



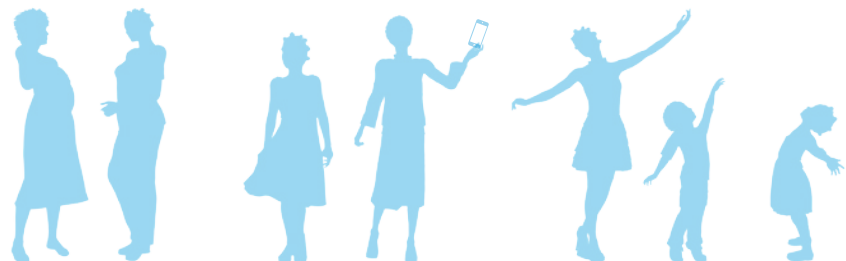
# RAPID

Population & Development

**MOZAMBIQUE**



Government of Mozambique



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Cover photo: Ricard Vinals (Kaobanga)  
This page: International Livestock Research Institute (ILRI)



Mozambique

## MOZAMBIQUE

### RAPID Population & Development

July 2015

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- Ministério da Educação de Desenvolvimento Humano (MINEDH)
- Ministério da Saúde (MISAU)
- Ministério de Economia e Finanças (MEF)
- Ministério do Trabalho (MITRAB)
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A wide-angle photograph of a sandy beach. In the foreground, a small, dark, inflatable boat is beached on the sand. In the middle ground, three people are walking away from the camera towards the ocean, each carrying a large bundle of sticks or branches balanced on their heads. The ocean is a vibrant blue with white foam from the waves breaking on the shore. The sky is not visible.

# Overview

## Population and Development

Slower growth, more resources available

Understanding the impact of population growth on socioeconomic development is essential in making strategic policy and program decisions. Continued rapid population growth and urbanization in Mozambique will increase the pressure on its health, education, economic, and agricultural sectors to meet the population's demand for basic needs. Slowing population growth through increased use of family planning will allow Mozambique to invest more in long-term measures to improve the quality of health services, guarantee universal education, expand employment opportunities, and attain food security. If strategically implemented, these measures could catalyze progress toward a healthier, more prosperous country and population.

# Mozambique's Population

## Rapidly growing

Mozambique's population has grown at a fast pace. It increased by almost 5 million (about 28%) over a 10-year span—from 16.1 million in 1997 to 20.6 million in 2007. This rapid growth is a result of the country's high fertility rate and a considerable decrease in its mortality rate over the same period.



U.S. Agency for International Development

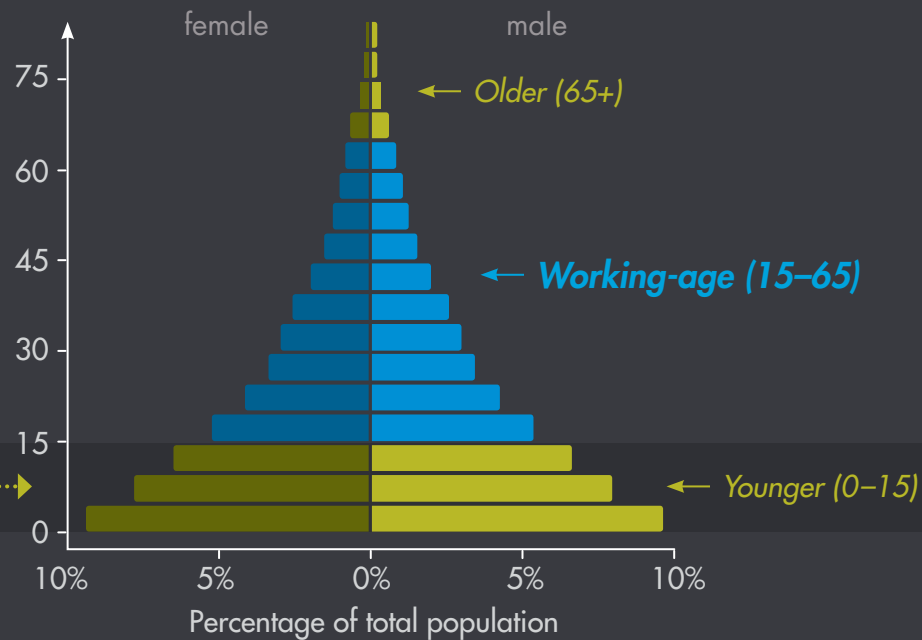
# Fertility Rate

## Steadily high

Mozambique's total fertility rate—a measure of the average number of children a woman will have over her lifetime—has remained relatively constant over time. It fell from 6.4 children per woman in 1980 to 5.5 in 2003, before increasing to 5.9 in 2011. This increase may reflect the onset of reproductive age in younger groups, since about 38 percent of women ages 15–19 are giving birth.<sup>1</sup>

# Population Pyramid

Youth constitute 46% of the total population



RAPID 2015 population projection for 2040

## Age Structure

An expanding young cohort

The overall population is skewed toward the very young, a group that increased from 44.5 percent of the total in 1997 to 45.6 percent in 2007. This increase is due to a combination of high fertility and an increase in the number of women of reproductive age. Therefore, even if fertility declines, Mozambique's population will continue to grow rapidly because of the high number of young women who will soon enter their reproductive years.

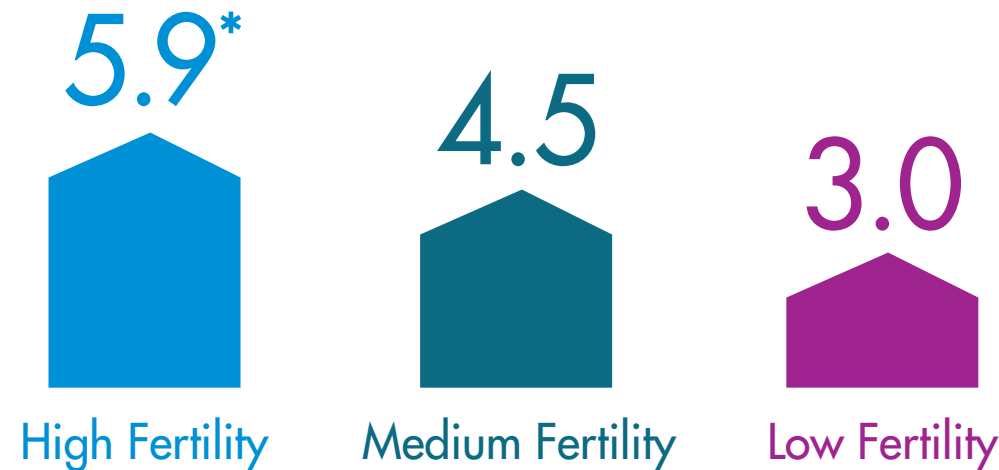
# Population in 2040

## Three scenarios

Mozambique's population in 2040 will largely be influenced by future fertility trends. If fertility remains high—at 5.9 children per woman—the population will grow from 20.6 million in 2007 to 67.4 million by 2040<sup>2</sup>—more than tripling in just 33 years. If fertility declines to 3.0 children per woman, the population will increase to 52.3 million by 2040.<sup>3</sup> Although this represents a 22 percent increase in population size, the difference (15 million) between the high- and low-fertility scenarios is significant and will constrain the already limited government resources.

## High, Medium, and Low Fertility

Total fertility rate (TFR)



\*Equal to 2011 figure



# Impact on Future Development

## Consequences for key sectors

Continued rapid population growth will have consequences for five key development sectors:

- Health
- Education
- Economy
- Agriculture
- Urbanization





International Livestock Research Institute

# HEALTH

“ Our Greatest Value is Life

—XXXIX Sessão do Conselho Coordenador do Sector Saúde<sup>4</sup>

Further improvements in healthcare capacity and outcomes will require greater investments under a higher fertility scenario.

## Status of Health Sector

More caregivers and infrastructure needed

Mozambique has made significant progress over the past 10 years to improve the overall health of its citizens by providing better healthcare services. However, many challenges remain, including inaccessibility of health services, a lack of healthcare professionals, and poor infrastructure.



# Health Professionals

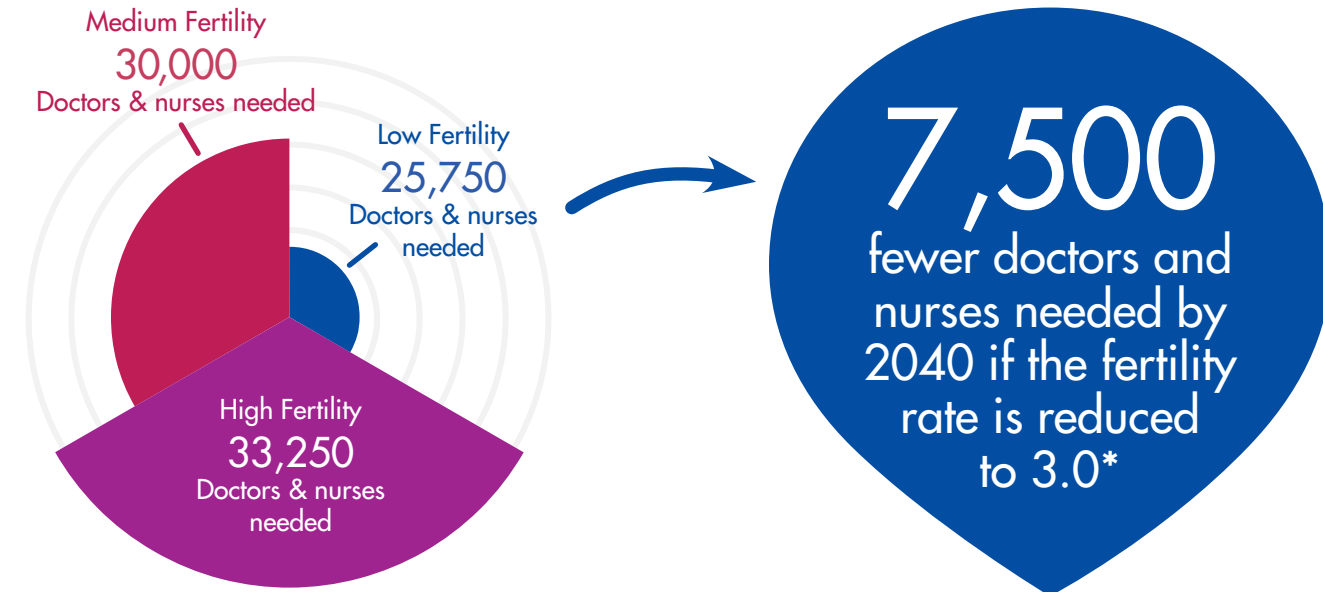
## Increasing demand for trained doctors and nurses

There were 83.6 health professionals (doctors, nurses, technicians, and other professionals) per 100,000 Mozambicans in 2011; the comparable ratio for doctors is 5.5 per 100,000.<sup>5</sup> In 2011, there were 1,268 doctors in Mozambique—23 percent of whom were non-Mozambican nationals.<sup>6</sup> The number of nurses increased from 4,409 in 2007<sup>7</sup> to 5,575 in 2011.<sup>8</sup> By 2040, a projected 26,353 nurses and 6,839 doctors will be needed under the high-fertility scenario, compared with 20,486 nurses and 5,317 doctors under the low-fertility scenario.

To address these challenges, the Ministry of Health is currently implementing the seven-year Human Resources Development Plan 2008–2015.

Note: Low TFR: 3.0, Medium TFR: 4.5, High TFR: 5.9

# Doctors and Nurses Needed by 2040

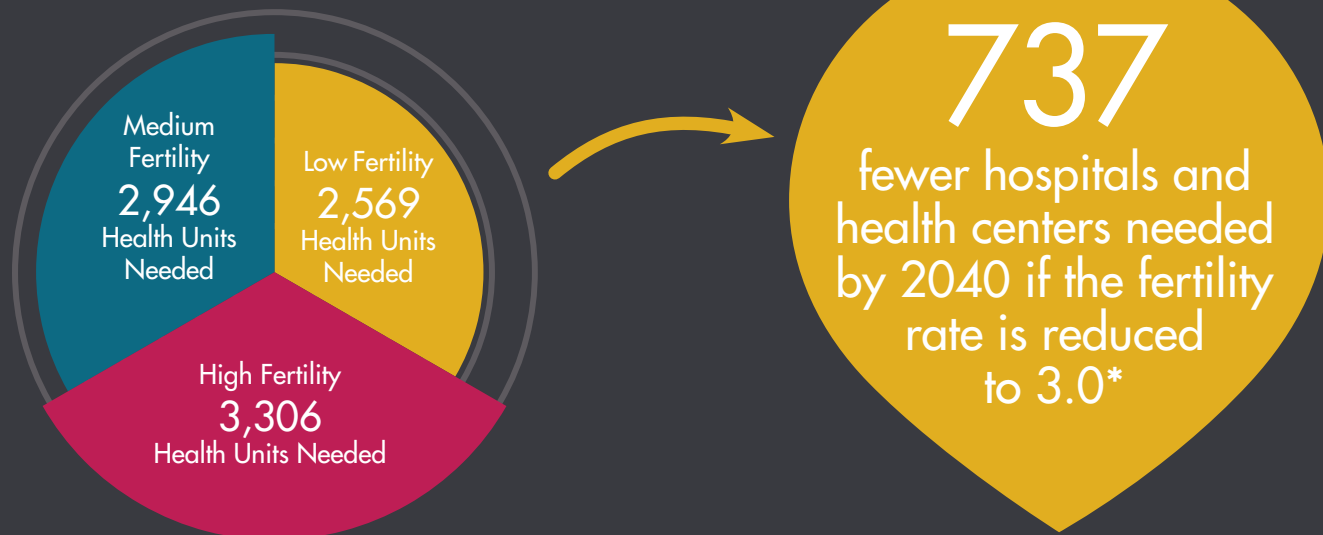


Source: RAPID Model

\* Doctors and nurses needed:  
High-fertility scenario – Low-fertility scenario

# Hospitals and Clinics Needed by 2040

Lower fertility, fewer health units required



Source: RAPID Model

Note: Low TFR: 3.0, Medium TFR: 4.5, High TFR: 5.9

## Health Units

Increasing demand for sufficient facilities

There were 1,454 health units in Mozambique in 2012—96 percent of which are primary health units (health posts or health centers).<sup>9</sup> However, there are only four quaternary health units (specialized hospitals) in the whole country.<sup>10</sup>

In 2007, there was an average of one primary-level health unit per 17,000 people.<sup>11</sup> Similarly, each secondary-level health unit served an average population of 501,000.<sup>12</sup>



Mozambique

Health

“Of all health units in the country, approximately half of them have water, around 1/3 have electricity, and many lack restrooms/wash closets/toilets.”<sup>13</sup>

# Annual Health Expenditures

US\$4.1 billion can be saved by 2040

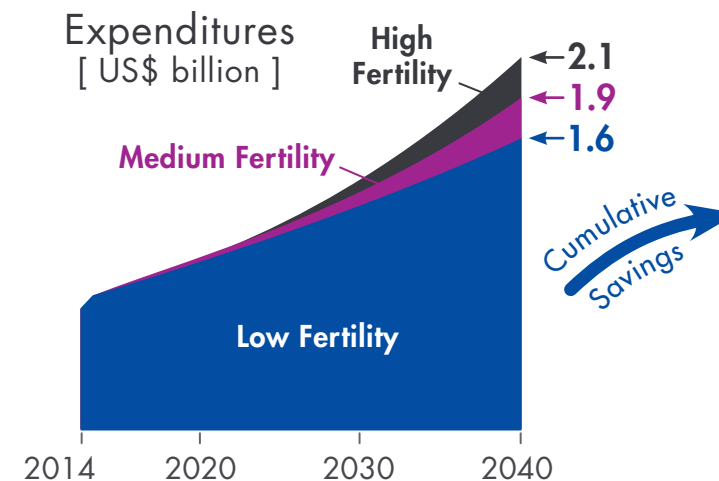
Improvements to health system capacity, infrastructure, and outcomes require financial resources, and more resources will be required under a higher fertility scenario.

As part of a costing exercise of the PESS (Plano Estratégico do Sector de Saúde), the financial needs for implementation were estimated to be US\$7.8 billion from 2014–2019 based on program-specific coverage rates.<sup>14</sup> The total cost for family planning programs is US\$32.1 million from 2014–2019, including costs for pills, condoms, injectables, intrauterine devices, implants, and female sterilization.<sup>15</sup> The plan's initial cost was expected to be US\$1.3 billion in 2014; this is projected to increase to US\$2.1 billion by 2040 under the high-fertility scenario and to US\$1.6 billion under the low-fertility scenario.

Strategic decisions related to health services, especially family planning, can alleviate current and future pressures on the health system. Cost savings resulting from these decisions can be used to improve infrastructure, increase the number of health professionals, improve health service provider training, and target interventions that have a greater impact on health outcomes.

## Health Savings by 2040

High-, medium-, and low-fertility scenarios



**US\$4 billion**  
can be saved  
by 2040 if the  
fertility rate  
decreases  
to 3.0\*

\* Cumulative savings:  
High-fertility – Low-fertility scenarios

Source: RAPID Model



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Mozambique

# EDUCATION

Education

“Mozambique positioned education as a human right and a key instrument for consolidating peace, national unity, and economic, social, and political development in the Country, by nurturing citizens with high self-esteem and a patriotic spirit.

—Ministry of Education and Human Development<sup>16</sup>

“The lack of formal education certainly poses a greater risk to the most vulnerable populations, such as orphans and girls, who may leave school or find themselves unable to attend.”<sup>17</sup>



Save the Children



Mozambique

## Students

### Rising primary and secondary enrollment

The number of children in lower primary grades rose from 1.7 million in 1997 to 4.4 million in 2011.<sup>18</sup> By 2040, the number of children in lower primary grades is projected to grow to around 13.8 million under the high-fertility scenario and 9.0 million under low-fertility circumstances. Similarly, the number of children in secondary grades is projected to grow to 1.7 million by 2040 under the high-fertility scenario, but only 1.3 million under the low-fertility scenario.

Note: Low TFR: 3.0, Medium TFR: 4.5, High TFR: 5.9

# Teachers

## Increasing demand for qualified teachers

Mozambique's teacher-to-student ratio was 1:74 in 2005.<sup>19</sup> The Ministry of Education and Human Development's goal for 2040 is to achieve a ratio of 1:50 in primary schools and 1:42 in secondary schools. Taking the ministry's ratios into account, 171,468 teachers will be needed in 2025 under the high-fertility scenario, compared to 158,383 under the low-fertility scenario. By 2040, the high-fertility scenario will require 95,645 additional teachers (primary and secondary) when compared to the low-fertility scenario.

“Although the reform in teacher training resulted in an increase in the number of teachers trained, the initial training curriculum is still very theoretical and not enough attention was given to on-the-job training and monitoring of new teachers in the classroom.”<sup>20</sup>





Rosa Cabecinhas and Alcino Cunha

To increase access to formal education despite a shortage of classrooms and teachers, school days have been divided into two or three separate periods throughout the day to allow for flexible attendance.<sup>21</sup>



Mozambique

## Schools

More buildings, infrastructure, and supplies needed

Lower primary schools increased in number from 6,114 in 1998 to 10,988 in 2011.<sup>22</sup> However, many schools still lack adequate infrastructure to provide potable water and sanitation<sup>23</sup> and face a shortage of school materials and chairs.<sup>24</sup> Future infrastructure needs will continue to increase based on the projected number of students. In addition, infrastructure expenditures will still be necessary to update and maintain existing schools.



PBS NewsHour



Mozambique

# Students, Teachers, and Schools

By 2040, more students will require more teachers and schools



Source: RAPID Model, primary and secondary school children

\* High-fertility – Low-fertility scenarios

Education

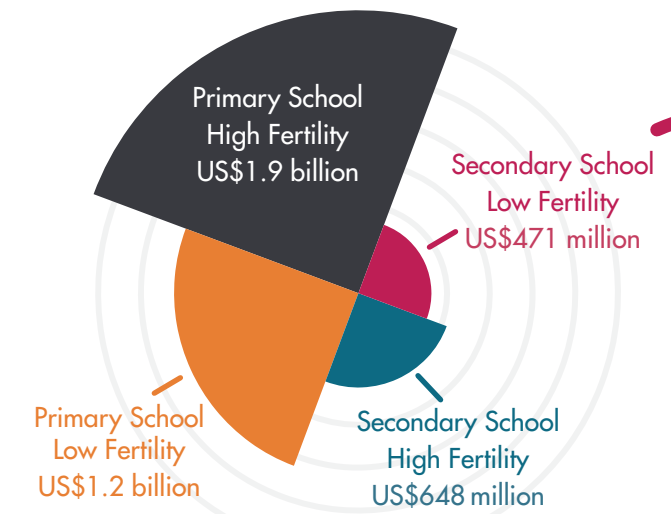
# School Expenditures

US\$6.0 billion can be saved by 2040

To meet future capacity and infrastructure requirements, the Ministry of Education will need to increase primary school expenditures to US\$1.9 billion by 2040 under the high-fertility scenario, compared with US\$1.2 billion under the low-fertility scenario. Similarly, the required secondary school expenditures will be US\$648 million and US\$471 million, respectively. When comparing the two scenarios, there is a cumulative total savings of US\$6.2 billion under low fertility from 2014 to 2040. These additional resources are needed to ensure a sufficient number of qualified, trained teachers. The funds can be used to build new schools, improve and update current infrastructure, and provide students with scholastic materials.

## School Expenditures by 2040

High- and low-fertility scenarios



Source: RAPID Model

**US\$825 million**  
fewer expenditures by 2040 if the fertility rate is reduced to 3.0\*

\* School expenditures: High-fertility scenario – Low-fertility scenario



Mozambique

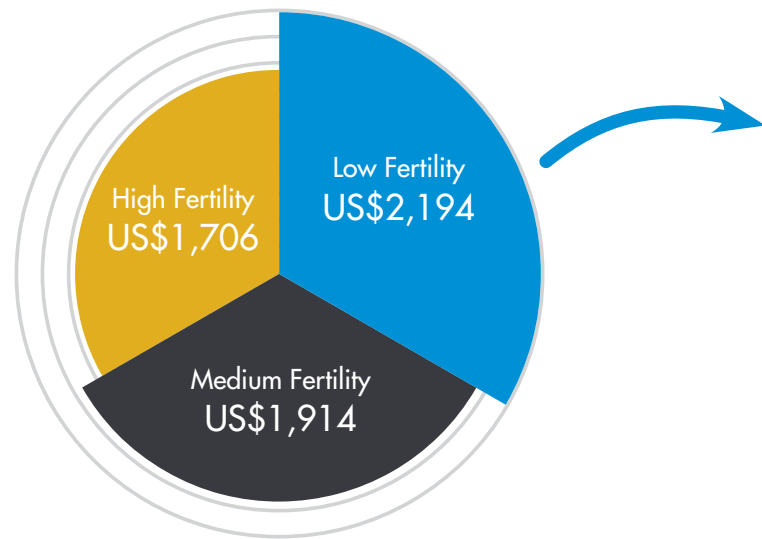
## ECONOMY

“ Human capital and increases in productivity are primarily dependent upon investments in education and health.

—Estratégia de Emprego e Formação Profissional Emmoçambique<sup>25</sup>

# GDP Per Capita by 2040

High-, medium-, and low-fertility scenarios



\* GDP per Capita:  
Low-fertility scenario – High-fertility scenario

Source: RAPID Model

## Economic Sector

Population's impact on the economy

Mozambique's population has grown rapidly, and its economy has recently grown at approximately 7 percent per year. It is estimated that growth in the country's gross domestic product (GDP) will exceed 8 percent in 2015.<sup>26</sup> Most of this increase is due to large investments in aluminum, extractive industries, and energy. Based on this annual GDP forecast, the impact of population growth on the economy was estimated based on the high-, medium-, and low-fertility scenarios.

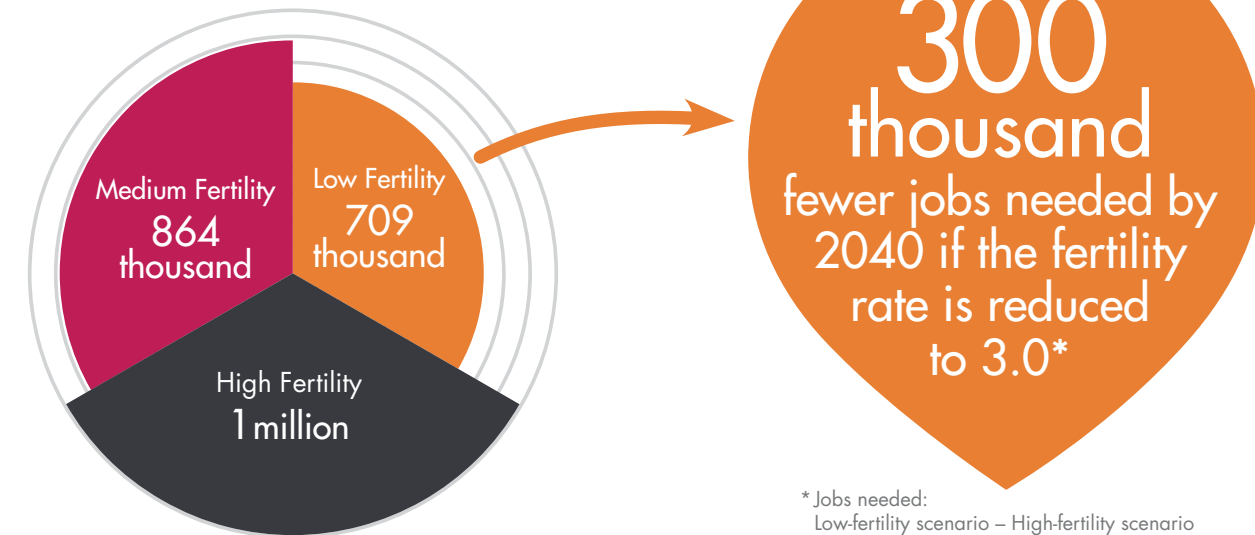
Note: Low TFR: 3.0, Medium TFR: 4.5, High TFR: 5.9

# Employment

Growing working-age population, requiring more jobs

Mozambique's economically active population is currently about 5.9 million and it is estimated that 300,000 young people enter the labor force annually. Most of this group is self-employed (52%), while others are unpaid workers (34%); only 11 percent are wage earners. If the total fertility rate remains at 2011 levels (high scenario), 1 million additional jobs will be needed to employ the working-age population in 2040. This figure can be greatly reduced if the country's fertility rate is lowered to 3.0 (low scenario).

## Jobs Needed by 2040 High-, medium-, and low-fertility scenarios



Source: RAPID Model



Steve Evans

## Child Dependents

Higher fertility results in more dependents

If TFR remains at 5.9 (high), there will be more than 30.6 million child dependents in Mozambique by 2040. If the fertility rate is reduced to 3.0 (low), this number is projected to fall to 18.4 million, permitting greater investments in health and education per child.



12 million fewer dependents by 2040\*

\* Child dependents: High-fertility scenario – Low-fertility scenario

Source: RAPID Model



UK Department for International Development



Mozambique

# AGRICULTURE

“ In Mozambique agriculture is the basis of national development and the state is considered as the guarantor and promoter of rural development in order to satisfy the ... needs of the people [and] the economic and social progress of the country.

—FAO, Governo de Moçambique<sup>27</sup>

Agriculture



# Agricultural Sector

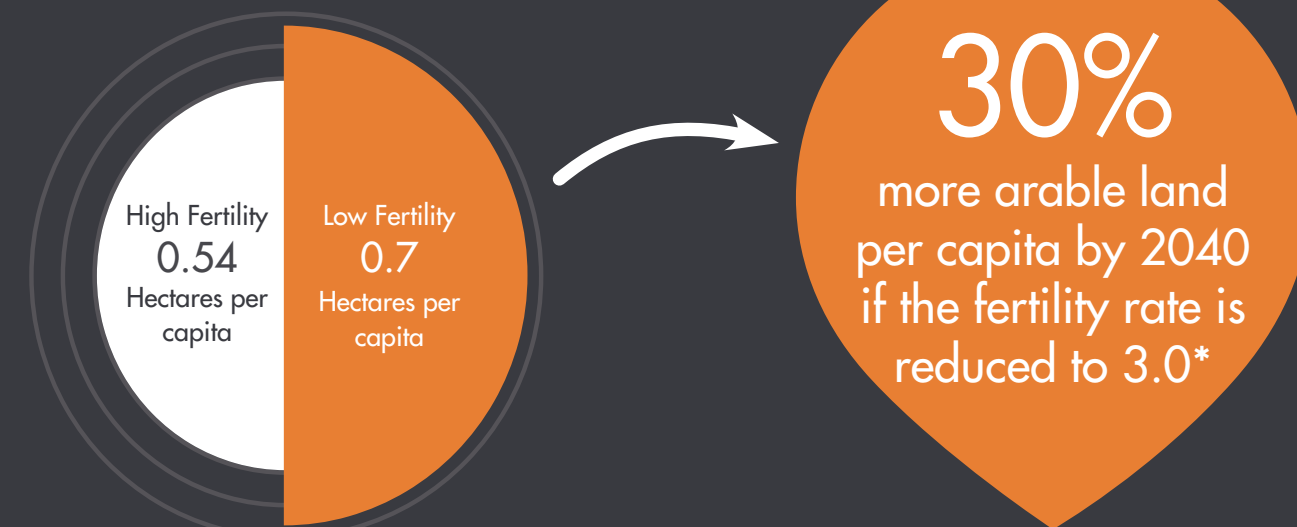
## Population's impact on arable land

Twenty-three percent<sup>28</sup> of GDP in Mozambique is generated by the agricultural sector, which also employs 70 percent<sup>29</sup> of the country's workers. However, only 10 percent of Mozambique's 36 million hectares of arable land are currently used for agriculture.<sup>30</sup> This is largely due to climatic conditions and the small yield of cultivated areas. As population increases over time, the amount of arable land available decreases.

Note: Low TFR: 3.0, Medium TFR: 4.5, High TFR: 5.9

# Arable Land

Lower fertility, more arable land per capita

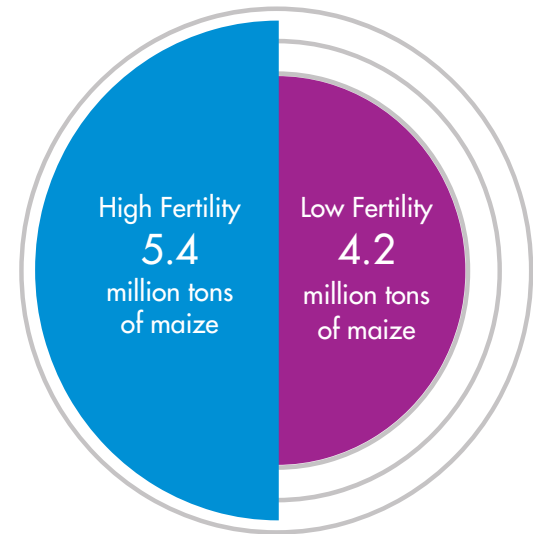


Source: RAPID Model

\* Arable land per capita:  
Low-fertility scenario – High-fertility scenario

# Maize Consumption

High fertility, more maize consumed



Source: RAPID Model



\*Arable land per capita:  
Low-fertility scenario – High-fertility scenario

# Maize Production and Demand

Population's impact on food security

Current maize production is 1.2 million tons per year for a population of approximately 23.7 million. Population growth creates greater demand for food, thereby increasing costs and diminishing access to food for domestic consumption; this disproportionately affects the country's poorest residents, particularly women and children.



PBS NewsHour



Mozambique

# URBANIZATION

“ Mozambique has a relatively low degree of urbanization, but has a relatively high annual average growth rate of urbanization ... meaning that the pressures on urban infrastructure and services will intensify over the coming decades.

—UNICEF, Mozambique<sup>31</sup>

Urbanization

# Urban Growth Outcomes

## Fertility's impact on urban population

Mozambique's urban population is growing, albeit slowly. In 2007, just over one in four Mozambicans (30%) lived in urban areas. This percentage will hopefully grow to 40 percent by 2040. If urban population growth remains the same, it is projected that urban areas will house 26.6 million people in the high-fertility scenario—of whom 7.0 million will be urban youth (12–25 years old). Under the low-fertility scenario, the population living in urban centers decreases considerably to a projected 20.7 million (22% decrease), with urban youth at 5.6 million (20% decrease).

Note: Low TFR: 3.0, Medium TFR: 4.5, High TFR: 5.9



# Urban Population and Households

By 2040, more urban youth, adults, and households



Source: RAPID Model, urbanization

## Households

Increasing number of households

The number of new households is also expected to increase. By 2040, the high-fertility scenario will create an additional 1.7 million households relative to the lower fertility scenario.



# Outlook

If Mozambique's fertility rate remains at 5.9 (high scenario), its population will almost triple by 2040, increasing pressure to adequately meet the needs of an estimated 67 million Mozambicans.



# Outlook

## Continued challenges create room for opportunity

Additional foreign capital will likely spur economic growth as Mozambique becomes involved in the exploration of its natural resources, but this capital will not necessarily trickle down and improve outcomes for other sectors without good governance and well-designed policies. For example, total fertility rates remain higher in rural areas (TFR=6.6<sup>32</sup>) than in urban areas (TFR=4.5<sup>33</sup>). Although much work remains to raise awareness about the benefits of family planning and child spacing for mothers, children, and the overall community, investments in family planning are still minimal (US\$32.1<sup>34</sup> million from 2014 to 2019 ). Across all sectors, a variety of strategies will be required to increase resources, improve the quality of services, and enable Mozambique to mitigate the impacts of population growth.





PBS Newshour



## Reasons for Optimism

### Public-private partnerships could improve policy and governance

Public and private sector interests need not be mutually exclusive, and partnerships could create opportunities for prosperity in the future. A smaller population can plausibly lead to a better educated and healthier workforce. This can translate to higher productivity, which increases margins on investments and leads to further investments that benefit the entire country.

Looking to the future, it is easy to be optimistic about Mozambique's prospects. The combination of private and public sector resources with a focus on sound policies and good governance can help Mozambique become a middle-income country by 2050.



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Mozambique

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*Hope is the pillar of the world.*

—African Proverb