



# RAPID

Population and  
Development

MALAWI



# RAPID

## Population and Development

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## Acknowledgements

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The data presented in this book were collected and vetted with technical teams from various government, donor, and civil society institutions in Malawi—including the Ministry of Education, Science and Technology; Ministry of Agriculture; Ministry of Youth and Sports; United Nations Joint Programme on HIV/AIDS; United Nations Children’s Fund; Malawian National AIDS Commission; the University of Malawi: Chancellor College, Department of Population Studies, and several stakeholders representing the Sexual and Reproductive Health Technical Working Group.

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## Executive Summary

The Government of Malawi is committed to economic growth and development and the improvement of health. Malawi aspires to become a “democratically mature, environmentally sustainable, self-reliant [nation] with equal opportunities for and active participation by all, having social services, vibrant cultural and religious values and being a technologically driven middle-income country” (SDNP, 2009) by the year 2020. Two key frameworks guide Malawi’s development towards this vision: the Malawi Growth and Development Strategy (MGDS) 2006–2011 and the Millennium Development Goals (MDGs). The MGDS aims to reduce poverty through sustainable economic growth and infrastructure development. In line with this strategy is Malawi’s commitment to meet the MDGs by 2015. The rapid pace of population growth in Malawi can hinder current and future progress in national economic growth, development, and health. The population increased by 32 per cent in a single decade (from 1998 to 2008). This rapid growth has substantial present and future consequences for the social and economic sectors.

The Ministry of Finance and Development Planning is instrumental in the implementation of the MGDS and has a vested interest in understanding how population factors can affect the execution of sectoral strategies. The Population Unit within the Ministry of Finance and Development Planning provides necessary technical input and collaborates with planning units to ensure the integration of population variables into development plans. Additionally, the Population Unit advocates population issues to create awareness among various government decisionmakers and sectors of development.

This briefing book aims to raise awareness about the impact of rapid population growth on Malawi’s development. It includes projections of population growth from 2008 to 2040 based on two hypothetical population scenarios. One scenario assumes that women in Malawi will continue to have 5.7 children on average during their lifetime, while the other scenario assumes a gradual decline in fertility to three children per woman. Both scenarios take into account the effect of AIDS-related deaths. The first scenario with continued high fertility shows the population growing from about 13 million people in 2008 to 38 million people in 2040. By contrast, the second scenario with lower fertility shows an increase from about 13 million people to 30 million. By 2040, Malawi would have over 8 million fewer people if women were to have three children instead of nearly six.

These projections demonstrate the impact that rapid population growth can have on various sectors, such as education, health, agriculture and food security, environment and land use, and the labour force and employment. In the case of education and health, a slower population growth rate results in less pressure on the government budget to provide free primary education and public health services. The government could save K116 billion (US\$751 million) in education and K226 billion (US\$1.5 billion) in health over a 30-year period. Additionally, pressure on the government to provide food subsidies or to subsidise maize seeds and production would decrease. Slower population growth would also lessen land pressure and alleviate some of the environmental consequences due to overexploitation, deforestation, erosion, and loss of soil fertility. Lastly, rapid population growth affects Malawi’s ability to become a technologically driven middle-income country, as there is not enough employment for the millions of youth who will be entering the labour force in the coming decades. If nothing is done to slow population growth, the consequences on social and economic sectors and the burden on the government are substantial.

Malawi is in a position to influence its population growth rate because of the government’s demonstrated commitment to increasing access to family planning for women and men throughout the country. Improving access and uptake of contraceptives will lead to slower population growth. The Government of Malawi will have increased funds available to provide free primary education, a reliable public health system, and more employment opportunities for a smaller population. In turn, Malawi will have more opportunity to achieve economic growth and middle-income status.

## Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
CPR	Contraceptive Prevalence Rate
DHS	Demographic and Health Survey
EHP	Essential Health Package
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
IMR	Infant Mortality Rate
MDER	Minimum Dietary Energy Requirement
MDG	Millennium Development Goal
MDHS	Malawi Demographic and Health Survey
MGDS	Malawi Growth and Development Strategy
MK	Malawian Kwacha
MMR	Maternal Mortality Ratio
MOH	Ministry of Health
NSO	National Statistical Office
SDNP	Sustainable Development Network Programme
SWAp	Sector Wide Approach
TFR	Total Fertility Rate
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
WHO	World Health Organisation
WHOSIS	World Health Organisation Statistical Information System

## I. Introduction

The Ministry of Finance and Development Planning is instrumental in the implementation of the Malawi Growth Development Strategy (MGDS) and has a vested interest in how population factors can affect the execution of sectoral strategies. The Population Unit within the Ministry of Finance and Development Planning provides necessary technical input and collaborates with planning units to ensure the integration of population variables into development plans. Additionally, the Population Unit advocates population issues to create awareness among various government decisionmakers and sectors of development.

This briefing book describes how rapid population growth can affect Malawi's social and economic goals and strategies during the next three decades. It also explains how slower population growth can ease impediments to socio-economic development. It accompanies a PowerPoint presentation that summarises the information in this book. The results of the 2008 Population and Housing Census estimate the population of Malawi at 13,077,160 people. The population increased by 32 per cent from 1998 to 2008, representing an annual growth rate of 2.8 per cent (NSO, 2008). This reflects the current total fertility rate (TFR) of 5.7 births per woman (NSO and ORC Macro, 2011). If this fertility rate remains constant, the population of Malawi will reach approximately 38 million by 2040. To show the impact of rapid population growth on Malawi's development goals, the briefing book reviews the national frameworks that include long- and medium-term development goals; describes the past and current population situation; and illustrates how future rapid population growth can delay the achievement of national development goals.

This briefing book is divided into five sections:

**Framework of Growth and Development**—This section discusses the key guiding frameworks for Malawi's development and growth that are included in the MGDS 2006–2011 and the Millennium Development Goals (MDGs).

**Population Characteristics and Projections**—This section describes key demographic characteristics of the country and projected population growth under different assumptions.

**Population, Economic Development, and Poverty Reduction**—This section briefly describes the international experience and literature concerning the relationships among population, economic development, and poverty reduction.

**Impact of Rapid Population Growth on Social and Economic Development**—This section analyses how continued rapid population growth can make it more difficult for Malawi to attain its social and economic development goals. It also explores the impact of rapid population growth using two scenarios: continued high fertility and declining fertility. The effects of slower population growth are discussed in relation to education, health, the labour force and economy, agriculture, food security, and the environment.

**Policy Response**—This section describes how rapid population growth can be slowed by improving and increasing access to reproductive health services, including family planning. There is high demand for family planning among Malawian women; however, many barriers still remain in accessing services. Public policy decisions can remove these barriers.

## II. Framework of Growth and Development

The Malawi 2020 Vision was adopted in 1998 to provide a framework to implement short- and medium-term plans for development sectors. Malawi's 2020 Vision states:

*"By the Year 2020, Malawi as a God-fearing nation will be secure, democratically mature, environmentally sustainable, self-reliant with equal opportunities for and active participation by all, having social services, vibrant cultural and religious values and being a technologically driven middle-income country" (SDNP, 2009).*

Malawi's current medium-term plan for development is the MGDS 2006–2011.<sup>1</sup> This overarching strategy aims to reduce poverty through sustainable economic growth and infrastructure development. The MGDS includes five thematic components and identifies nine key priority areas within these components. The thematic components are sustainable economic growth, social protection, social development, infrastructure development, and improved governance. The key priority areas that define the direction the country intends to take to achieve economic growth and wealth creation include (1) agriculture and food security; (2) irrigation and water development; (3) transport infrastructure development; (4) energy generation and supply; (5) integrated rural development; (6) prevention and management of nutrition disorders, HIV, and AIDS; (7) youth development and empowerment; (8) climate change and environmental management; and (9) education, science, and technology.

Malawi is also committed to achieving the MDGs by 2015. These goals aim to

1. Eradicate extreme hunger and poverty
2. Achieve universal primary education
3. Promote gender equality and empowerment of women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria, and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

This overarching framework and the targets provide guidance for improved development and increased economic growth.

This briefing book describes how rapid population growth can make it more difficult to achieve the goals and targets of the framework and strategies and how slower population growth can ease the pathways to achieving the goals. The next section describes the past and current population trends and future population growth.

<sup>1</sup> At the time of publication of this briefing book, the MGDS II 2011–2016 was being drafted. It is expected that the final draft will include a subsection on population and its impacts on socio-economic development and will propose key strategies for reducing Malawi's fertility rate and managing migration.



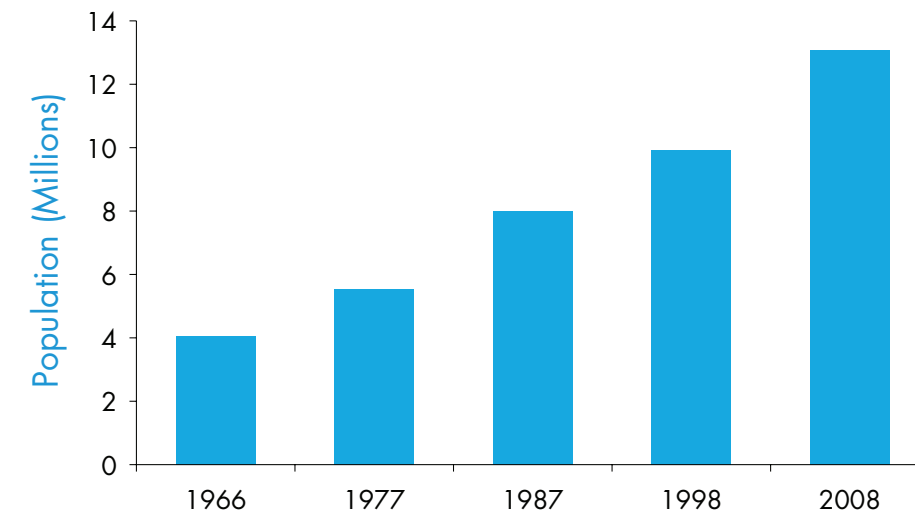
### III. Population Characteristics and Projections

This section reviews past population trends in Malawi and the current population situation. It also considers how the AIDS epidemic affects population growth. Next, it describes two scenarios regarding population growth and its impact on social and economic development. These scenarios project the estimated population by 2040, given two different assumptions about future fertility patterns.

#### Past and Current Population Trends

In the past century, Malawi's population has grown by 12 million people (from 737,153 people in 1901 to 13,077,160 people in 2008). Population growth has been especially rapid since the 1960s. Malawi's population more than tripled from about 4 million people in 1966, when the first post-independence Census was conducted, to 13 million people in 2008 (see Figure 1).

Figure 1: Malawi's population growth, 1966–2008

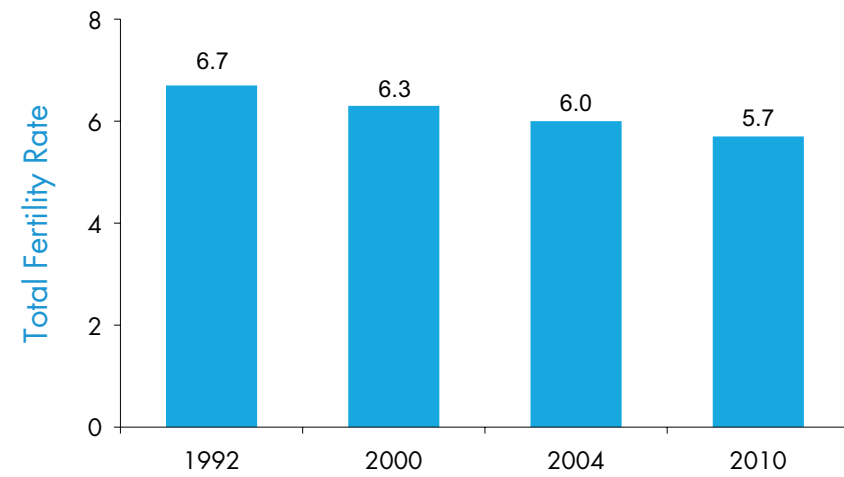


Sources: NSO, 1998, 2008.

According to the 2008 Population and Housing Census, the population growth rate from 1998 to 2008 was 2.8 per cent per year, leading to a population increase of 32 per cent in only one decade. The steady increase in population is due to continued high birth rates coupled with declining mortality rates. Mortality rates have dropped sharply as public health measures have improved. However, the TFR, the average number of births a woman has during her lifetime, has not decreased as fast, leading to rapid population growth.

In the 1990s, mortality rates for infants and children under age five were 104 and 190 deaths per 1,000 live births, respectively. By 2010, infant and child (under 5) mortality rates had decreased to 59 and 112 deaths per 1,000 live births, respectively (NSO and ORC Macro, 2011). During this period, fertility rates declined by only one per cent—from an average of 6.7 births per woman in 1992 to 5.7 births in 2010 (NSO and ORC Macro, 2011), according to data from the Malawi Demographic and Health Survey (MDHS) (see Figure 2).

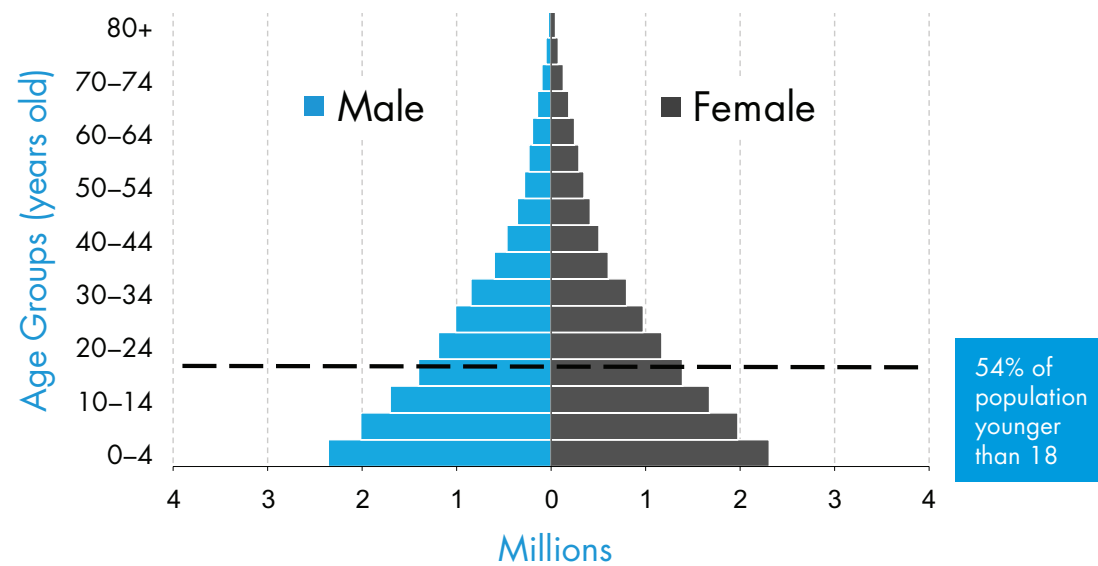
Figure 2: Total fertility rates, 1992–2010



Sources: NSO and ORC Macro, 2011.

Another population characteristic of Malawi is its young age structure. The 2008 Population and Housing Census reports that 54 per cent of the total population is younger than 18 years (see Figure 3). Such a young pattern, with large numbers of youth coming of age and marrying, has sobering implications for future population growth and development. The large number of dependent young people places a heavy economic burden on the working-age population and puts pressure on the provision of basic needs and social services. Job creation is also a concern, as there are not enough new jobs to absorb the large numbers of young people entering the labour market.

Figure 3: Age-sex structure, 2008



Sources: Futures Group and Futures Institute, 2011.

As the current cohort of young people come of age and start families, they form the basis for future population growth. Even if they have fewer children than previous generations, the sheer number of parents will contribute to rapid population growth for decades to come. Due to this population momentum, Malawi will continue to grow for the next few generations, even if average family size declines.

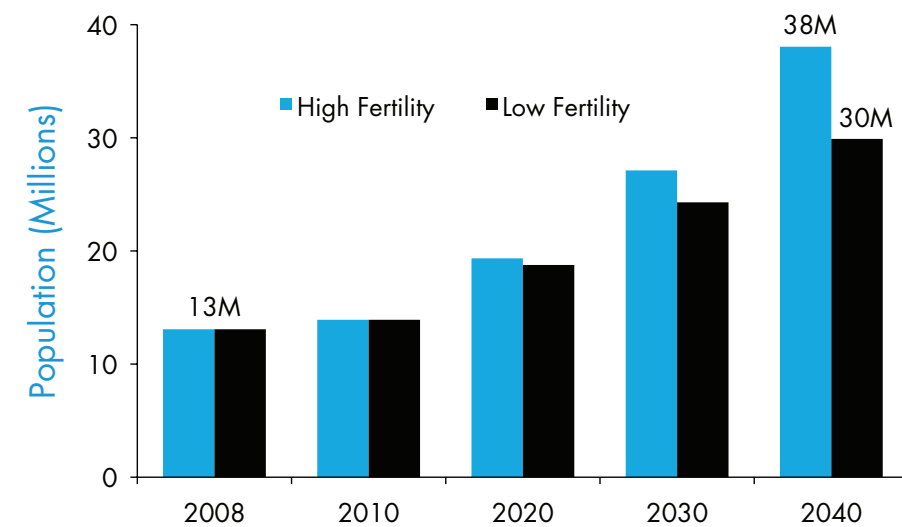
## Population Projections

Given the built-in momentum, Malawi’s population will inevitably continue to grow during the next several decades. However, a lower fertility rate during the next decade will have a powerful impact on the ultimate size of the population. Based on historical experience in the developing world, 30 years is about the minimal amount of time needed to achieve a complete transition from high to low fertility, but that also assumes considerable socio-economic development, with education and general modernisation.

This briefing book explains how alternative fertility trends affect population size. The analysis uses two population projections to contrast the impact of different fertility rates on the future size of the population. The projection period is 32 years (2008–2040). Both projections take into account the AIDS epidemic and use the same assumptions about HIV prevalence. Other demographic assumptions, such as mortality rates, are the same for both assumptions. The first projection assumes that the total fertility rate remains at 5.7 children per woman from 2008 to 2040. This projection is referred to as the “high-fertility” projection. The second projection assumes that fertility gradually decreases from 5.7 children per women in 2008 to 3.0 by 2040. This projection is referred to as the “low-fertility” projection.

In the high-fertility projection, the population of Malawi would grow from about 13 million people in 2008 to 38 million people in 2040. By contrast, in the low-fertility projection, the population would increase from about 13 million people in 2008 to 30 million in 2040 (see Figure 4). By 2040, there would be over 8 million fewer people if a fertility rate of 3.0 could be gradually achieved.

Figure 4: Future population size under two fertility assumptions, 2008–2040



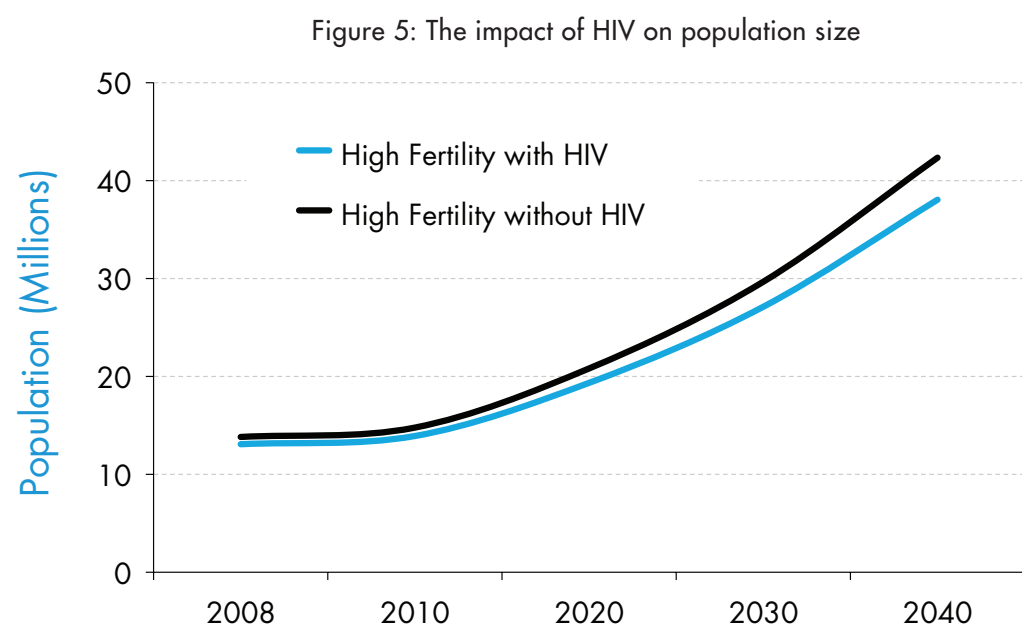
Source: Futures Group and Futures Institute, 2011.

## Impact of AIDS on Population Growth

The first case of AIDS in Malawi was diagnosed in 1985 (Office of the President and Cabinet, 2008). HIV prevalence among 15–49 year olds was estimated at 14 per cent in 2003 and 12 per cent in 2007 (Office of the President and Cabinet, 2008). Given the continued high HIV prevalence, many people believe that AIDS-related death rates counter the high population growth in Malawi.

This portion of the analysis compares two population scenarios—one without HIV and one with HIV. Both projections are for 2008 through 2040 and both use the same set of demographic assumptions, including a high fertility level (total fertility remains at 5.7) through 2040. The first projection is hypothetical and assumes that there never was an HIV epidemic. The second projection assumes HIV incidence levels remain near present levels and decrease steadily from 2030 through 2040.

In 2040, Malawi's population would be 42 million under the "Without HIV" scenario versus 38 million under the "With HIV" scenario—a difference of 4 million people, or 10 per cent of the population (see Figure 5). HIV does have an important demographic impact on the Malawian population over time. However, even with HIV prevalence continuing at a high level, the population would grow from 13 million people in 2008 to 38 million in 2040. In summary, high birth rates are much more important in determining the future population size of Malawi than are rising death rates from AIDS.



Source: Futures Group and Futures Institute, 2011.

## IV. Population, Economic Development, and Poverty Reduction

While Malawi has seen exceptional economic growth in the past decades, poverty continues to plague the country. According to the 2008 Malawi Millennium Development Report, 40 per cent of the population remains below the poverty line. This means that 5 million out of 13 million people survive on less than one U.S. dollar per day. This is an improvement since 1998, when 54 per cent of the population lived below the poverty line.

Reducing poverty is a key objective for Malawi, and this is reflected in its commitment to the MGDS and the MDGs. Malawi aims to reduce poverty through sustainable economic growth and infrastructure development. Recent analyses have summarised the state-of-the-art thinking on the relationship between population growth and economic development.<sup>2</sup> Two major messages have emerged from these studies: (1) slower population growth creates the potential to accelerate the rate of economic growth and (2) smaller family size helps to create a path out of poverty for many families. In brief, lowering the rate of population growth can be a key strategy for both macroeconomic development and alleviation of household poverty.

The "Asian Tigers"—countries that have developed rapidly since the 1960s—are prime examples of the relationship between population and development. During the early 1960s, many East Asian countries were poor, with limited resources and rapidly growing populations. Soon after that time, each country experienced a fertility transition from high to low birth rates, creating an improved population structure with large numbers of people in the workforce and fewer dependents at young (and old) ages. With lower fertility, more resources were available for education, and expenditures per student rose dramatically. This led to better educational opportunities and a better-educated labour force. The gross domestic product (GDP) per capita rose rapidly as fertility declined. A larger portion of the population was engaged in economically productive activities, resulting in increased wealth among families. As families had fewer children, they could afford to save more of their income. These savings were one source of investment capital to drive the growth of the economy—savings that were partly a result of declining birth rates.

<sup>2</sup> See, for example, Birdsall et al., 2001.

## Fertility and Household Poverty

Besides creating the potential for a faster rate of economic growth, a lower fertility rate can help many families escape poverty. According to the United Nations Population Fund (2004), smaller families can reduce household poverty in several ways:

- The clearest impact is on the health of mothers and children. Fewer and better-spaced pregnancies result in lower maternal and child death rates and sickness levels. The death or disability of mothers impede opportunities for families to escape poverty. Also, women with smaller families often have more economic opportunities, and their earnings can help families escape poverty.
- High fertility can limit educational opportunities for children in poor families, especially girls. Households rely on girls to carry out household chores, take care of younger children, and generate some income while the boys are sent to school. Low levels of educational attainment perpetuate family poverty.
- Parents of smaller families are in a better position to care for the health and nutrition of their children. Large, poor families are more subject to malnutrition, which is widespread in Malawi. For example, the 2005 MDHS found that 48 per cent of children are stunted or too short for their age. Malnutrition results in mental and physical underdevelopment, making it harder to break the poverty cycle.
- Smaller family size means that family income is shared among fewer people, so that each one has more resources available.

In Malawi, women living in the poorest households have the most children (6.8 births per woman) and the lowest rates of modern contraceptive use (34.9 per cent of married women ages 15–49). Unmet need for family planning<sup>3</sup> reflects individual, social, and environmental barriers to accessing family planning, including sheer distance from contraceptive method supplies. In Malawi, unmet need is highest among women in the poorest households (29.8 per cent). Based on these data, increasing access to family planning services by poor women is an effective strategy to alleviate poverty.

<sup>3</sup> Unmet need refers to women who would like to wait more than two years for their next pregnancy or not have any more children but are not using a method of contraception, even though they are sexually active.

## V. Impact of Rapid Population Growth on Social and Economic Development

This section explores the impact that rapid population growth has on Malawi's ability to achieve its social and economic development objectives. It examines two different population projections to show the importance of population factors in Malawi's ability to reduce poverty and improve the lives of its people.

### Education

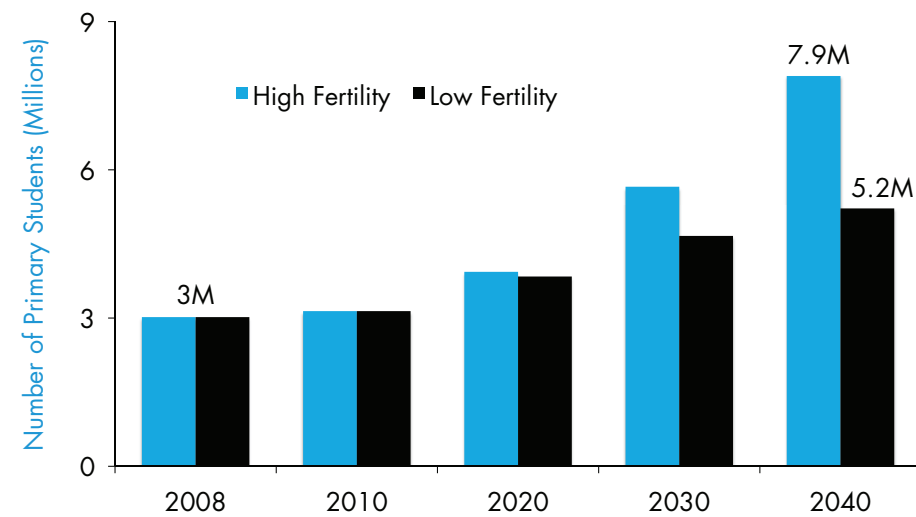
Education is identified as an important component for development in both the MGDS and in the MDGs. Achieving universal primary education is a fundamental goal for Malawi's economic growth. Primary education in Malawi encompasses Standards I through VII and is geared for children ages 6 to 13 years. While in 2008 the gross enrolment rate for primary education was 115 per cent, a much smaller proportion of children actually complete primary education and go on to secondary education. The gross enrolment rate for Standard VIII is only 51 per cent.

The Malawi National Education Sector Plan 2008–2017 identifies many challenges to improved primary education:

- Shortage of qualified primary school teachers
- Poor strategic management of teachers
- Inadequate and inferior physical infrastructure
- Poor monitoring and supervisory systems
- Poor access for children with special needs
- Poor retention of girls, mainly from Standards V to VIII
- Negative impact of HIV/AIDS
- Poor participation of school committees and their communities in school management

Public primary education is free in Malawi. Because of the large number of children enrolled in primary education, the cost to the Malawian Government is substantial. Rapid population growth impedes the government's ability to provide free universal access to education and overcome challenges identified in the National Education Sector Plan. In the high-fertility projection, the number of primary school students in Malawi would increase from 3 million in 2008 to nearly 8 million in 2040. By contrast, in the low-fertility projection, the number of primary school students would be 5.2 million in 2040 (see Figure 6). Thus, there would be 2.7 million fewer primary students in 2040 under the low-fertility scenario.

Figure 6: Primary school enrolment, 2008–2040



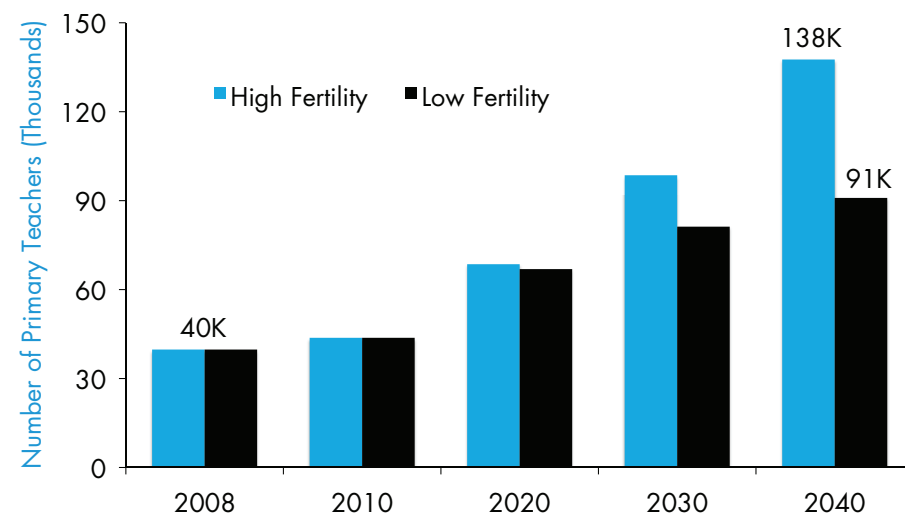
Sources: Ministry of Education, Science and Technology, 2008; Futures Group and Futures Institute, 2011.

## Primary Teachers

One of the challenges to improving primary education and motivating students to complete primary education is the shortage of qualified teachers. According to the 2007 Malawi Education Census, there were 76 students per primary school teacher (Ministry of Education, Science & Technology, 2007). The Ministry of Education aims to improve this ratio to 57 students per primary teacher by 2017.

Both projections that follow assume that the primary pupil-to-teacher ratio is 76 in 2008, falls to 57 by 2017, and then remains constant at 57.4 from 2017 to 2040. That means that it is only population growth that causes the difference in the two projections. In the high-fertility scenario, the number of required primary teachers would have to increase from 40,000 in 2008 to approximately 138,000 by 2040. Under the low-fertility scenario, however, the number of teachers needed would increase to about 91,000 (see Figure 7).

Figure 7: Primary teachers required, 2008–2040

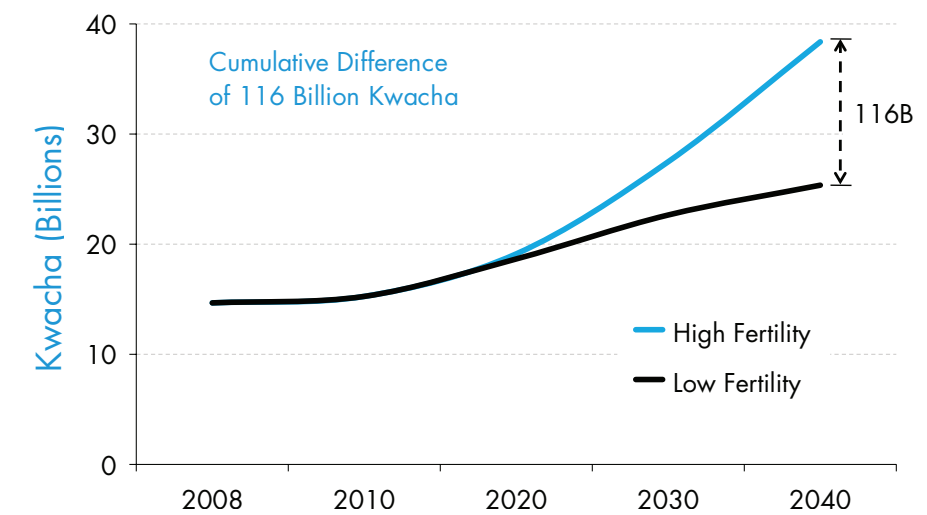


Sources: Ministry of Education, Science and Technology, 2008; Futures Group and Futures Institute, 2011.

## Expenditures on Primary Education

In 2007, Malawi spent about 4,500 Malawian Kwacha (K) or US\$32 per primary student. The following projections assume that this per capita cost remains the same from 2008 to 2040. If the total fertility rate remains high at 5.7 children per woman through 2040, primary school expenditures would reach K38 billion (US\$249 million) by 2040. With low fertility, however, the resource requirements would rise more slowly to K25 billion (US\$164 million) (see Figure 8). Over the projection period, the cumulative difference between the two projections is K116 billion (US\$751 million). These savings could be invested to improve primary education by overcoming challenges, such as the shortage of qualified teachers; the low retention of students, particularly girls; and the low levels of continuation into secondary school or vocational training.

Figure 8: Expenditures on primary school education, 2008–2040



Sources: Ministry of Education, Science and Technology, 2008; Futures Group and Futures Institute, 2011.

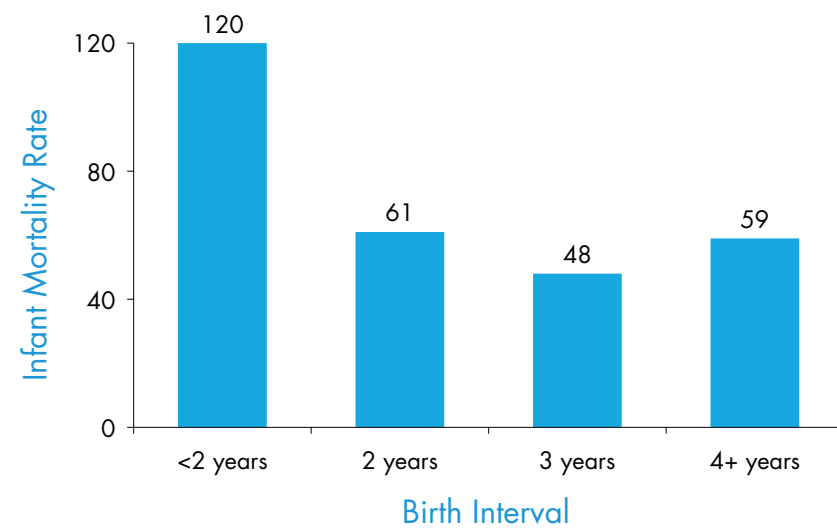
## Health

### Maternal and Infant Mortality

A healthy population is an important aspect of development and economic growth. Improving nutrition and reversing the HIV epidemic are priorities within the MGDS. Malawi is also committed to improving maternal health and reducing child mortality. Malawi has made great strides in certain aspects of health, including infant mortality. According to the 2008 Malawi Millennium Development Goals Report, the country's infant mortality rate (IMR) has been declining since 1992, when IMR was 134, and is well on track to meeting the MDG target of 45. A lower fertility rate can add to the momentum already in place.

Lower fertility contributes to reduced infant mortality rates because it is associated with longer intervals between births. As shown in Figure 9, infants spaced less than two years apart are twice as likely to die before their first birthday as those spaced two or more years apart. Birth spacing of three years or longer is especially beneficial to infant survival.

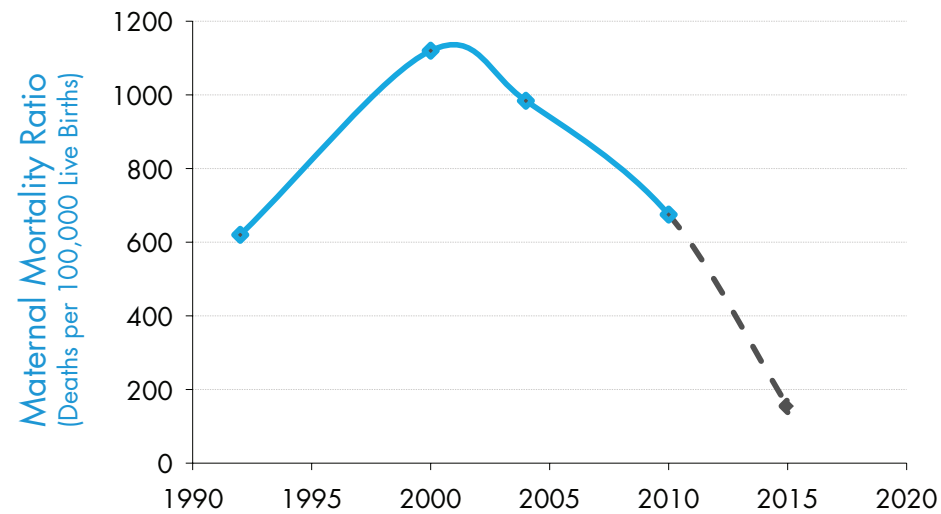
Figure 9: Effect of birth spacing on infant mortality



Source: NSO and ORC Macro, 2011.

Despite Malawi's progress in reducing infant mortality, improving maternal health remains a challenge. The MDG of improving maternal health is measured by two indicators—the maternal mortality ratio (MMR) and the proportion of births attended by skilled personnel. The MMR is the ratio of the number of deaths associated with pregnancy and childbirth per 100,000 live births. Although the MMR has declined considerably since 2000, an even steeper decline will be needed to reach the MDG target of an MMR of 155 by 2015 (see Figure 10).

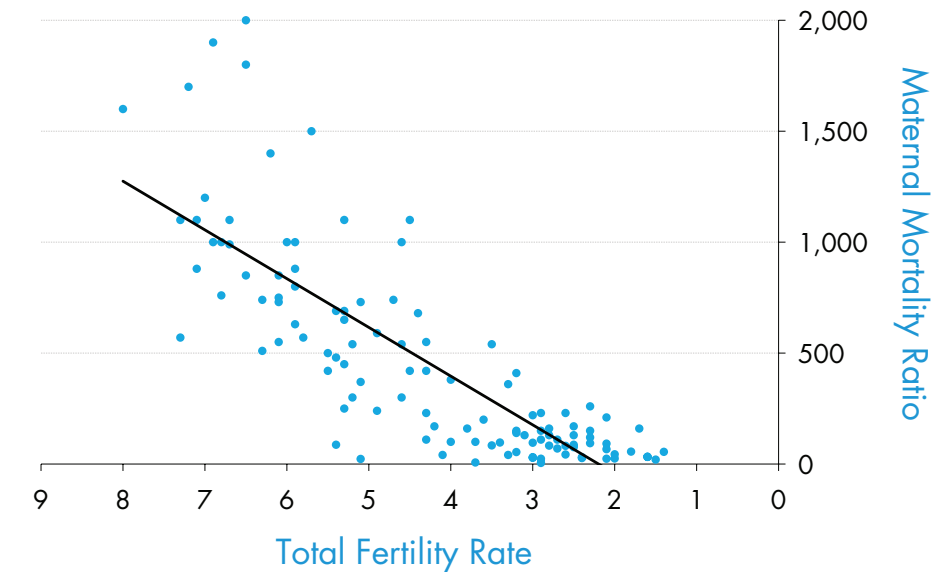
Figure 10: Maternal mortality ratio



Sources: NSO and United Nations Children's Fund, 2007; NSO and ORC Macro, 2011.

Lower fertility has been shown to reduce maternal mortality by preventing high-risk births, which include those of women who (1) are younger than 18 or older than 35, (2) already have three children and are giving birth to a fourth or later child, and (3) gave birth less than 24 months ago. Figure 11 shows the close association between lower fertility rates and lower MMRs, based on data from 115 countries.

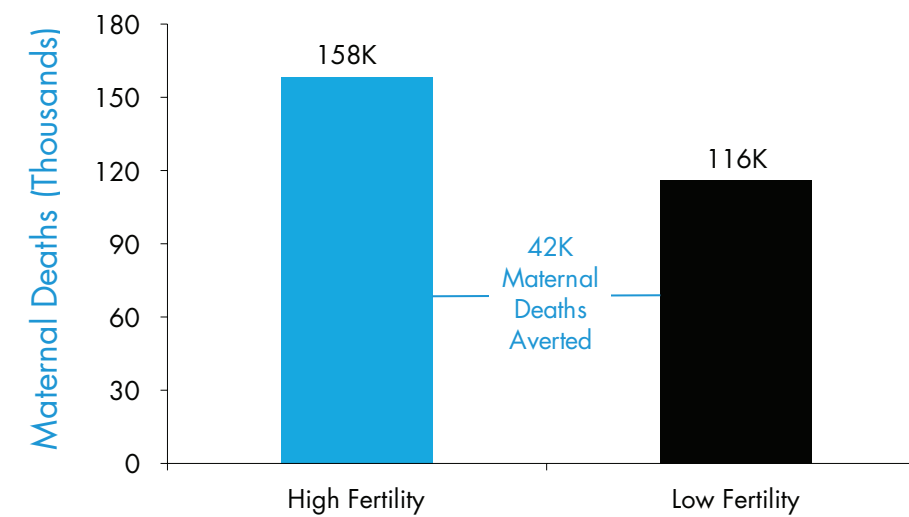
Figure 11: Maternal mortality ratio and total fertility rates in 115 countries



Source: Author's calculations using 115 Demographic and Health Surveys.

Under the low-fertility scenario, based on a gradual decline from Malawi's current average of 5.7 children per women to three children per woman by 2040, a total of nearly 42,000 maternal deaths would be averted from 2008 to 2040, compared with the deaths projected under the high-fertility scenario, which assumes continuation of the current fertility level (see Figure 12).

Figure 12: Cumulative maternal deaths averted in Malawi, 2008–2040



Sources: NSO and ORC Macro, 2011; Futures Group and Futures Institute, 2011; author's calculations.

Better antenatal care, emergency obstetric care, and postnatal care also can all contribute to improved maternal health. However, the 2008 Malawi MDG Report identifies the following challenges to achieving those advances:

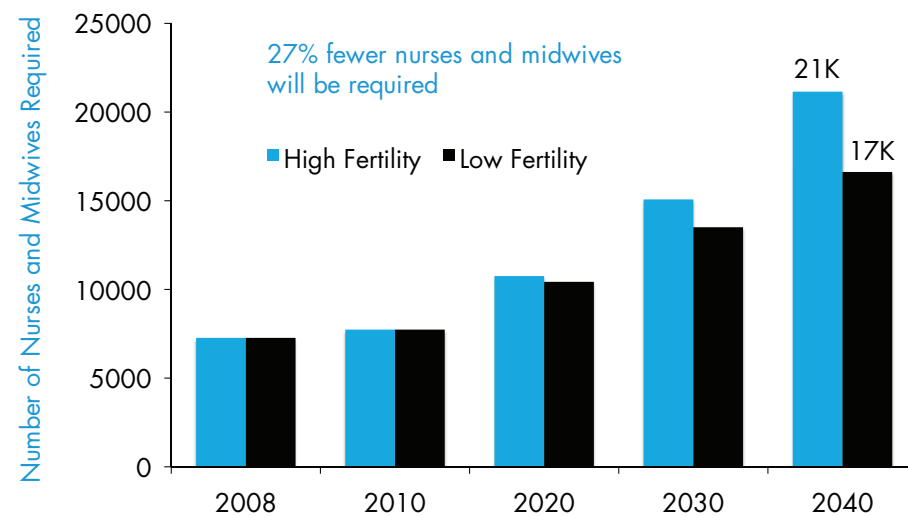
- Critical insufficiency of human resources
- Poor access to essential healthcare services
- Inadequate and poorly equipped health infrastructures and facilities
- High staff attrition
- Frequent stockouts and pilferage of basic essential drugs
- Prevalence of HIV and AIDS, tuberculosis, malaria, and other diseases
- Brain drain of health personnel
- Cultural practices that encourage early marriage, discourage use of modern contraceptives, and impede deliveries by skilled health workers (Ministry of Economic Planning and Development, 2008)

These challenges become even more formidable with an ever-larger number of women giving birth.

## Health Personnel

Rapid population growth increases the number of health personnel required to meet current health service delivery levels and thus makes it even more difficult to expand the number of healthcare providers. Already the shortage of qualified health personnel is of great concern and will get worse. According to the 2007 Malawi Health Sector Employee Census and the World Health Organisation Statistical Information System, the country had only 248 doctors, 4,450 trained nurses, and approximately 3,000 midwives in 2007. That is a serious deficit, amounting to only one nurse or midwife for every 1,799 people. Rapid population growth would make efforts to improve this ratio even more difficult. Under the high-fertility scenario, Malawi would need more than 21,100 nurses and midwives in 2040 to continue at the current level of staffing for health professionals. By contrast, under the low-fertility scenario, 16,622 nurses and midwives would be required by 2040—this is 27 per cent fewer than those needed if current fertility rates continue (see Figure 13). Note that improving the ratio of one nurse or midwife per 1,799 people will require even more nurses and midwives than shown. Therefore, a faster fertility decline is twice as important.

Figure 13: Number of nurses and midwives required, 2008–2040

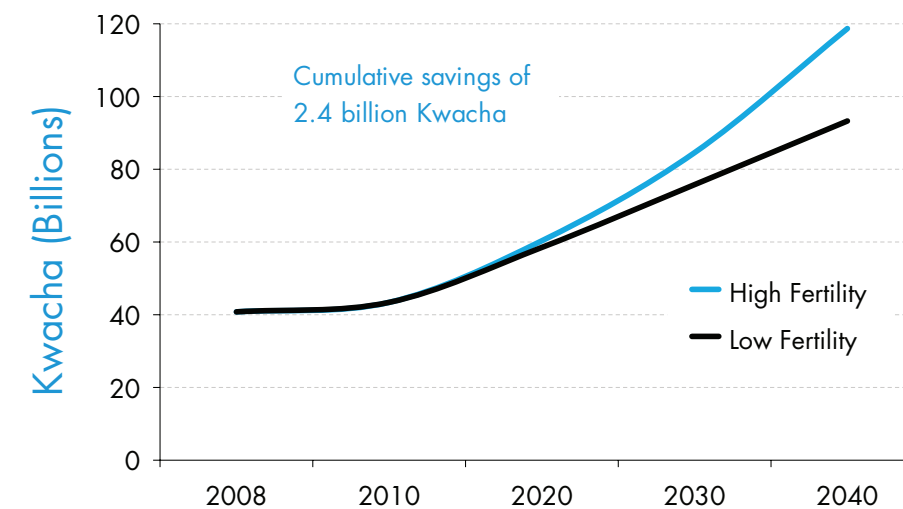


Sources: WHOSIS, 2009; Futures Group and Futures Institute, 2011.

## Annual Health Expenditures

According to the National Health Accounts for Malawi,<sup>4</sup> total expenditure on health in 2006 was K37,241 million or K2,744 (US\$20) spent per person. The projections assume that this level of expenditure per person remains constant at US\$20 per person from 2008 to 2040, so that the only influence is population growth. By 2040, with continued high fertility, Malawi will need to budget approximately K119 billion (US\$769 million) for health. By contrast, with the low-fertility projection, the figure is K93 billion (US\$604 million)—a 21 per cent saving. The cumulative savings from 2008 to 2040 amount to K226 billion (US\$1.5 billion). Figure 14 shows the recurrent annual expenditures from 2008 to 2040 based on the high- and low-fertility projections.

Figure 14: Recurrent annual health expenditures, 2008–2040



Sources: WHO, 2009; Futures Group and Futures Institute, 2011.

## Agriculture, Land Use, and Food Security

### Agriculture

Agriculture is the largest contributor to the Malawian economy. It accounts for 38 per cent of the GDP and 80 per cent of export earnings. According to the Agricultural Development Programme Support Project (World Bank, 2008), agriculture provides livelihood employment for 85 per cent of the population. Agriculture, along with food security, is a key priority area within the MGDS because of its importance in national and household food security. The level and quality of yields depend greatly on yearly rainfalls and are therefore vulnerable to weather-related shocks. Consequently, Malawi's food security is variable year to year. The MGDS aims to "increase agriculture's contribution to economic growth, by not only increasing production for food security, but also for agro-processing and manufacturing for both domestic and export markets" (Government of Malawi, 2006, p. xv).

<sup>4</sup> This information (year 2006) was the most up-to-date as of December 2011. The information comes from the National Health Accounts, retrieved on December 27, 2011, from the World Health Organisation at <http://www.who.int/nha/country/mwi/en/>.

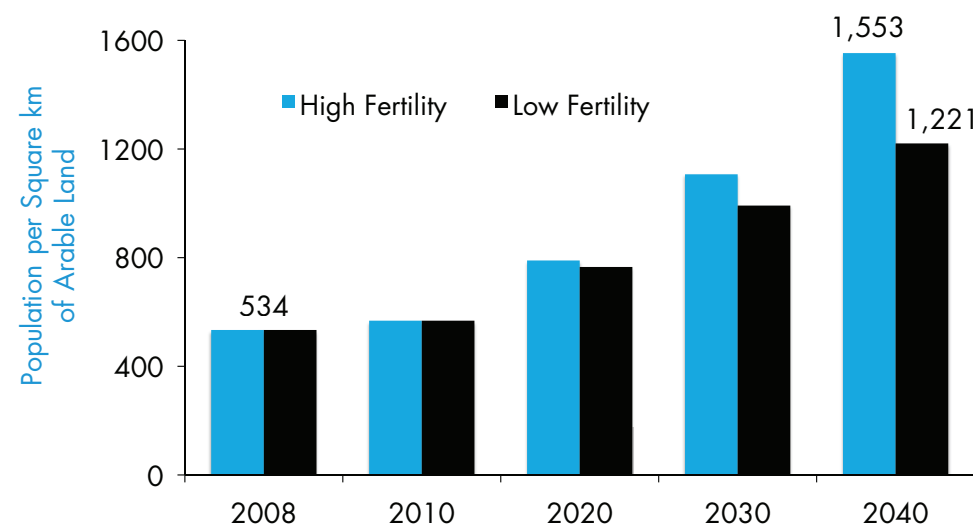
Agro-processing, or turning primary agriculture products into other commodities for the market, will enable Malawi's economy to grow. However, the rate of population growth will affect Malawi's ability to realise its agricultural and economic vision. Rapid population growth increases the number of workers needing employment in the agricultural sector, interfering with large-scale farming. It also leads to the division of plot sizes with each new generation.

## Land Use

The rapid rate of population growth works against the agricultural sector and has resulted in overexploitation, deforestation, erosion, loss of soil fertility, and lessened productivity. According to the Agricultural Development Programme Support Project, land degradation affects about 30 per cent of Malawi's population. The high population density in rural areas forces farmers to clear natural forests and cultivate food crops on steep slopes and other marginal lands. This overexploitation of land contributes to a net average loss of topsoil of 12 tons per hectare per year. Most smallholder farmers struggle to meet their subsistence needs on less than one hectare of land and seek immediate returns on crop yields rather than future gains through sustainable land management practices. Rapid population growth puts even more pressure on the already overexploited land.

Malawi's total area is 118,484 square kilometers including Lake Malawi, which takes up approximately 20 per cent of the country. Thus, the total arable land is 24,500 square kilometers. Figure 15 shows the extent to which rapid population growth will add pressure to arable land. There is a serious rise in population density under both projections. Under the high-fertility projection, there will be 1,553 persons per square kilometer of arable land by 2040, compared with 1,221 under low fertility—a 21 per cent difference. Still, even the lower figure promises a steady increase of very serious pressures.

Figure 15: Population per square kilometer of arable land



Source: Futures Group and Futures Institute, 2011.

## Food Security

A household is considered food secure when its occupants do not live in hunger or fear of starvation. According to the Integrated Household Survey 2004–05, 22 per cent of households were not able to meet their food needs. Food security is particularly difficult for the poorest households. Figure 16 shows that 68 per cent of the population in the poorest households currently do not meet the minimum dietary energy requirement (MDER).

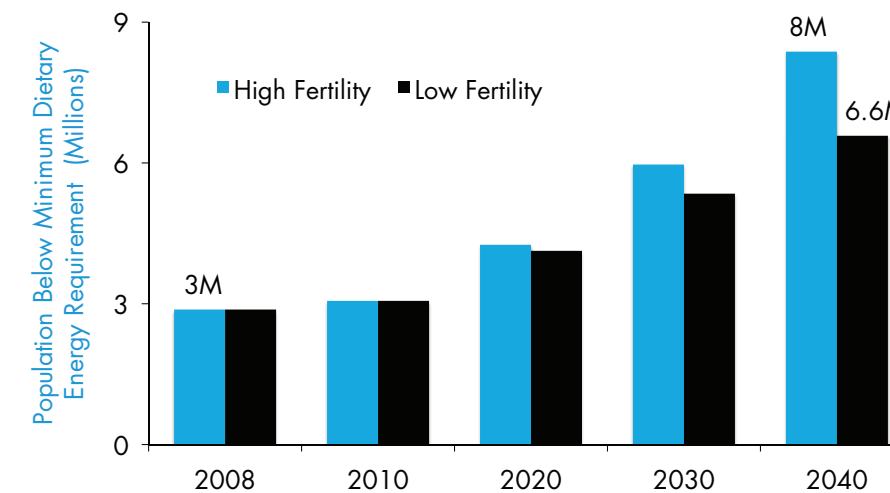
Figure 16: Per cent of population below the minimum dietary energy requirement, by wealth quintiles, 2004–2005



Source: NSO, 2005.

Figure 17 depicts the implications of the two population scenarios for food security. By 2040, with continued high fertility, there will be 8 million people unable to meet their daily food needs if 22 per cent of households are unable to meet their food needs. By contrast, with low fertility, there will be 6.5 million people unable to meet their daily food needs—a 21 per cent difference.

Figure 17: Population unable to meet the minimum dietary energy requirement

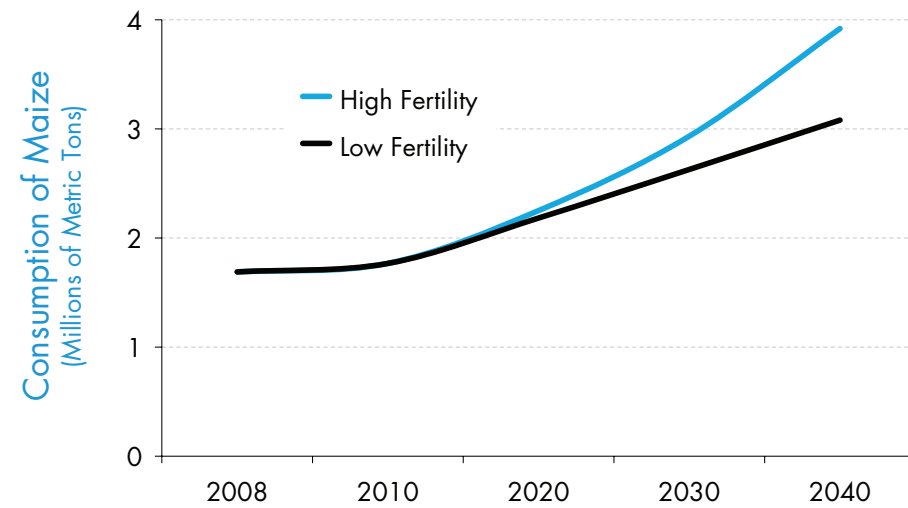


Sources: NSO, 2005; Futures Group and Futures Institute, 2011.



Maize is the most widely consumed crop in Malawi, and slower population growth has the potential to ease pressure on maize production. With continued high fertility, nearly 4 million metric tons of maize would be required to meet the demands of the population by 2040, compared with more than 3 million metric tons with low fertility (see Figure 18). The cumulative difference over the period 2008 to 2040 is 7.7 million metric tons.

Figure 18: Consumption of maize, 2008–2040



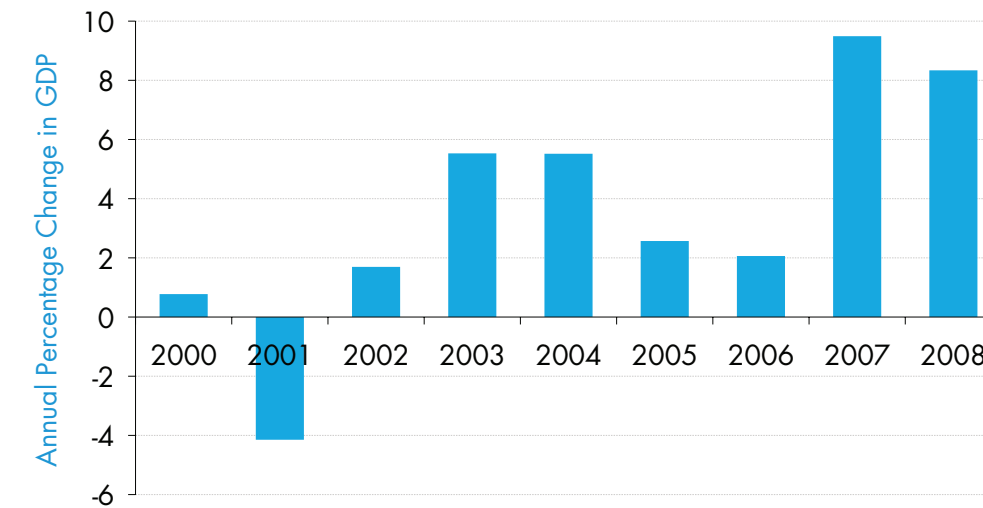
Sources: FAO, 2009; Futures Group and Futures Institute, 2011.

## Economy, Labour Force, and Employment

### Economy

In the last decade, Malawi has seen exceptional economic growth, based partly on exports of key products, including tobacco and tea. Since 1980, the GDP has grown from K1 billion (US\$1.24 billion) to K601 billion (US\$4.3 billion) in 2008. According to the World Economic Outlook Database published by the International Monetary Fund, Malawi's GDP has increased every year since 2002, with especially favorable growth rates from 2008 to 2010. Figure 19 shows the fluctuation in the annual percentage change in GDP.

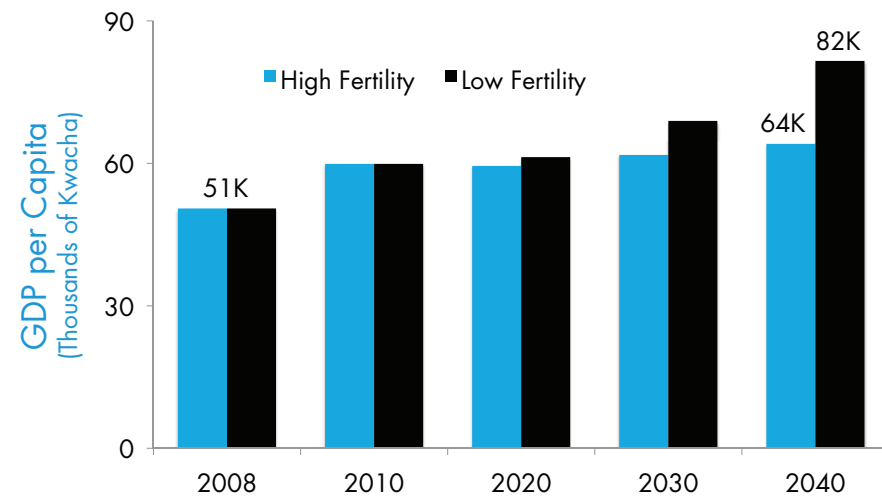
Figure 19: Gross domestic product annual percentage change, 2000–2008



Source: International Monetary Fund, 2011.

The recent growth in GDP can help Malawi to move out of poverty, but the population factor will affect economic growth. Figure 20 shows how GDP per capita increases with low fertility, mainly because the population denominator grows more slowly. In addition, a lower birth rate means that more resources can be shifted from consumption to investment, and that helps the economy to grow faster.

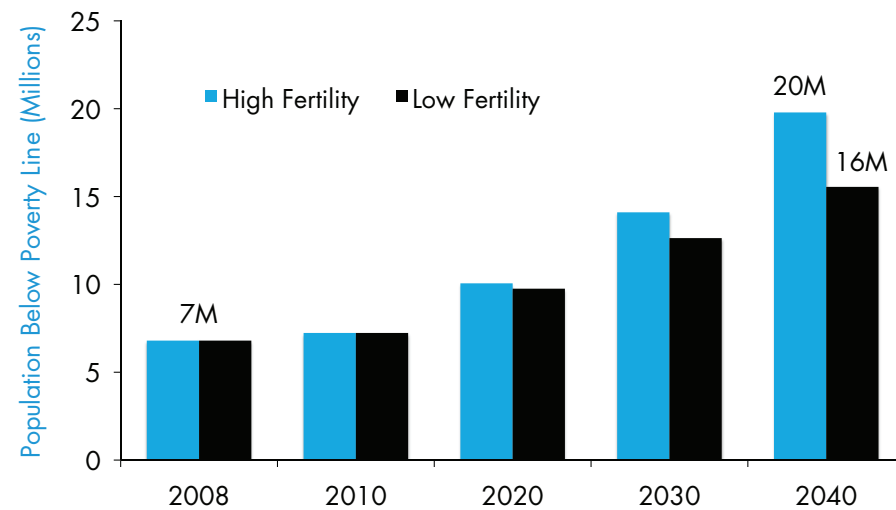
Figure 20: Gross domestic product per capita, 2008–2040



Sources: Futures Group and Futures Institute, 2011; authors' calculations.

According to the Integrated Household Survey 2004–05 for Malawi, 52 per cent of the population was below the poverty line. This is equivalent in 2008 to nearly 7 million living below the poverty line. If poverty levels and fertility were to remain constant in future decades, there would be nearly 20 million people living below the poverty line in 2040. By contrast, with low fertility, there would be 16 million people living below the poverty in 2040—a 21 per cent reduction (see Figure 21). Even 16 million, however, is a tragedy, which will be less if fertility falls even faster or if there are significant economic advances per capita.

Figure 21: Population below the poverty line



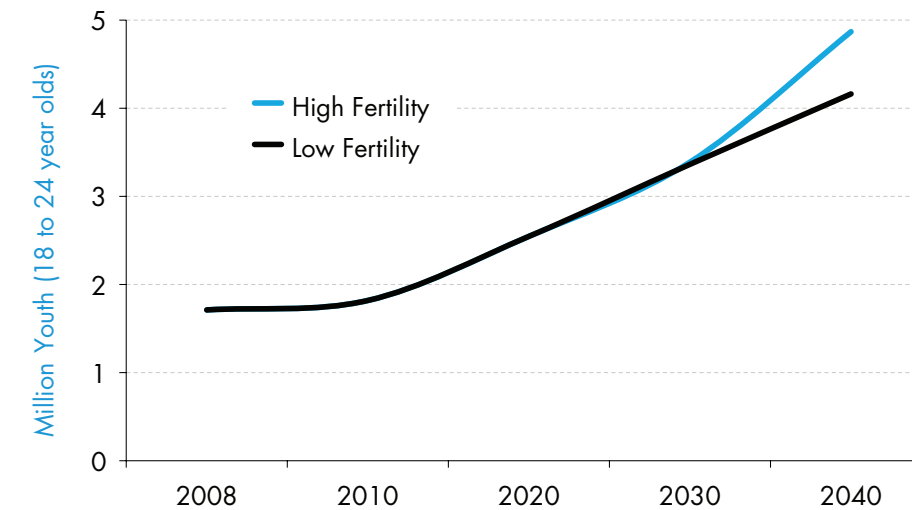
Sources: Futures Group and Futures Institute, 2011; authors' calculations.

## Labour Force and Employment

Malawi's economy is based on agriculture, including its ability to export tobacco, tea, and other products. The country's heavy reliance on tobacco makes its economy vulnerable as world prices for tobacco fluctuate and international pressure to limit tobacco production increases. Export prices are vital to the economy, as 80 per cent of the workforce is employed in agriculture. While Malawi's economy has been thriving, many factors—such as overreliance on a single crop, overexploitation and erosion of land, and a rapidly growing population—will endanger the future.

Over the next three decades, millions of young people will enter the labour force. Most of the new labour force entrants for the next two decades already have been born. The major differences in employment demand (measured by the number of youth ages 18–24) will begin to emerge in 2030 (see Figure 22). With continued high fertility, in 2040, there will be a total of 4.9 million 18 to 24 year olds entering the labour market. By contrast, with low fertility, there would be 4.2 million new entrants—15 per cent fewer. Job requirements for these young labour force participants will be substantial and will add pressures on the overexploitation and erosion of land. Many of those who move to urban areas will face unemployment and underemployment.

Figure 22: New labour force entrants



Source: Futures Group and Futures Institute, 2011.

## VI. Policy Response

### The Future Population

Even if fertility rates decline over the next decade, Malawi's population will continue to grow substantially due to "momentum"—the built-in growth due to the large number of couples of childbearing age—an "echo" of past high fertility. Even so, future fertility declines will slow population growth. That will help the country to move towards its long-term vision by 2020 and make progress on the MGDS 2006–2011 and the MDGs.

To repeat: the national population grew by 32 per cent in just one decade (from 1998 to 2008). Despite the AIDS epidemic, the population continues to grow rapidly; there are far more surviving births than deaths, which is reflected in the young age of the population. If the fertility rate remains constant, the national population will nearly triple by 2040, with serious implications for the national vision for development, for civil tranquility, for ecological damage, and per capita welfare. A decline in the fertility rate will relieve pressures on all these fronts.

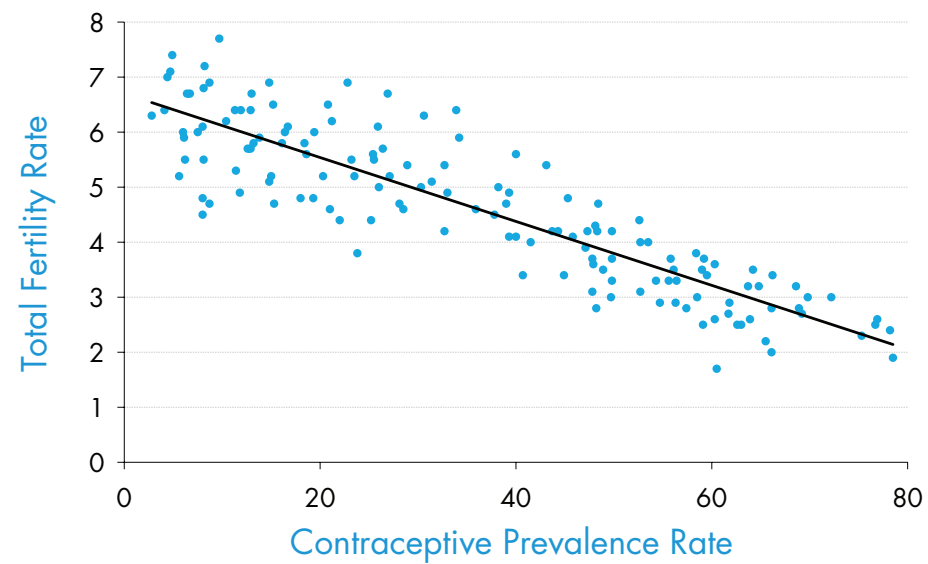
### Population Programmes and Other Development Efforts Reinforce One Another

Many factors contribute to high fertility rates in Malawi, such as the fear of infant deaths, the tradition of sons for agricultural labour, the low economic status of women, the pro-natalist culture, and the historic lack of access to contraceptive information and services. While no one programme can address the full spectrum of issues underlying high fertility, greater attention to population issues and increasing access to family planning can help Malawi advance towards its aspiration for a productive and healthy population.

### Need for a Comprehensive Reproductive Health Strategy

Future fertility decline depends primarily on increased contraceptive use. The TFR (average births per woman) and the contraceptive prevalence rate (CPR; per cent of couples using a method) are closely associated, as shown in Figure 23, which presents data from 146 countries.

Figure 23: The fertility rate and contraceptive prevalence, 146 countries

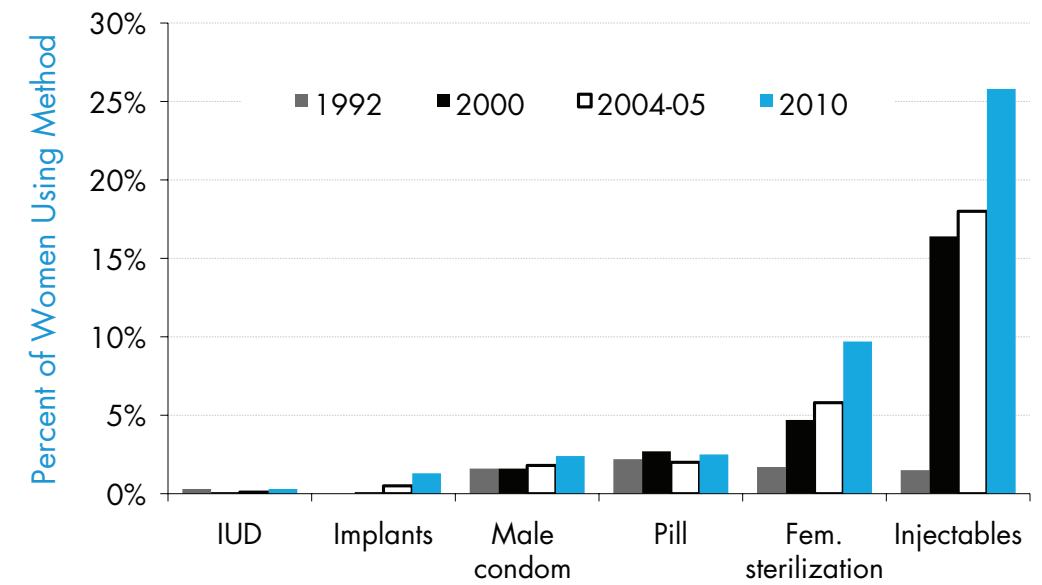


Source: Calculated from 146 countries' DHS.

Contraceptive use has risen markedly in recent years. The 2010 Malawi DHS reported that 46 per cent of Malawian women ages 15–49 in union were using a method of contraception, with 42 per cent using modern methods.

Injectable contraceptives have increased in popularity since the 1990s and now rank as the most popular contraceptive method in Malawi. The 2010 DHS reported that 26 per cent of women in union were using injectables. Female sterilization is the second-most popular contraceptive method, followed by oral contraceptives and the male condom. Figure 24 shows the trends in contraceptive choice from 1992 to 2010.

Figure 24: Contraceptive use among women in union ages 15–49, 1992–2010



Source: NSO and ORC Macro, 2011.

Although two-fifths of women in union are using a contraceptive method, a large proportion of women continue to have an unmet need for family planning. Unmet need is defined as those women in union who are exposed to the risk of pregnancy but are not using any method, even though they say they want to avoid the next birth for at least two years. According to the 2010 DHS, one in four (26%) women in union have an unmet need: 14 per cent wanted to space the next birth, while 12 per cent wanted to cease childbearing entirely. Satisfying the unmet need for family planning leads to lower fertility and a lower rate of population growth, even when the goal is to space births rather than limit them.

To satisfy unmet need, a comprehensive strategy is needed to enable couples and individuals to achieve their reproductive intentions. The primary strategy is to provide universal access to high-quality reproductive health information and services, including a wide range of family planning methods. That will reduce unmet need and unintended pregnancies, contribute to slower population growth, and help Malawi to achieve its development goals.

## Contraceptive Security

A key component of a comprehensive strategy is contraceptive security, which is achieved when every person is able to choose, obtain, and use high-quality contraceptives and other reproductive health supplies whenever needed. Supply shortages and lack of a wide choice of methods can prevent couples from using contraceptives effectively.

Malawi's reproductive health programme is part of the Joint Programme of Work for a Health Sector Wide Approach (SWAp) 2004–2010. The priorities of the SWAp revolve around the provision of the Essential Health Package (EHP), which seeks to "raise the level of health status of all Malawians" (MOH, 2004, p. i). The EHP refers to a package of services that should be available to every individual in Malawi at all times. The package comprises 11 key components (see Table 1).

Table 1. Components of the Essential Health Package

No	Conditions and Their Complications
1	Vaccine preventable diseases
2	Acute respiratory tract infections
3	Diarrhoea, including cholera
4	Adverse maternal and newborn outcomes, including family planning
5	Malaria
6	Tuberculosis
7	HIV/AIDS and other sexually transmitted infections
8	Schistosomiasis
9	Malnutrition, including micronutrients
10	Eye, ear, and skin infections
11	Common injuries, accidents and trauma

Source: MOH, 2004.

Because family planning is a key component in the SWAp, its outcome indicators include both a CPR and TFR. The CPR baseline as of 2004 was 28 per cent and the TFR baseline was 6.3. The CPR target for 2010 was "greater than 35 per cent"; the TFR target is "less than 5." Although the recent increase in CPR is encouraging, the TFR has not declined at the same rate. This underscores the need to provide greater access to reproductive health services, including family planning.

Currently, there are logistical problems to be corrected. A 2006 study on the feasibility and acceptability of providing injectables at the community level in a non-medical setting found that mobile clinics, health centres, and district hospitals sometimes experience stockouts, resulting in women returning home without their most-preferred method, the injectable. Stockouts at the Central Medical Store are sometimes resolved by emergency donations from the United Nations Population Fund (UNFPA) or USAID. However, district-level service provision centres sometimes have stockouts even when there are sufficient commodities at the Central Medical Store.

The SWAp recognises the importance of a successful reproductive health programme. Nonetheless, barriers remain to achieving contraceptive security, a cornerstone of a successful reproductive health programme. Given current demand and high unmet need for family planning, the SWAp should strengthen the overall family planning strategy to address unmet need through a strong contraceptive security programme.

## Key Components of an Effective Reproductive Health Strategy

Several factors can contribute to a successful strategy to satisfy unmet need for family planning services:

- Sustained commitment and support from leaders at national and district levels
- Sustained donor support to meet the reproductive health goals
- Improved coordination within and between ministries and local authorities
- Improved quality and access to affordable services
- Guaranteed availability of contraceptive commodities
- Increased private sector participation in service provision
- Improved integration of HIV and family planning services
- Increased participation of civil society organisations, including nongovernmental organisations and faith-based organisations
- Consistent messages and support from opinion leaders.

## Good Demographic Outcomes Depend on Good Policies

As UNFPA notes: "Good demographic outcomes depend on good policies . . . Successful action depends above all on empowering individuals and couples to make free choices" (UNFPA 2002, p. 6). Currently, there are several efforts focused on improving access to family planning. These will be followed shortly by efforts to write and implement the follow-on strategies for the SWAp, as well as the Reproductive Health Strategy (before it ends in 2010) and the MGDS (ending in 2011). It is an opportune time to (1) consider the strategic importance of rapid population growth in relation to Malawi's economic and development goals and (2) develop an effective policy response.

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