initiative is modeled on Malaysia as a benchmark country for Tanzania's socioeconomic development into a middle-income country. Table 5.2 gives details of assumptions under each scenario.

5.3.1. Business as Usual Scenario

This scenario represents a case where the status quo, characterized by persistence of high child dependency ratios and poor economic performance will continue. In this model, we assume that Tanzania will continue to perform below its potential and there will be no definitive action to address the largely known development bottlenecks and break away from

the Business as Usual culture characterized by weak implementation of the country's relatively good development policies. On the economic and education indicators, we assume that the country will only manage to attain 30% of the progress it needs in order to attain the current global competitiveness and education indicators for Malaysia. On the family planning front, we assume that the slow progress that Tanzania made in increasing contraceptive use over the past decade will continue, and fertility rates would marginally decline from the current level of 5.4 to about 4 children per woman.

5.3.2 Economic Emphasis Scenario

This scenario represents a case where the country will step up the gear in addressing the economic bottlenecks that have curtailed socioeconomic development and put in place policies, systems, and resources to fully implement the economic ideals defined in Vision 2025 and the detailed implementation plans and budgets for the BRN initiative. For most of the Global competitiveness indicators, we use the current Malaysian values as target indicators. This scenario represents the best economic outlook for Tanzania in terms of reforming the economy to enhance productive efficiency and accelerate economic growth, job creation, and poverty reduction. In this scenario we hold the Education and Family Planning indicators constant at the Business-as-Usual Scenario levels in order to illustrate the net impact of firm action to transform the Tanzania economy into middle-income status in the light of the government's strategies outlined in Vision 2025 and the BRN Initiative.

5.3.3 Economic Emphasis and Moderate Family Planning and Education Scenario

This scenario represents greater effort to increase access to FP and education that would result in the country's Total Fertility Rate declining from the current level of 5.4 to 3.0 children per woman. In order to get to this level of fertility by 2050, the country would need to sustain its FP programme effort and get the contraceptive prevalence rate increase to about 52.7%, representing an average annual increase of 0.73 percentage points. The country would also have to improve its educational system and increase the baseline education indicators to at least 50% of the progress needed to attain the current education indicators for Malaysia.

5.3.4 Combined Economic and Demographic Emphasis Scenario

This scenario gives the best policy scenarios for attaining the socioeconomic transformation envisaged in Vision 2025 and the BRN Initiative by setting both the economic indicators and FP & education indicators at the levels exhibited by Malaysia.

This scenario represents determined commitment and action to develop quality human capital in Tanzania along the lines of what Malaysia and other Asian Tigers achieved. The central part of this scenario is empowerment of women and their partners to avoid having unplanned pregnancies through universal access to effective methods of contraception. The

second component involves an overhaul of the educational system through improved years of schooling and quality of education, which are critical for enhancing the level of skills and innovation of the labour force. Increase in years of schooling also helps to keep girls in school, prevent early childbearing, and reduce fertility. On education, we adopt the education levels for Malaysia with universal secondary education and a big proportion of the school-going population having tertiary education. The contraceptive prevalence rate is set at 65.7%, representing an improvement of 41.8% of the rate of increase in contraceptive use that was achieved between 1999 and 2010. This scenario would result in fertility rates declining to about 2 children per woman.

Table 5.2: Key Characteristics of the Policy Scenarios used in the modeling

Policy Scenario	Key characteristics
1. Business as Usual Scenario	▪ Status quo characterized by slow progress in economic reforms, human capital development and reduction in fertility to 2050. ▪ Targets for Economic Indicators and education indicators are higher than baseline indicators by 30% of the progress needed to attain the current average economic indicators for Malaysia. ▪ Use of Family Planning to grow at an average of 0.46 percentage points per year, which is lower than the average of 0.73 percentage points achieved over the last decade and the 1.2 percentage points per year achieved between 2005 and 2010. We use this rate to cater for possible reversal in progress that has been observed in the 1990s in Tanzania and other countries like Kenya.
2. Economic Emphasis Only Scenario	▪ Emphasizes enhancement of Tanzania's global economic competitiveness, and productive efficiency, and governance as outlined in Vision 2025 and BRN Initiative. ▪ Target economic indicators for 2050 are economic indicators for Malaysia. ▪ Education and family planning indicators held at the same level as the Business as usual scenario in order to examine the net effect of intensive economic reforms. ▪ Given Tanzania's emphatic commitment to achieving Vision 2025, but without same strong commitment to family planning, this scenario can be considered as a baseline scenario from which economic performance under the moderate family planning and prioritized family planning scenarios can be compared.

3. Economic Emphasis and Moderate Family Planning and Education Scenario	▪ Economic indicators held to the same level as the Economic Emphasis scenario, as outlined in the Vision 2025 and BRN initiative, in order to examine net effect of moderate improvement on FP and Education. Basically, this scenario is intended to assess what Tanzania can achieve in addition to what is achievable under Vision 2025, if the country adopts moderate family planning intervention. ▪ Targets for Education indicators are higher than baseline indicators by 50% of the progress needed to attain the current education indicators for Malaysia. ▪ Contraceptive prevalence rate to increase to 52.7%, representing an average annual increase of 0.73 percentage points
4. Combined Economic and Family Planning/ Education Emphasis Scenario.	▪ An integrated development scenario that concurrently emphasizes investments in Economic reforms, as outlined in the Vision 2025 and BRN initiative, as well as prioritization of FP and Education to prevent unplanned births and build high quality human capital. Basically, this scenario is intended to assess what Tanzania can achieve in addition to what is achievable under Vision 2025, if the country gives top priority to family planning intervention. ▪ Economic indicators held to the same level as the Economic Emphasis scenario - current Malaysia values ▪ Mean years of schooling are set at the Malaysian level (2010) while the expected years of schooling targets are the average values for Indonesia and South Korea; two countries that have achieved demographic dividend and had data in 2010. ▪ Contraceptive prevalence rate to increase to 65.7% by 2050, representing an average annual increase of 1.04 percentage points or 41.8% increase in the family planning effort recorded between 1999 and 2010

It is important to note that under these scenarios, issues of income distribution and equity have not been explicitly taken on board because the DemDiv model, the program that was used to make projections, does not have a provision for analysis of income distribution and income inequality. However, it is without doubt that family planning interventions will have an effect on income inequality. Reduction in fertility is likely to increase to women's achievement in education and participation in the labor market/income generating activities. This in turn, is more likely to raise income for poor families, especially in rural areas where fertility rate is currently high. Thus, a Combined Economic and Family Planning/ Education Emphasis Scenario is expected to have a significant effect in reducing income inequality.

Below we describe the specific indicators that the DemDiv model uses to operationalize the five wheels that open and propel the window of opportunity for harnessing the demographic dividend. For each variable, we describe the baseline value and the basis for the values that we use in the four policy scenarios. The variables are discussed in greater detail in Appendix 1.

5.4 Baseline and Projected Demographic and Economic Indicators

The baseline and target economic, demographic and education indicators for each respective policy scenario are summarised in Table 5.3. Below we describe the rationale and assumptions behind the choice of the indicators.

5.4.1 Economic Indicators

The economic model captures a number of indicators to reflect the general economic situation and the extent to which the country has an enabling environment and infrastructure to promote job creation, economic productivity, and investments. These indicators are used as inputs to project the performance of the economy on a set of outputs, particularly GDP, GDP per capita, per capita investment, capital formation and employment.

Baseline estimates of output variables were obtained from national statistics[1]. The share of imports to GDP was obtained from the State of the Tanzania Economy, Planning Commission. The rest of the economic indicators were sourced from the Global Competitiveness Index (GCI), a cross-country database compiled by the World Economic Forum (WEF). The database assesses the strengths and weaknesses of national economies by analyzing the efficiency of various sectors and their contribution to productivity of the economy over time. Each of the indicators is presented on a scale of 1-7, with 7 as the best performance. We used the 2010 figures for Tanzania as the baseline for economic variables. As noted above, we assume that under the Business as Usual Scenario the country will continue to perform below its full potential and attain about 30% of the progress it requires to catch up with the economic indicators for Malaysia. Under the Economic Emphasis Scenario, we use the economic indicators for Malaysia as target indicators.

Labour market Flexibility

Tanzania's Labour Market Flexibility baseline index is 4.28. We assume that under the business as usual model scenario, the index will increase to 4.47; 30% of the increase the country needs to make to reach the current Malaysia value of 4.91 set for the Economic Emphasis Scenario.

[1] Data on GDP and capital formation was obtained from National Bureau of Statistics, capital stock data was from Tanzania Investment report (2012) while employment data came from the Employment and Earning survey (2007), prorated to 2010.

ICT Use

Tanzania has made considerable progress over the past decade in improving development and use of ICT, especially in use of mobile phones. ICT use is largely driven by private sector and can easily blossom to the next level without considerable public sector intervention. We project that progress in this area will continue even under the Business as usual Scenario, increasing from 1.18 to 1.69, which represents a 30% of the progress the country needs to make to reach the current level for Malaysia of 2.89, which we use for the Economic Emphasis Scenario.

Financial Market Efficiency is an area with huge potential for growth as financial markets open up as a result of economic growth and solidification of regional integration. In recognition of the likely continuation of the growth that the sector has experienced over the past decade or so, we project that the financial market efficiency index will increase from 3.29 to 3.72 under the Business as Usual Scenario. This represents 30% of the improvement the country would need to achieve in order to reach the Malaysia level of 4.72, which is the target for the Economic Emphasis Scenario.

Public Institutions: In order for Tanzania to attract foreign investment and lower the high cost of doing business, the country will need to take a firm step to operationalize its Vision 2025 commitment to create a culture of accountability mechanisms and curb corruption. We project that Public Institutions will improve modestly under the Business as Usual Scenario from 3.70 to 3.93, and reach the benchmark level of 4.47 for Malaysia under the Economic Emphasis model.

Share of Imports as a Percentage of GDP: High levels of imports (as a percentage of GDP) can undermine socioeconomic development, capital formation, and prospects for mass creation of jobs in the local economy. In Tanzania, the import share peaked at 40.8% in the last decade. In 2010, imports constituted 31% of Tanzania's GDP. Because Tanzania is yet to establish a strong manufacturing sector of its own, and it will continue to rely on imports to engineer its infrastructure, expected increase in consumption needs, and overall economic development, we assume that the level of imports as a percentage of GDP will increase to about 33.7% by 2050 under the Business as Usual Scenario, and to 40% of GDP under the economic emphasis model.

6.2.2 Family Planning Indicators

In this category, we focus on three indicators; contraceptive prevalence rate, Period of Post-Partum Infecundability (PPI) and Sterility. FP is a very important intervention for reducing fertility since it enables women and their partners eliminate unplanned births. Currently, Tanzanian women have an average of 5.4 children. The desired number of children is 4.9 for all women. The Wanted Fertility rate, which gives fertility rates only for births that were

wanted, is 4.7. This means that Tanzanian women are having 0.7 births more than they would like to. Furthermore, the 2010 TDHS data also show that 25.3% of all women of reproductive age who would like to postpone the next birth (by at least two years) or stop childbearing altogether are not using a modern method of FP, and have unmet need for FP. Ensuring that all women who are in need of FP have access to and are able to use effective contraception, therefore, will go a long way in reducing fertility in Tanzania.

In this analysis we use the proportion of all women using modern contraception as opposed to only married women or all methods because sexual activity and childbearing is increasingly taking place outside marriage, modern contraceptives are more effective than the traditional ones, and they are the ones promoted by the FP programme in the country. We, adopt the 2010 contraceptive use figure of 23.6% as the baseline for FP.

We also adopt the 2010 figures for the period of Postpartum Infecundability (11.4 months) and Sterility (1.2%) as baseline figures for the analysis.

Use of FP has increased slowly in Tanzania; the percentage of married women using contraception increased from 20% in 1999 to 27.4% in 2010 while 23.6% of all women were using a modern method of FP in 2010. Over the past decade, use of modern contraception among all women increased at an average rate of 0.73 percentage points per year. The rate of progress was much higher between 2005 and 2010 (1.2 percentage points) as opposed to the 1999 to 2005 period (0.18 percentage points per year).

In the Business-as-Usual scenario, we assume that the effort level in promoting FP will be slower (by 20%) than the overall average for the past decade because of uncertainties revolving around the FP programme's overdependence on foreign funding. Such reversals have been observed in Tanzania and Kenya in the 1990s. We are assuming that contraceptive use will grow at an average 0.46 percentage points per year, resulting in a CPR of 42.15% by 2050 under the business as usual scenario. This rate of increase represents 60% of the level where the country would be if it followed the rate of progress between 2005 and 2010 up to 2050.

In Economic Emphasis Only Scenario, we maintain the contraceptive use level to that of the business as usual level. In the Economic Emphasis and Moderate Family Planning/Education Scenario, we assume that the country will enhance its FP effort in order to attain a fertility level of 4 children per women. In this case, CPR would need to increase to 52.7%, representing an average annual increase of 0.73 percentage points.

In the Combined model we assume that the country will intensify its efforts to address all barriers of access and use of FP and create more demand for FP in order to attain the fertility level that Malaysia attained at the peak of its economic prosperity. Although the

contraceptive use levels among married women for Malaysia is 32%[2], Tanzania will need to double that level of contraceptive use (to at least 65%) to reach Malaysia's current fertility rate of 2 children per woman.

Postpartum Infecundability and Sterility

The Period of Post-partum Infecundability (PPI) is the duration after giving birth that a woman is not susceptible to pregnancy due to breastfeeding (lactational amenorrhea) and/or postpartum sexual abstinence. The 2010 value for the period of post-partum infecundability is 11.4 months. The assumption is that with increase in education, the period may slightly go down, but there is increased campaign for exclusive breasting and continued breastfeeding up to 2 years. We therefore assume that PPI will not change in the next 39 years under any of the four policy scenarios.

Sterility is measured by the percentage of women in union who remain childless at the end of their reproductive years (45-49 years). The percentage of women who are childless in the age group 45-49 was 1.2 in 2010. This measure is not expected to change over time, and thus will remain the same under the Economic Emphasis and Moderate Family Planning/Education Scenario as well as the combined scenario.

6.2.3 Education Indicators

Education is key for harnessing the demographic dividend because it has wide-ranging effects on socioeconomic development. Female education, especially at secondary level, plays a key role in lowering fertility by delaying marriage and onset of childbearing. More educated women are also more likely to use contraception and use health care services for themselves and their children. Education also helps to increase the quality and productivity of the labour force. So years of schooling as well as quality of education and relevance of the curricular in promoting innovation and entrepreneurship are very important for enhancing a country's chances of harnessing the demographic dividend. Vision 2025 prioritizes high quality education as an enabler in responding to development challenges and effectively compete regionally and internationally. The DemDiv model allows for modification on 2 education indicators: Expected Years of Schooling and the Observed Mean Years of Schooling for males and females.

The Expected Years of Education refers to the total number of years of schooling a six-year child today can expect to receive, assuming that the probability of her/him being enrolled in school at future ages is equal to the current enrolment rate at those ages. The expected years of schooling generated from the UNESCO education database is 9.1 for females and 9.4 years

[2] Malaysia has an unusually high proportion of married women using traditional methods of contraception (17%). So, with the CPR of 32% for modern methods, the total CPR is 49%. Malaysia has achieved low levels of fertility due to postponement of marriage, use of traditional methods, and possibly abortion (Tey Nai Peng, Sor Tho Ng, and Siew Yong Yew, 2012)

for males (http://stats.uis.unesco.org). We adopt these as the baseline values for 2010 since educational statistics have not improved much in Tanzania over the past decade or so.

The Mean Number of Years of Schooling is the average number of years of schooling for the adult population aged 25 and above. This indicator was generated from the 2010 DHS. The mean years of schooling for females were 4.2 while for men was 5.7 years.

The big difference between expected years of schooling and actual years of schooling shows that school attendance rates are much better for the younger than the older generations in Tanzania. However, the comparison with the current average education levels for Malaysia and other Asian Tigers shows that Tanzania is still quite far from attaining the education levels that the country needs to become a globally competitive economy. Furthermore, developing quality human capital needs to go beyond mere increase in years of schooling to improve the quality of education and the capacity of the educational system to produce graduates equipped with skills in innovation, technological sciences, and entrepreneurship that the country will need to have a globally competitive labour force.

For the Business as Usual Scenario, we assume that the country will only achieve 30% of the progress it needs to make in order to attain the average Expected Years of Schooling for two Asian Tigers (South Korea and Indonesia) and Mean Years of Schooling for Malaysia. These translate to Expected years of schooling of 10.66 for females and 11.11 for males and mean years of schooling of 5.92 years for females and 7.10 years for males.

In the Economic Emphasis scenario, the levels of education are held constant at the Business as Usual levels.

In the Economic Emphasis and Moderate Family Planning and Education Scenario we assume that Tanzania will make more progress in improving education outcomes of its population and that the country will attain about 50% of the progress that it needs to make in order to reach Malaysia levels of education. For Expected Years of Schooling, this will translate to 11.7 years for females and 12.2 years for males. For Mean years of schooling, the target figures would be 7.1 years for females and 8.0 years for males.

In the Combined Economic and Demographic Emphasis Scenario, Tanzania will prioritize human capital development and ensure that by 2050 the country will attain at least universal secondary education, with a substantial portion of the population attaining tertiary education.

Table 5.3: Tanzania Demographic Dividend Policy Scenarios

POLICY SCENARIO	REF YEAR	INTERVENTION POLICY AREA												
		Education					*Family Planning*			*Economic*				
		Expected Years Female	*Expected Years Male*	*Mean Years Female*	*Mean Years Male*	*Mean YRS (Male & Female)*	*CPR (All women, Modern)*	*PPI*	*Sterility*	*Labour Market Flexibility*	*ICT Use*	*Financial Market Efficiency*	*Public Institutions*	*Imports As % of GDP*
Baseline	**2010**	**9.1**	**9.4**	**4.2**	**5.7**	**5.0**	**23.6**	**11.4**	**1.2**	**4.28**	**1.18**	**3.29**	**3.70**	**31.0**
Business as Usual	**2050**	**10.66**	**11.11**	**5.92**	**7.10**	**6.5**	**42.15**	**11.4**	**1.2**	**4.47**	**1.69**	**3.72**	**3.93**	**33.7**
Economic Emphasis Only	**2050**	**10.66**	**11.11**	**5.92**	**7.10**	**6.5**	**42.15**	**11.4**	**1.2**	**4.91**	**2.89**	**4.72**	**4.47**	**40.00**
Economic Emphasis & Moderate FP & Education)	**2050**	**12.2**	**12.7**	**7.1**	**8.0**	**7.5**	**52.7**	**11.4**	**1.2**	**4.91**	**2.89**	**4.72**	**4.47**	**40.00**
Combined Economic & FP/EDC Emphasis	**2050**	**14.31**	**15.09**	**9.9**	**10.4**	**10.1**	**65.7**	**11.4**	**1.2**	**4.91**	**2.89**	**4.72**	**4.47**	**40.00**
Baseline Data Source		UNESCO 2010		DHS 2010			DHS 2010			World Economic Forum, Global Competitiveness Report 2013-2014				

This is the level of education the country needs in order to attain the socioeconomic transformation envisaged in Vision 2025 and the BRN Initiative, which will be key for harnessing the demographic dividend. Vision 2025, aims at attaining an educated society that has a competitive spirit and ambitious to develop by embracing creativity and innovativeness. It aims at attaining a level of tertiary education and training that is commensurate with a critical mass of high quality human resources required to effectively respond and master the development challenges at all levels. We used the average values for expected years of schooling for Indonesia and South Korea (other Asian Tigers that had data in 2010) for females (14.3) and males (15.1) as target values for this scenario because the available 2005 values for Malaysia are relatively low (12.72 for males and 12.74 for females) and not in line with the overall goal of achieving universal secondary education. The figures for Malaysia Means Years of education (9.4 for females and 9.9 for males) were used.

6.2.4 Other Baseline indicators

Table 5.4 presents other baseline indicators that we inputted in the model for the year 2010. These indicators were sourced from national reports, except employment data which was from International Labour Organization (ILO) national statistics, 2011.

Table 5.4: Initial values of calculated variables in the model

Indicator	Base Year Value (2010)	Data Source
Percentage Married	63.3	TDHS 2010
Total fertility rate (TFR)	5.4	
Births at Risk	55.9%	
Infant mortality rate (IMR)	51	
Under-five mortality Rate (U5MR)	81	
Maternal mortality rate (MMR)	454	
Female Life Expectancy	57	Tanzania in figures, 2012 (projected from 2002 census)
Capital Formation/pop	158.7	National Bureau of statistics (2010)
Initial Employment	21,574,168	KILM (ILO) Data based on national data (2010)
Initial Employment Growth Rate	2.5%	KILM (ILO) Data based on national data (average annual change (2008-2011)
GDP/pop	514	National statistics bureau
Ratio of Capital Stock to Pop 15+	1539	Tanzania Investment report, 2012
Initial GDP Growth rate	7%	World Bank, World Development Indicators
Capital Stock Growth Rate	6.3%	Computed from past investments
Labour Force Participation Rate	0.873	KILM 8.0 (National Data)

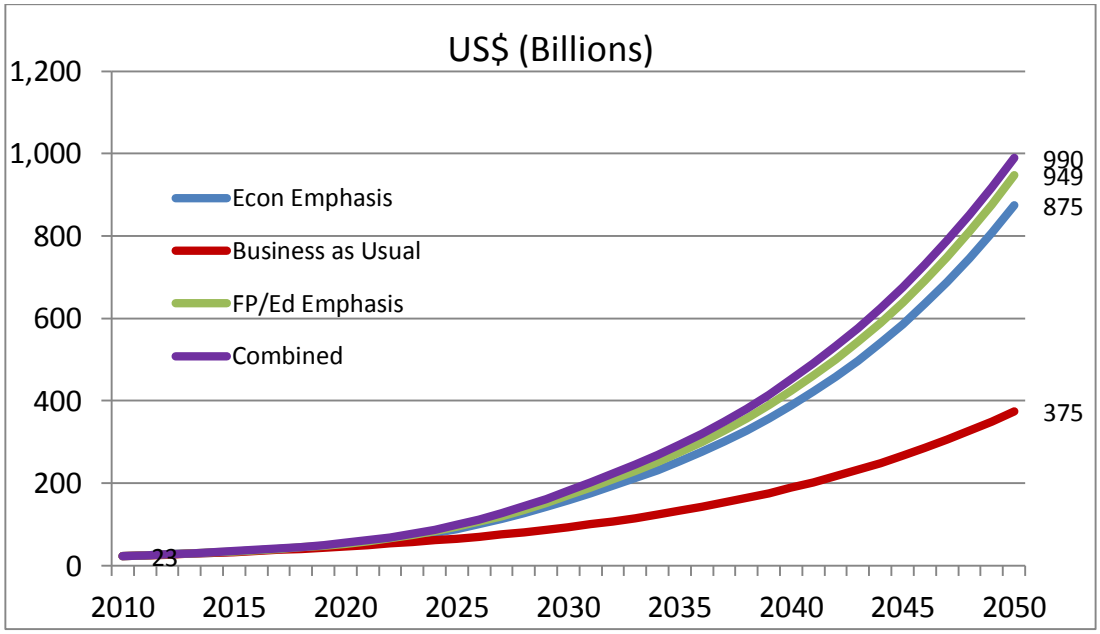
Female-Male LE difference	3.4	Tanzania in figures, 2012 (projected from 2002 census)
Capital Stock Depreciation Rate	4.0%	Computed
Primary education costs as % GDP/pop	10.92	World Bank, World Development Indicators. Data for 2012

6.3 Modelling Results

6.3.1 Growth in GDP and Per Capita GDP

The GDP trend for each of the policy scenarios for Tanzania over the period 2010-2050 is shown in Figure 5.2 below. Under the business as usual scenario, the real gross domestic product (GDP) will increase from USD 23 billion in 2010 to USD 375 billion in 2050. With economic emphasis, GDP will increase to USD 875 billion. Under the economic emphasis with moderate family planning and education policy, GDP will increase to USD 949 billion. Adoption of the combined economic emphasis and demographic scenarios will get GDP to USD 990 billion. These results show that the impact of investment in family planning and education (demographic dividend) on GDP could be quite significant for Tanzania. For example, by moderate investment in family planning and education, Tanzania would be able to achieve 8.5 per cent more GDP than it could achieve under the economic emphasis scenario. However, if the country followed the combined model where both economic and demographic factors are prioritized, GDP would be 13.1% higher.

Figure 5.2: Growth in Gross Domestic Product (GDP) by Policy Scenario

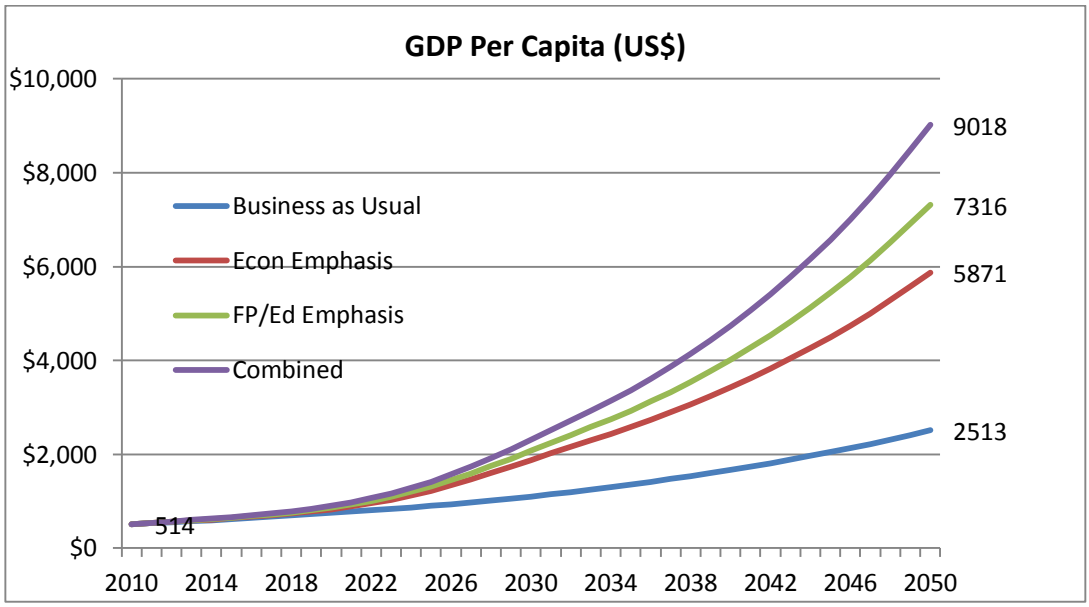


The potential impact of the demographic dividend is much more evident when we examine differences in growth of per capita GDP under each of the four policy scenarios (Figure 5.3).

With Business as Usual Scenario, per capita GDP will increase from the 2010 level of USD 514 to USD 2,513 in 2050. If Tanzania decides to pursue only economic policies to accelerate economic growth, GDP per capita will increase to about USD 5,871 in 2050. Per capita GDP will increase to USD 7,316 if Tanzania adopts the policy scenario with economic emphasis and moderate family planning and education emphasis. This potential demographic dividend under this scenario would, therefore, be about USD 1,445 in GDP per capita. The GDP Per capita would be 25% higher than it would be under the business as usual scenario.

However, if Tanzania decides to combine economic policies with maximum effort on family planning and education interventions, per capita GDP could rise to USD 9018. In this case, the additional amount of about USD 3147 would be attributed to the demographic dividend that Tanzania could harness by 2050. In this case, per capita GDP would actually be 54% higher than it would be under the business as usual policy scenario.

Figure 5.3: Growth in Gross Domestic Product (GDP) per capita by Policy Scenario



6.3.2 Population Size and Structure

Figures 5.4 to 5.8 show the baseline and projected age sex distribution of the Tanzania Population and key population and human capital features for each of the four policy scenarios.

The total fertility rate for the business as usual scenario will decrease from the current level of 5.4 to 3.84 in 2050, with corresponding population increasing from 45 million in 2010 to 149.1 million. The dependency burden will decrease from 0.91 in 2010 to 0.77 in 2050. As a result of decrease in the mortality rate, life expectancy will increase to 65.5. The Human Development Index (HDI), which is a composite measure of countries' levels of social and

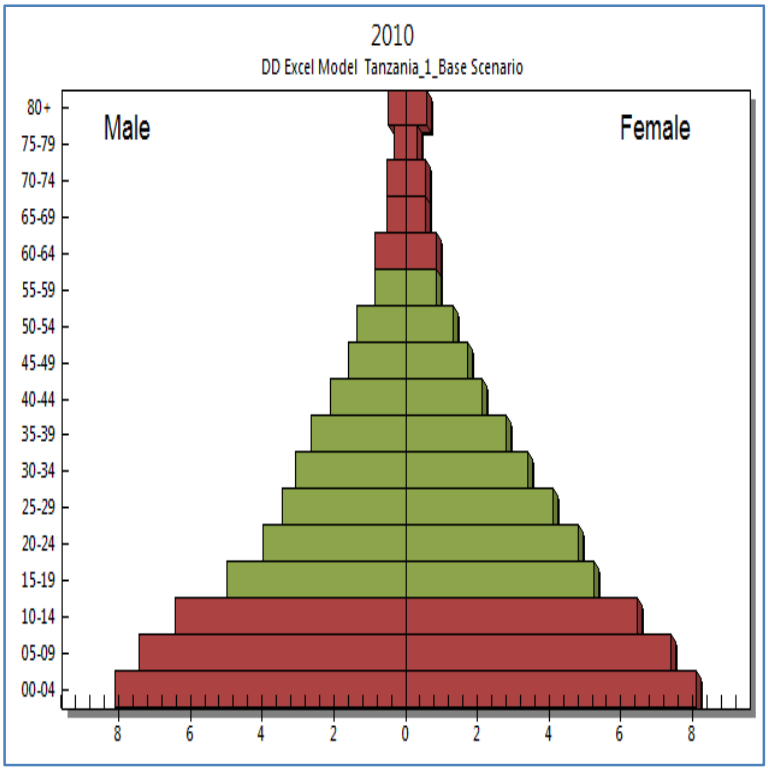
economic development based on life expectancy at birth, mean years of schooling, expected years of schooling and per capita gross national income, would increase from the current level of 0.349 to 0.481. At this level, Tanzania would be ranked on position number 132 based on the 2010 global rankings.

With the economic reforms alone scenario, life expectancy at birth and population size will be the same as the business as usual scenario. HDI would increase to 0.597, representing a ranking of 117 based on 2010 rankings.

Adoption of the economic emphasis and moderate family planning and education scenario will lead to the fertility rate decreasing to 3.01 children per woman and the dependency burden decreasing to 0.65, 35% of the population being under age 15. Life expectancy at birth will increase to 67.6 and the HDI to 0.656, which would be ranked 112 based on the 2010 ranks. Tanzania's population size would increase to 129.7 million.

The combined model, which provides the greatest potential for transforming Tanzania into a middle-income economy by 2050, would result in a total fertility rate of 2.0, and a population of 109.8 million by 2050. This scenario would result in a marked shift in the age structure of the population, with a marked increase in the working age population (only 28% of population would be below age 15) and a dependency burden of 0.51. Life expectancy at birth would increase to 69.7 and the HDI would be 0.727 and rank at 96 according to 2010 ranks.

Figure 5.4: Baseline Population Pyramid and Key Features



Key Features

Population: 45 Million

Population 15+: 25.2 Million

Gap between Population <15 and Employment: 0.4 million

Population <15: 44%

Total Fertility Rate: 5.4

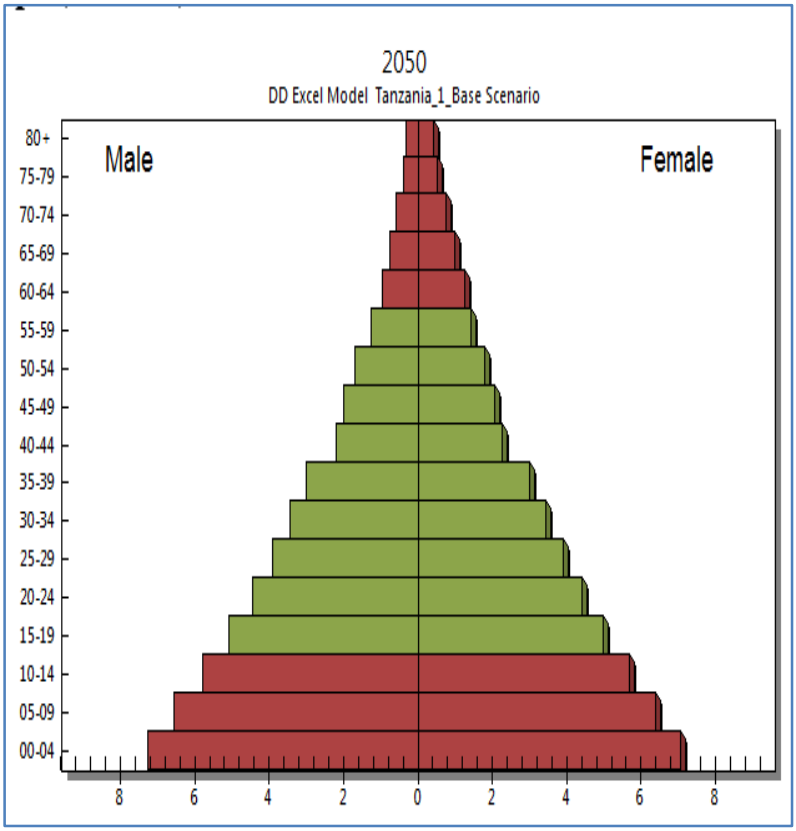
Per Capita GDP: $514

Life expectancy at birth: 57 years

HDI: 0.349 (2010 Rank: 132)

Dependency ratio: 0.91

Figure 5.5: Population Pyramid and Key Features for the Business-as Usual Policy Scenario



Key Features

Population: 149 Million

Population 15+: 91.3 Million

Gap between Population <15 and Employment: 19.3 million

Population <15: 39%

Total Fertility Rate: 3.8

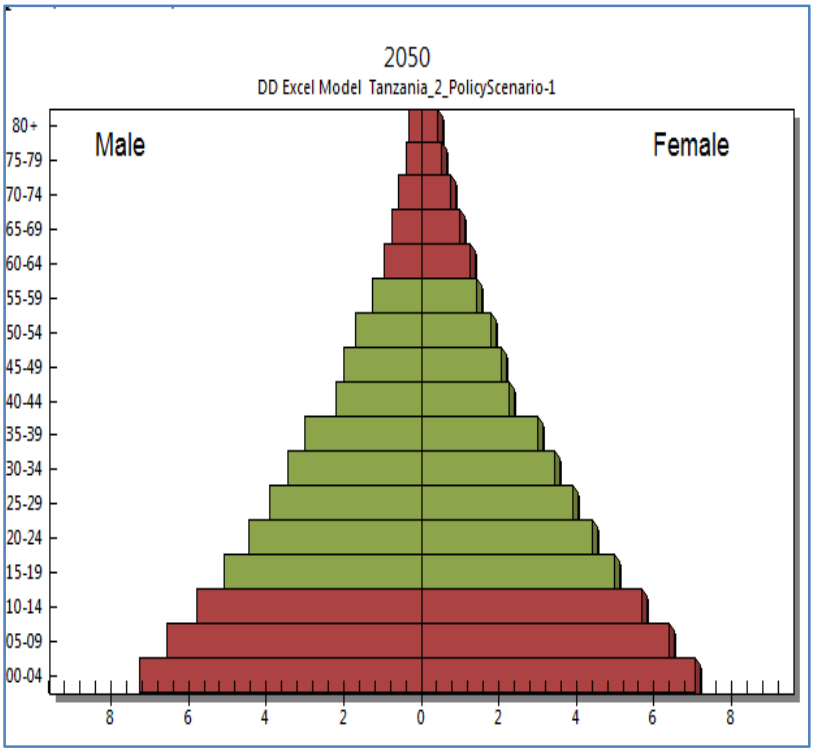
Per Capita GDP: $2513

Life expectancy at birth: 65.5 years

HDI: 0.481 (2010 Rank: 132)

Dependency ratio: 0.77

Figure 5.6: Population Pyramid and Key Features for the Economic Emphasis Policy Scenario



Key Features

Population: 149 Million

Population 15+: 91.3 Million

Gap between Population <15 and Employment: 7.5 million

Population <15: 39%

Total Fertility Rate: 3.8

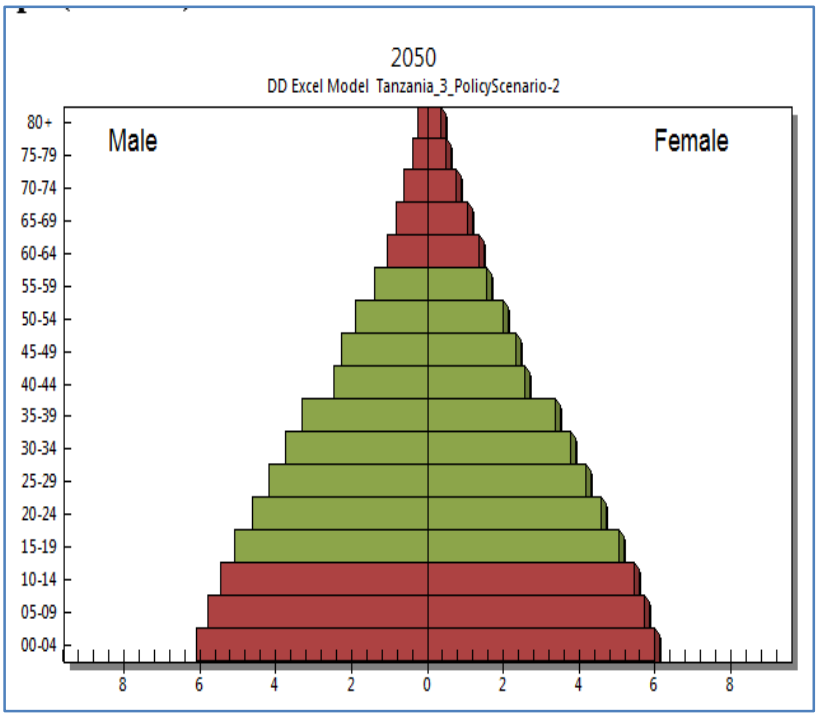
Per Capita GDP: $5,871

Life expectancy at birth: 65.5 years

HDI: 0.597 (2010 Rank: 117)

Dependency ratio: 0.77

Figure 5.7: Population Pyramid and Key Features for the Economic Emphasis and Moderate Family Planning and Education Policy Scenario



Key Features

Population: 129.7 Million

Population 15+: 84.9 Million

Gap between Population <15 and Employment: 4.4 million

Population <15: 35%

Total Fertility Rate: 3.0

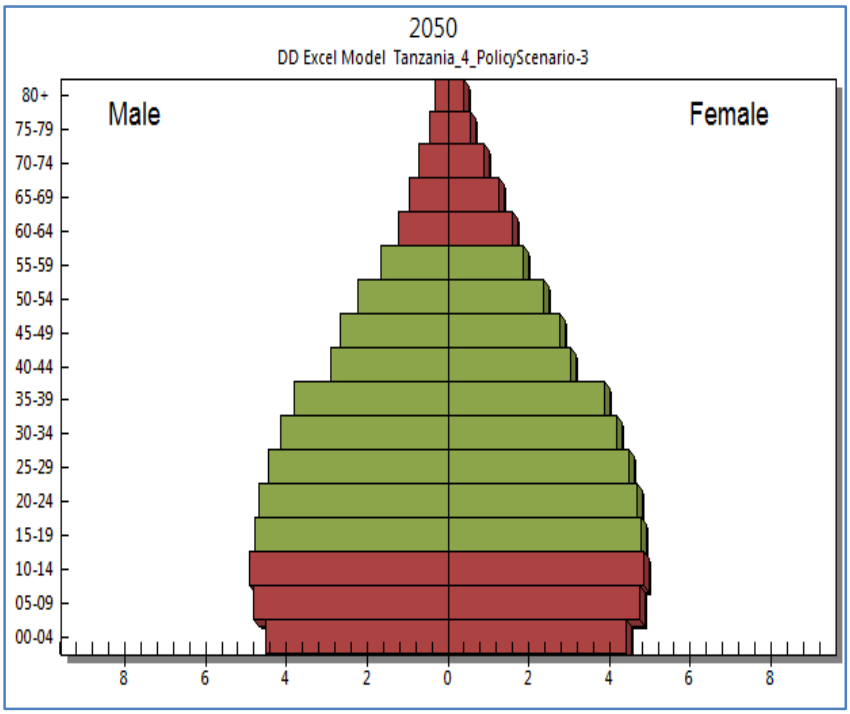
Per Capita GDP: $7,316

Life expectancy at birth: 67.6 years

HDI: 0.656 (2010 Rank: 112)

Dependency ratio: 0.65

Figure 5.8: Population Pyramid and Key Features for the Combined Economic and Family Planning and Education Emphasis Policy Scenario



Key Features

Population: 109.8 Million

Population 15+: 78.8 Million

Gap between Population <15 and Employment: 2 million

Population <15: 28%

Total Fertility Rate: 2.0

Per Capita GDP: $9018

Life expectancy at birth: 69.7 years

HDI: 0.727 (2010 Rank: 96)

Dependency ratio: 0.51

6.3.3 Population Momentum and Job-Creation Challenge

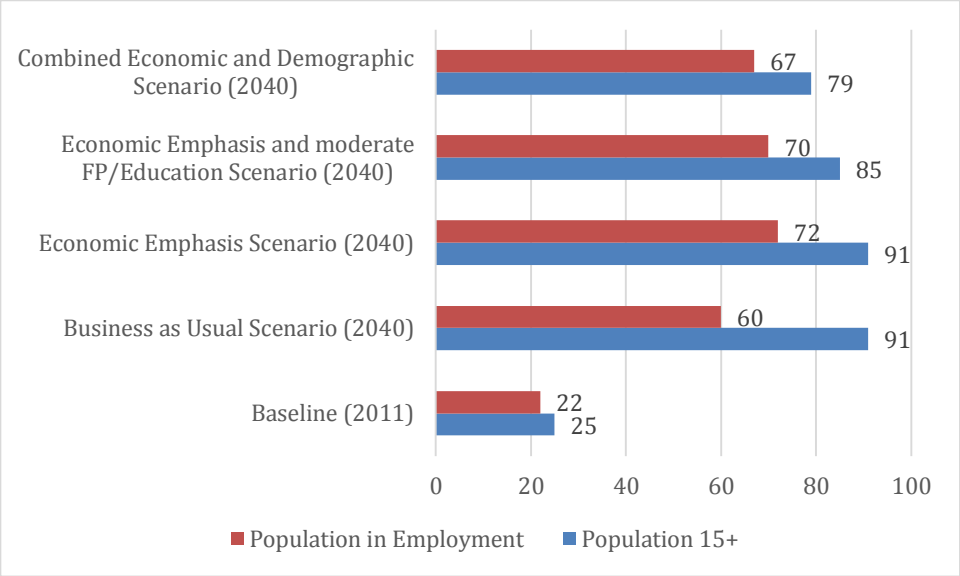
All the four policy scenarios are characterized by significant increase of the number of people aged 15 years and above. For example, under the business as usual and Economic Emphasis scenarios, the number of people aged 15 years and above will increase from 25.2 million in 2010 to 91.3 in 2050. For the economic emphasis and moderate family planning scenario, and the combined scenario, the number will increase to 84.9 million and 78.8 million, respectively. These numbers shows the enormous challenge that Tanzania will face in creating enough jobs for its rapidly growing labour force.

Currently, unemployment is a serious problem in Tanzania. According to the Integrated Labor Force Survey, 2006, it is estimated that about 2.2 million employable people are not employed (NBS, 2007). It is estimated that under business as usual scenario, the rate of unemployment, defined as the number of people aged 15 years and above less the level of actual employment, will rise to about 31 million in 2050 (See Figure 5.9 below). This trend poses a serious challenge to efforts to reduce poverty. The rising level of unemployment may also pose serious social and political risks in terms of social unrest and political instability.

Implementation of economic policies to increase the rate of investment and accelerate economic growth can reduce the level of unemployment to 19 million in 2050. However, if economic policies are combined with moderate family planning policies to reduce the rate of fertility the gap between the employable and actual employment can be further reduced to 15 million in 2050. The gap can be reduced even further to 12 million if Tanzania adopts the combined economic and demographic emphasis scenario. The difference of 7.0 million in terms of the gap between the employable and the actual level of employment is attributed to the demographic dividend accruing to Tanzania as a result of pursuing strategic family planning interventions.

These figures underscore the job creation challenges that Tanzania will face due to the high population momentum that has accumulated over time. The pressure to create enough jobs for the big working age population will therefore be quite enormous and last for several decades.

Figure 5.9: Projected Gap between Total Population Aged 15+ and Employed Population, by Policy Scenario



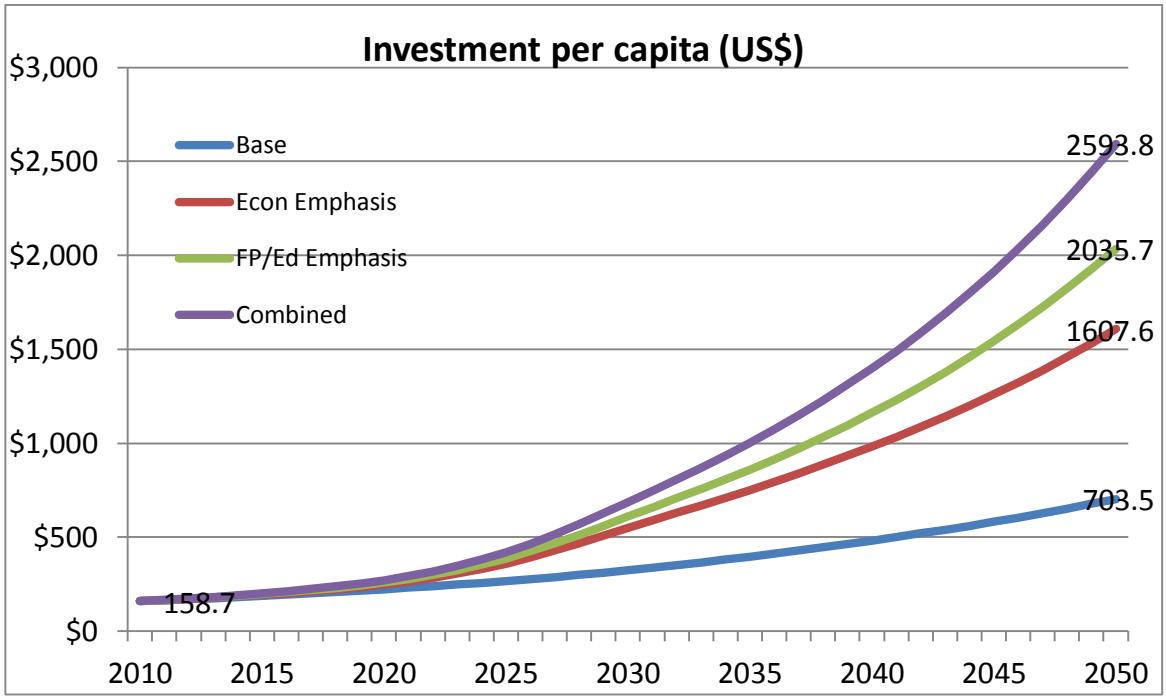
6.3.4 Capital Formation and the Second Demographic Dividend

The policy options for harnessing the demographic dividend can have an important influence on investment via savings. Reducing the number of children lowers consumption and expenditure on social services (such as education and health care services). This raises savings and investment/capital formation. Another channel through which family planning can influence capital formation is human capital development. Families with fewer children can afford to provide better education and health care services to their children, and therefore raise the quality of human capital. Human capital in the form of productive skilled labour can attract investments for capital formation and boost economic productivity. Investments in human capital development in addition to job-oriented economic reforms would ensure that countries actually earn the demographic dividend. The size of the demographic dividend would, therefore, depend on the rate of fertility decline, the extent on investments in human capital, the extent to which countries identify and invest in sectors that generate mass quality jobs, and existence of an enabling environment that promotes local savings and attract direct foreign investment. These conditions would enhance development of economic infrastructure and capital formation, which are critical for harnessing the demographic dividend and fuelling further economic growth that would help Tanzania graduate into an upper middle -income country.

Figure 5.10 shows projections in per capita capital formation for the four policy scenarios. Fixed capital formation measures how much of the new value added in the economy is invested in fixed assets (less disposals of fixed assets) by the business sector, and governments rather than consumed. Under the business as usual scenario, Tanzania can attain the rate of capital formation per capita of only USD 703.5 in 2050. However, if Tanzania

only decides to pursue economic reforms under the economic emphasis scenario, the level of investment per capita can rise to about US$ 1,607.6 in 2050. If, in addition to the economic emphasis, Tanzania pursues moderate family planning and education policies and investments, capital formation per capita will increase to about USD 2,035.7. Under the combined model with maximum emphasis on both economic factors and family planning and education reforms, the level of investment per capita can raise by an additional amount of almost USD 1,000, above the economic emphasis scenario figure, to about USD 2,598.8 in 2050.

Figure 5.10: Capital formation per Capita by Policy Scenario



6.3.5 Summary of Results

The findings for the study are summarised in Table 5.5. The combined model that concurrently prioritizes job-oriented economic reforms and investments in family planning and education in order to accelerate fertility decline and develop human capital would give Tanzania the best chance of achieving the socioeconomic transformation envisaged in Vision 2025 and the BNR Initiative. This would help Tanzania emulate the development path that Malaysia followed in the past 3-4 decades. The $9,018 per capita GDP that would result from this model will transform Tanzania into an upper middle income economy.

The difference between the Economic Emphasis Model and the Economic Emphasis and moderate Family Planning and Education Emphasis ($1,445) represents the demographic dividend that Tanzania can harness by increasing its family planning and education investments beyond the Business as usual level that ends with the TFR of 3.8 to the one that ends with a TFR of 3.0, respectively.

However, the country can harness a much higher demographic dividend of $3,147 if it reinforces its family planning and education investments to achieve the fertility and education levels that Malaysia achieved over the thirty year period when its income grew so impeccably. Due to the high population momentum that Tanzania has accumulated over the years, the working age population will be very big for several decades. The big gap between employed population and those aged 15+, even for the combined scenario, shows that the country will have to use extraordinary strategies to accelerate economic growth and generate enough quality jobs for its youthful population and prevent political instability that may arise from unusually high unemployment rates.

In the next section, we highlight some of the policies that Tanzania should prioritize to optimize its chances of harnessing the demographic dividend and optimizing its contribution to the realization of the Vision 2025 and the BRN Initiative.

Table 5.5: Summary of modeling results per policy scenario

Indicator	Baseline (2011)	Business as Usual	Economic Emphasis Scenario	Economic Emphasis & Moderate FP and Education Scenario	Combined Scenario
Total Population (million)	45	149	149	130	110
Population <15 (%)	44	39	39	35	28
Total fertility Rate (Number of children per woman)	5.4	3.8	3.8	3	2
Per capita GDP (USD)	514	2,513	5,871	7,316	9,018
Life expectancy at birth	57.0	65.5	65.5	67.6	69.7
Dependency ratio (Population 15-64 years divided by population <15 & 65+	0.91	0.77	0.77	0.65	0.51
Gap between population 15+ and Employment (i.e. unemployed population) - Millions	3	31	19	15	12
Capital Formation (proportion of economic growth invested in fixed assets) US$	159	704	1,608	2,036	2,594

7. Policy Options for Harnessing the Demographic Dividend in Tanzania

7.1 Accelerating the Demographic Transition

For Tanzania to create the window of opportunity for harnessing the demographic dividend, the starting point should be enhancing fertility decline. The key challenges that the country is faced with in its efforts to reduce fertility include:

- High fertility that is declining slowly
- Relatively high demand for many children
- High levels of unmet need for family planning
- Early initiation of child bearing and young age at marriage
- High school drop-out rates for girls
- High child mortality though impressive decline in the recent past

To a large extent, men especially in poor families in rural areas still play a decisive role in decision-making related to family socio-economic issues, including issues that influence the number of children a family is going to have. Yet currently, education campaigns on family planning and family planning interventions such as provision of contraception services target only women. It is important that family planning education campaigns should also target men for the success of family planning programs. Men should also be educated and encouraged to voluntarily practice contraception, such as use of condoms and undergoing vasectomy.

While commitments to FP2020 programme provides a strong policy base on which to mobilize the country and place it on an accelerated fertility decline roadmap, the country will need to decisively and enthusiastically provide political leadership, commit financial and technical resources and mobilize all key stakeholders to address the supply and demand barriers of access and use of family planning. Below are key policy and programme interventions Tanzania should adopt to accelerate fertility decline:

Key policy options for increasing contraceptive use and accelerating fertility decline to open the demographic dividend window of opportunity in Tanzania

1. Declare FP a key intervention for national development and mobilize all sectors to contribute to FP programmes
2. Ensure the FP programme is sustainable by increasing the national budget allocated for FP commodities and educational campaigns and reducing over-dependence on donors
3. Empower leaders at all levels of government and political systems to champion FP by promoting its demand in communities and enforcing accountability at resource allocation and service delivery levels
4. Strengthen health systems to improve access to quality family planning and other reproductive health services, paying particular attention to expanding method choice, provision of long-acting methods, and coverage of under-served groups like youth, underserved geographical regions, the poor, and men.
5. Strengthen community ownership and community based distribution of FP
6. Reinforce educational campaigns to generate demand for smaller families and address pervasive concerns about effects and use of contraception.
7. Legislate against early marriage and mobilize communities to maintain girls in school, with particular emphasis on universal secondary education.
8. Strengthen public-private partnership in promotion and delivery of FP services
9. Strengthen institutions responsible for coordinating population programs, including forging closer collaboration with Partners and Civil Society.

7.2 Enhancing coverage and quality of education and skill development

For Tanzania to harness the DD, its labour force needs to be well educated and have quality skills that will make the country competitive in the global market. The key challenges that the country is facing in improving the quality and competiveness of its labor force include:

- Poor quality of primary education; although the net school enrolment is high
- High school dropout rates between primary and secondary levels
- Low enrollment at tertiary level, with big gender inequities
- Mismatch between school curriculum and job market needs
- Limited opportunities for post-school skill development

Below are some of the policy options Tanzania should adopt in order to ensure that the next generation of workers are well equipped with the necessary skills to positively contribute to economic production.

Education Reforms to produce quality human capital that will be key for Tanzania to harness the demographic dividend

1. Increase budget allocation for education in order to improve the quality of facilities, expand infrastructure, and improve remuneration and retention of teachers
2. Address gender inequities at secondary and tertiary levels by addressing factors that lead to relatively low grades and other causes of school drop-out for girls
3. Reform education curriculum, training of teachers, and the entire educational system so that more focus is on skill development and innovation, with particular focus on science and technology
4. Operationalize a strategic shift from universal primary to universal secondary education and adopt policies and programs to promote and incentivize extended schooling, e.g. building more secondary schools, providing better quality instruction, raising enrolment and attainment rates among the growing youth population.
5. Develop skills specific to the country sectors of comparative advantage, particularly those that will spur industrialization need to be identified and training for the acquisition of these skills should be the focus of educational and employment programs. In this case, Tanzania should invest in skill development on natural gas, industrial minerals, and gemstones and precious metals.

7.3 Creating a Healthy Workforce

To harness the demographic dividend, Tanzania's labour force should be healthy and with good cognitive development that is promoted by adequate nutrition during early childhood. The country should have a long-term perspective in improving health outcomes so as to have a healthy workforce that will help propel the country to harness the demographic dividend. Tanzania has to invest in improving public health and general health care services for its populace. The key health challenges that the country is battling with to ensure a healthy population include:

- High levels of malnutrition for children; a major cause of poor cognitive development and health status in adulthood
- Low coverage of child survival interventions including immunization, IMCI, ITNs etc
- High prevalence of Malaria and HIV/AIDS which are key causes of low productivity in the labor force
- High levels of maternal morbidity and mortality which is a key cause of low economic productivity for women

Below are some key policy options that Tanzania should reinforce in order to have a healthy and productive labour force that will increase its chances of harnessing the demographic dividend and attain the development aspirations outlined in Vision 2025 and the BRN Initiative.

Policy options for improving the health status of the labour force in Tanzania, a key factor for increasing economic productivity and harnessing the demographic dividend

1. Increased and sustained funding for health sector, with more focus being made in areas where little progress has been made like reducing maternal mortality
2. Expand provision of maternal and child health care services particularly in rural areas in order to sustain recent gains in child health care including health promotion campaigns and community based delivery of services
3. Increase investment in health infrastructure, health work force development including deployment and retention of health personnel in hard to reach areas.
4. Promote public awareness of sexual and reproductive health and rights for adolescents, men and women including behavior change campaigns to reduce HIV/AIDS
5. Address the delivery of health services that address a growing burden of chronic and degenerative diseases.

7.4 Accelerating Economic Growth and Job Creation

In order for Tanzania to accelerate economic growth and create adequate jobs for the rapidly growing labour force, there is need to identify and enhance investments in export-oriented sectors of comparative advantage in terms of growth and employment potential. The key issues that the country needs to address to benefit from the demographic dividend include:

- Poverty levels have declined modestly, despite the sustained economic growth over the past decade
- Most people are under-employed
- Fastest growing sectors have low job multiplier effects and most jobs have been created in the low value informal sector
- High skill mismatch between what the market requires and what the education system produces

Below are some of the key policy options that Tanzania should adopt in order to harness the demographic dividend:

Policy options for accelerating economic growth and job creation – which are vital if Tanzania is to earn its demographic dividend

1. Modernize agriculture to increase productivity and enhance value addition since majority of Tanzanians are still working in agricultural sector. In addition, investment in rural roads, improvement of marketing infrastructure for agricultural produce, and development of rural financial institutions are necessary for acceleration of rural development, and reduction of poverty in rural areas.
2. Put in place policies that will promote inclusive and pro-poor growth (by targeting sectors with high employment multiplier effects e.g. agro-processing).
3. Increase investment in economic infrastructure, particularly electrification, rural roads, and urban public transport, as well as address emerging challenges of urbanization. Well-managed urbanization can be a critical engine for socioeconomic development.
4. Create conducive environment and incentives for the growth of the private sector and to attract FDI and local investment, including reforming the labor markets to make them flexible and attractive to investors.
5. Prioritize science, innovation and technology and empower youth to be agents of socio-economic change. As such, education policies should be combined with labor policies that align the stock of human capital with growth-oriented demand.
6. Tanzania should reduce the informal sector/formalize the informal sector so that participants in this, especially women and youth, benefit from formal services, e.g. credit from financial institutions, contracts, etc. Formalization will also enable their inclusion in the tax net and raise government revenue.

7.5 Fiscal policies and Governance

For Tanzania to attract more investments and enforce accountability in use of public resources and service delivery, it will need to create an enabling economic and political environment. At the moment, the country is grappling with several issues that may curtail its effort of harnessing the demographic dividend, including:

- Limited local savings and FDI
- Poor accountability in use of public resources and service delivery
- Poor economic infrastructure such as energy, transportation and communication

Below are some key policy options that Tanzania can adopt in order to improve governance and accountability, which will help the country harness the demographic dividend:

Policy Options for enhancing governance and accountability, which is critical to attract and enhance investments for building human capital and accelerating economic growth and job creation

1. Increase governance and accountability in extraction of natural resources and management of government revenue from the extractive sector to avoid the "natural resource curse" observed in many other African countries. This should involve avoiding being over-dependent on mining and mineral resources.
2. Walk the talk on zero-tolerance to corruption and strengthen M&E of anti-corruption interventions and promote a culture of openness, ethics and transparency. This should also include addressing weaknesses in the anti-corruption legislative framework, in particular address the issue of appointment and reporting of chief executive officers of the anti-corruption institutions.
3. Support development and operations of advocacy CSOs that demand and foster culture of openness, ethics and transparency in use of public resources.
4. Enforce conducive policies and effective governance of labor market. Tanzania should adopt regulations which create a flexible job market in order to facilitate the incorporation of this large labor force into growing sectors of the economy, e.g. mining sector, tourism, natural gas, etc. Flexible labor market requires effective regulatory oversight to ensure occupational safety, and gender-neutral hiring practices.
5. Tanzania should adopt policies and laws, which empower women. Empowering women leads to reductions in the dominance of husbands (or other household members) over women, reduce the societal preference for male offspring, reduce the value of children as insurance against adversity, and secure women's positions in families.

8. Discussion and Conclusion

Tanzania's long-term development blueprint, the Vision 2025, seek to graduate the country from a least developed country to a middle-income country with high level of human development by the 2025. The vision aims at transforming the economy from a low productivity agricultural economy to a semi-industrialized one, with modernized and highly productive agricultural activities that are effectively integrated into supportive industrial and service activities. Recent evaluations of the Vision 2025 framework show that implementation of the vision has been very weak and it is unlikely that the country will achieve the development ideals and targets outlines in the vision if decisive action is not taken to break away from the business as usual culture of doing things. For example, Vision 2025 document does not specifically highlight population growth and high child dependency ratio as key challenges for development factors for development.

The Big Results Now initiative has been conceptualized to address some of the bottlenecks that undermined implementation of Vision 2025. The initiative seeks to identify key projects and sectors that have the great potential in accelerating economic growth and poverty alleviation. The initiative is modeled on the development path that Malaysia, one of the Asian Tigers, followed. However, the BRN initiative and other development blueprints such as the V2025 tend to focus mostly on the economic aspects of the development path that countries like Malaysia followed and they understate or overlook the important role of investments that the Asian Tigers made in facilitating decline in fertility, general empowerment of women, and education.

Tanzania's economy has grown impressively at an average of 7% per year over the past decade. However, the economic growth has not resulted in big gains in poverty reduction because the growth is mostly driven by the service and extractive sectors that do not create many quality jobs. Nevertheless, the economic outlook for Tanzania looks reasonably bright. The country has discovered massive mineral resources over the past decade, and if financial proceeds from the extractive industry are used prudently, the country can have substantial revenue to invest in development of human capital and physical economic infrastructure. The growing emphasis on regional economic integration will also open massive opportunities for enhancing trade and economic growth for the country.

The past and current high levels of fertility in the midst of steadily declining child mortality rates have created a youthful population with a high child dependency burden in Tanzania. As noted in the 2006 National Population Policy, rapid population growth and the high dependency burden are key factors that undermine socioeconomic development in Tanzania. Nevertheless, these demographic dynamics can be turned into a valuable demographic dividend that can boost the country's chances of graduating into a middle-income status as envisaged in Vision 2025 and BRN initiative if the country follows appropriate policies and

investments as Malaysia and other Asian Tigers did. For the country to harness the demographic dividend, it should adopt a people centered integrated development framework that simultaneously allows all the five wheels of the demographic dividend move and reinforce each other.

The analyses presented in this study show that Tanzania can harness a sizable demographic dividend if it adopts policies and prioritize investments aimed at creating a globally competitive economy that would accelerate economic growth and job creation on the one hand, and accelerated reduction in fertility through voluntary and rights based interventions and education, on the other hand. Prioritizing economic reforms to the level where Malaysia is now would increase the Tanzania's per capita GDP from the 2010 level of US$ 514 to USD 5,806. If the country embarks on moderate investments in family planning and education (that lead to 3 births per woman), it would earn a demographic dividend of USD 1,429 per person, increasing per capita GDP to USD 7,235.

If Tanzania unleashes its full potential and prioritize reforms and investments in both economic, demographic and human capital development (bringing down its average fertility level to 2.0, the level that Malaysia and other Asian Tigers have attained), it would harness a demographic dividend of USD 3,111, leading to a per capita GDP of USD 8,917. The model that prioritizes both economic reforms which promote 'inclusive' growth and investments in family planning and education is more likely to maximize Tanzania gains in terms of economic growth and poverty reduction, and thus moving Tanzania closer to the attainment of the Tanzania Development Vision 2025 targets and the BRN Initiative ideals.

A starting point is to facilitate voluntary decline in fertility by enabling all sexually active women and men who would like to postpone and stop childbearing have effective contraceptive methods to realize their reproductive goals. The fertility decline will reduce the high child dependency ratio and create a labour force bulge, which can accelerate economic productivity and growth if the labour force is gainfully employed.

Reduced fertility will enable women to have more time to work and contribute to economic productivity, while at the same time enabling families and governments to increase in investments in education and health per child, which will help build high quality human capital in future. If Tanzania reforms its education system to ensure universal enrolment at secondary and tertiary levels and that the education system produces well skilled, industrious, and innovative graduates, the country will have local expertise to steer the growth of its industrial sector, which is key for mass job creation.

Continuing to invest in the health sector will also ensure that the country has a healthy labour force that will live longer and contribute to more development. Acceleration of economic growth by paying particular attention to development of sectors with high growth and job

creation potential will be very critical for the country to develop. However, as the results of this analysis has shown, exclusive focus on economic reforms and investments won't be enough for the country to decisively reduce poverty and attain the socioeconomic transformation and middle-income status envisaged in Vision 2025 and BRN initiative.

In conclusion, for Tanzania to achieve the level of development achieved by Malaysia by 2050, the country will have to prioritize concurrent investments in economic factors and social factors, particularly family planning and education. That is precisely what Malaysia and other Asian Tigers did over a forty-year period between 1970 and 2010. All along, Tanzania has been giving top priority to economic policies in a bid to accelerate economic growth and reduce poverty while FP and education have received marginal attention. This should change if Tanzania is to harness the demographic dividend and enhance its development prospects. The country is well placed to emulate the development miracle that Asian Tigers achieved. Further enhancement of the impressive economic growth the country has achieved over the past decade, improving governance and optimizing accountability in use of the country's immense natural resources, and simultaneously walking the talk on its FP2020 and education commitments will give Tanzania the best chance of braking its development shackles and transforming into a middle income country in the next four decades.

References

African Development Bank Group (AfDB), OECD Development Centre, and United Nations Development Programme (UNDP) (2014). *African Economic Outlook 2014: Global Value Chains and Africa's Industrialisation*.

African Institute for Development policy (AFIDEP) (2013). *Assessment of Drivers of Progress in Increasing Contraceptive use in sub-Saharan Africa: Case Studies from Eastern and Southern Africa.* Nairobi, Kenya.

African Institute for Development Policy (AFIDEP) and Venture Strategies for Health and Development (VSHSD) (2012). *Demographic Momentun Graphs*. Berkeley.

Bloom D., and J. Williamson (1998). *Demographic Transitions and Economic Miracles in Emerging Asia*. The World Bank Economic Review 12(3): 419-455.

Bloom D., D. Canning, and J. Sevilla (2003). *The Demographic Dividend- A New Perspective on the Economic Consequences of Population Change.* Santa Monica, CA: Rand.

Fortney J.A., Smith J.B. (1996). *The Base of the Iceberg: Prevalence and Perceptions of Maternal Morbidity in Four Developing Countries*. Research Triangle Park, North Carolina, Family Health International.

Gill K., R. Pande, and A. Malhotra (2007). *Women deliver for development*. The Lancet; 370(9595): 1347-1357.

Jowett M. (2000). *Safe Motherhood interventions in low income countries: an economic justification and evidence of cost-effectiveness*. Health Policy 53(3):201-28.

Mason, A. (2005). *Demographic transition and demographic dividend in developed and developing countries*. United Nations Expert Group Meeting on Social and Economic Implications of Changing population age structures (Mexico City).

Mason, A., Ed. (2001). *Population change and economic development in East Asia: challenges met, opportunities seized.* Contemporary Issues in Asia and the Pacific. Stanford, Stanford University Press.

Mduma, J.K. (2006). *Rural Off-Farm Employment and Its Effects On Adoption Of Labor Intensive Soil Conserving Measures In Tanzania*. Peter Lang, Frankfurt.

Mduma, JK. (2014). *Poverty-Environment Report: Relevance and Effectiveness of Poverty and Environment Indicators From MKUKUTA II And FYDP Monitoring Systems*. A report submitted to United Nations Environmental Programme (UNEP), Nairobi.

Moreland, S., E.L. Madsen, B. Kuang, M. Hamilton and P. Brodish. (2014). *The DemDiv Model: Technical Guide and Users' Manual.* Washington, DC: Futures Group, Health Policy Project

Moyo, M., R. Simson, A. Jacob and F-X., de Mevius (2012). *Attaining middle Income Status; Tanzania: Growth and Structural Transformation Required to Reach Middle Income Status by 2025*. Working paper 11/1109, International Growth Centre-Tanzania.

National Bureau of Statistics (NBS) (2007). *Analytical Report for Integrated Labour Force Survey 2006*. Dar-es-Salaam, Tanzania

National Bureau of Statistics (NBS) (2012). *Statistical Abstract 2011*. Ministry of Finance. Dar-es-Salaam, Tanzania

National Bureau of Statistics (NBS) [Tanzania] and ICF Macro. (2011). *Tanzania Demographic and Health Survey 2010*. Dar es Salaam, Tanzania: NBS and ICF Macro.

National Bureau of Statistics, Dar es Salaam and Office of Chief Government Statistician, Zanzibar (2013). *2012 Population and Housing Census (PHC): Population Distribution by Age and Sex.* Dare salaam, Tanzania

National Institute of Statistics of Rwanda (NISR) [Rwanda], Ministry of Health (MOH) [Rwanda], and ICF International. 2012*. Rwanda Demographic and Health Survey 2010*. Calverton, Maryland, USA: NISR, MOH, and ICF International.

Palmer, Robert. (2008). *Skills and productivity in the informal economy; International Labour Office, Skills and Employability Department*. Geneva: ILO Employment Sector working paper no. 5.

Pelletier, D., L. and Frongillo, E., A. (2003). *Changes in Child Survival Are Strongly Associated with Changes in Malnutrition in Developing Countries.* The journal of Nutrition; 133(1): 107-119.

Population Reference Bureau (PRB), (2013). *Harnessing the Demographic Dividend: A PRB ENGAGE Presentation.* Washington, DC.

Ronsmans, C & Graham, WJ. 2006. *Maternal mortality: who, when, where, and why*. Lancet; 368(9542): 1189-1200.

Tanzania Commission for AIDS (TACAIDS), Zanzibar AIDS Commission (ZAC), National Bureau of Statistics (NBS), Office of the Chief Government Statistician (OCGS), and ICF International (2013). *Tanzania HIV/AIDS and Malaria Indicator Survey 2011-12*. Dar es Salaam, Tanzania: TACAIDS, ZAC, NBS, OCGS, and ICF International.

Tey Nai Peng, Sor Tho Ng, and Siew Yong Yew, (2012). *Proximate Determinants of fertility in Peninsular Malaysia*. Asia Pacific Journal of Public Health; 24:295-505.

United Nations Human Settlements Programme (UN-HABITAT) (2010). *State of the World's Cities 2010/2011: Bridging The Urban Divide.* Earthscan: Nairobi.

United Nations Human Settlements Programme (UN-HABITAT), World Urban Forum (2012). *State of the World's Cities Report 2012/2013: Prosperity of Cities.* Nairobi, Kenya.

United Nations Population Division (2012). *World Population Prospects—the 2012 Revision.* New York: United Nations Population Division.

United Nations Population Division (UNDP) (2014). *World Urbanization Prospects, The 2014 Revision.* Department of Economic and Social affairs, Population Division, New York: United Nations

United Republic of Tanzania (URT) (2006). *The 2006 National Population Policy*. Ministry of Planning and Economic Empowerment, Dar es Salaam

United Republic of Tanzania (URT) (2008). *National Employment Policy 2008*. Ministry of Labour, Employment and Youth Development, Dar-es–Salaam, Tanzania.

United Republic of Tanzania (URT) (2011). *Review of the Tanzanian Development Vision 2025, Volume I: Main Report.* President's Office Planning Commission (POPC), Dar-es–Salaam, Tanzania.

United Republic of Tanzania (URT) (2012). *Poverty and Human Development Report 2011.* Ministry of Finance, Dar es Salaam

United Republic of Tanzania (URT) (2013). *MKUKUTA Annual Implementation Report (MAIR) 2012/13), Accounting for results.* Ministry of Finance. Dar-es–Salaam, Tanzania

Uwezo Tanzania. (2011). *Are our children learning? Annual learning assessment report 2011*. Dar es Salaam: Uwezo.

World Bank (2014). *2014 World Development Indicators*. Washington, DC: The World Bank.

APPENDIX

Variables used in the DemDiv Model Dividend

POLICY AREA/INDICATOR	DESCRIPTION OF INDICATOR/VARIABLE	EFFECTS ON DEMOGRAPHIC DIVIDEND
Demographic Model		
1. Family Planning	Contraceptive prevalence rate (proportion of women using modern contraception)	Reduces unplanned births and overall fertility; reduces child dependency ratio
		Improves maternal and child health by reducing high-risk births; improves overall health of the labour force
2. Period of postpartum infecundability	Duration (in months) after giving birth when women are not ovulating, and therefore not susceptible to conception, due to breastfeeding and/or postpartum sexual abstinence	Longer periods of postpartum sexual abstinence lower fertility, especially in population where contraceptive use is low in the postpartum period.
3. Sterility	The proportion of women who are not able to have children by the time they reach the end of their childbearing span (measured as the proportion of women aged 45-49 who are childless)	High levels of sterility can reduce fertility. This indicator is not likely to change that much, and does not have a big impact on fertility, except in contexts with high levels of sexually transmitted infections
4. Education	Number of years of schooling	Delays marriage and start of childbearing; lowers fertility
		Improves health seeking behavior and key for having a healthy workforce
		Improves skills, innovation and overall productivity of workers
Economic Model		
5. Labour Market Flexibility	Measurement (on a scale of 1-7) of labour market flexibility, including factors such as labour-employer relations, wage flexibility, hiring and firing practices and effects of taxation.	Policies and reforms in the labour market help attract FDI and crate an enabling environment for optimizing productivity of the labour force

6. Information and Communication Technologies (ICT) Use	Measurement (on a scale of 1-7) of use and capacity of Internet and mobile phone infrastructure	ICT use is critical for enhancing innovation, productivity of the labour force, industrial growth and overall competitiveness that is key for attracting FDI
7. Financial Market Efficiency	Measurement (on a scale of 1-7) of efficiency of financial markets, including factors such as availability and affordability of financial services, financing through local equity market, ease of access to loans and venture capital availability.	Efficiency of financial markets facilitates movement of funds and investments and promotes investments by local and foreign investors.
8. Imports as a percentage of GDP	Measurement (on a scale of 1- 7) of imports as percent of GDP. Total imports refer to the sum of total imports of merchandise and commercial services. The percentage is log-transformed. To make aggregation possible, the variable is converted to a 1-7 point scale. A min-max transformation is applied, which preserves the order of, and the relative distance between, country scores	As economies advance, they specialize in industries and sectors where they have a comparative advantage and import products that they are not well placed to produce. At the early stages of economic transformation and industrialization, level of imports increases and falls and this may fall as developing countries develop capacity to produce a lot of the products that they import.
Governance and Accountability		
9. Public Institutions	Measurement (on a scale of 1-7) of public institution strength, including factors such as property rights, division of powers, corruption, regulatory burdens, transparency, waste in government spending and public safety.	Strong public institutions help enforce accountability in use of public resources, service delivery, and protection of public and private property and investments and in ensuring public safety, all key ingredients for promoting investments and economic productivity.

University of Dar es Salaam
Department of Economics
P.O. Box 3045 Dar Es Salaam
Email: doe@udsm.ac.tz
Tel: +255 22 241 0252

African Institute for Development Policy
Bridging Development Research, Policy and Practice
2nd flr Royal Offices | Mogotio Road off Chiromo Lane, Westlands | Nairobi, Kenya | **T:** +254 20 2039510 **M:** +254 716 020589; +254 735 249 4999
www.afidep.org | info@afidep.org