Regional Fertility Differentials in Mozambique: Socioeconomic, Demographic and Gender-Related Aspects[1]

Tânia Evelina Samuel Buchir, INE - Instituto Nacional de Estatística, Mozambique
Paula Miranda-Ribeiro, Cedeplar, UFMG - Universidade Federal de Minas Gerais, Brazil
Adriana Miranda-Ribeiro, Cedeplar, UFMG - Universidade Federal de Minas Gerais, Brazil
Andréa Branco Simão, Cedeplar, UFMG - Universidade Federal de Minas Gerais, Brazil

Abstract

This paper aims to identify regional differences in fertility in Mozambique, considering socioeconomic, demographic, and gender-related aspects. Socioeconomic and demographic variables include place of residence, level of schooling, and if the woman speaks Portuguese. Access to technology (internet, computer, cell phone, and banking systems) is used as a proxy for gender-related aspects to the extent that the command of resources and access to information are key to female empowerment. Data come from the IV General Population and Housing Census 2017 of Mozambique, made available by the National Statistics Institute (INE). We used the Brass P/F method for data correction and fertility estimates. The results indicate regional differences in fertility rates. In the North and Central regions, where female schooling is lower and fertility is higher, fewer women aged 15 to 49 work and have access to the internet, computers, cell phones, and banking systems. In the South, in contrast, fertility rates are lower, and, at the same time, there are higher levels of schooling, access to the internet, computers, cell phones, and financial transactions among women of reproductive age.

Key words: fertility; regional differences; socioeconomic status; gender; Mozambique

Introduction

The fertility transition in Mozambique and Sub-Saharan African countries began later and at a slower pace than in other developing countries in Latin America and Asia, where the decline in the number of children per woman could be observed in the 1960s and 1970s. In contrast, in Sub-Saharan African countries, the reduction in fertility rates only began in the 1980s and 1990s. Yet it remained high, with a Total Fertility Rate (TFR) of 5.1 children per woman between 2015 and 2020 (Mazive, 2016; Macaringue, 2019).

Between 1950 and 2007, Mozambique's TFR went from 7.1 to 5.7 children per woman (Arnaldo, 2013), reaching 5.2 children per woman in 2017 (INE, 2017). In 2007, there were fertility differentials between provinces and regions, with a higher level of fertility in the North and Central regions and rural areas (Arnaldo, 2013). Comparing fertility levels between 1997 and 2007, the author highlights differences and similarities in marital TFR – 7.0 children per woman in the North, 7.3 in the Central region, and 6.1 in the South in 1997, versus 6.6 in the North, 7.7 in the Central region, and 6.1 children per woman in the South in 2007. The country's TFR remained practically constant over those ten years (5.9 in 1997 and 5.7 in 2007), with an increase in rural fertility.

[1] Submitted to the 2025 International Population Conference (IPC2025) – IUSSP. We would like to thank CNPq (National Council for Scientific and Technological Development) and Capes (Coordination for the Improvement of Higher Education Personnel).

The objective of this paper is to identify regional differences in fertility in Mozambique, considering socioeconomic, demographic, and gender-related aspects. Socioeconomic and demographic variables include place of residence, level of schooling, and if the woman speaks Portuguese. Access to technology (internet, computer, cell phone, and banking systems) is used as a proxy for gender-related aspects to the extent that the command of resources and access to information are key to female empowerment. Data were drawn from Mozambique's IV General Population and Housing Census 2017, made available by the National Statistics Institute (INE). We used the Brass P/F method for data correction and fertility estimates. Descriptive results indicate regional, socioeconomic, and gender-related differences in fertility rates in Mozambique.

Data and Methods

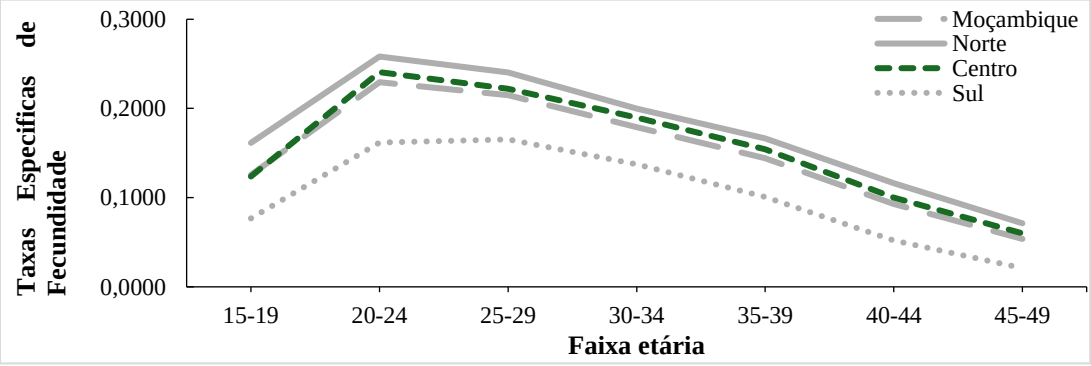
The Brass P/F method is an indirect method used to correct the reference period error of current fertility data declared in demographic censuses or sample surveys (Brass & Coale, 1968). The following data are required: the total number of children born alive classified by the mother's five-year age group; the number of children born alive in the year before the census according to the mother's five-year age group or the number of births registered in the year of the census, also classified by the mother's five-year age group, and the total number of women in each five-year age group (United Nations, 1986).

In addition, the Brass method involves two assumptions. The first is related to the reference period error (current fertility), which is not selective relative to maternal age. Therefore, the mistakes in declaring children born alive twelve months before the census date are proportionally constant at each age. The second refers to the memory error (parity) associated with age.

Preliminary results and discussion

Like 1997 and 2007, fertility is higher in the North and lower in the South. Levels and age-specific patterns are similar in the North and Central regions, where fertility is more prevalent in the age group 20-24. High fertility in the North and Central regions can be associated with early marriages and lower levels of education. The South has a different fertility pattern and the distribution peaks at ages 25-29. The fact that women have more children at older ages than the rest of the country may be related to higher levels of female education and labor force participation.

Figure 1. Age-specific fertility rates (ASFR) according to region, Mozambique, 2017



Source: 2017 Census.

Table 1: Total Fertility Rates according to selected characteristics, Mozambique, 2017

Place of Residence	**TFR**
Mozambique	5,2
Urban	4,1
Rural	5,8
Regions	
North	6,1
Central	5,5
South	3,6
North Urban	5,3
North Rural	6,4
Central Urban	4,5
Central Rural	5,8
South Urban	3,0
South Rural	4,3
Education	
None or incomplete primary	5,9
Primary	5,1
Secundary or technical	3,6
College or teacher training	3,1
Access to technology	
No	6,0
Yes	3,9
Acesso to banking	
No	5,6
Yes	3,3
Literacy	
No	5,9
Yes	4,6
Speak Portuguese	
No	6,1
Yes	4,2

Source: 2017 Census.

Table 1 presents the Total Fertility Rate (TFR) according to the socioeconomic, demographic, and female empowerment characteristics of reproductive age women in Mozambique. The country´s TFR is quite high, 5.2 children per woman, coincident with INE's estimate from the 2017 demographic census (INE, 2017). The 2017 Census indicates that 46.4% of the women 15-49 are illiterate. The difference between the

highest TFR (rural North, 6.4 children per woman) and the lowest TFR (urban South, 3.0 children per woman) is 3.4 children per woman, pointing to a solid regional fertility differential in Mozambique.

Concerning socioeconomic and demographic aspects, when comparing fertility among women with and without literacy, Table 1 points out that the TFR is lower among women who can read and write, as well as among women who speak Portuguese, compared to those who do not speak Portuguese. Regarding schooling, the TFR is lower among women with more schooling. The fertility rate of women with college education or teacher training (3.1 children per woman) is almost half of those with incomplete or no primary education (5.9 children per woman).

Regarding female empowerment, TFR is lower among women with access to technology (use of the internet, computer, and cell phone) than women without access to technology - 3.9 and 6.0 children per woman, respectively. Access to banking systems is another category associated with TFR, which is lower among women with access to financial transactions (bank account and use of M-kesh or M-pesa) if compared to women without access to financial transactions - 3.3 and 5.6 children per woman, respectively. Therefore, it can be said that in Mozambique, the most empowered women, according to the variables analyzed, have lower fertility.

References

ARNALDO, C. Fecundidade em Moçambique nos últimos 50 anos: alguma mudança? In: Arnaldo, C.; Boaventura, M. C. (Orgs.), Dinâmicas da População e Saúde em Moçambique, CEPSA: Maputo, 2013.

BRASS, W.; COALE, A. J. Methods of analysis and estimation. *The Demography of Tropical Africa*. Princeton, NJ: Princeton University Press, 1968.

INE. *IV Recenseamento geral da população e habitação 2017 Resultados Definitivos*. Maputo, Moçambique, 2019. Disponível em: http://www.ine.gov.mz/iv-rgph-2017/mocambique/censo-2017-brochura-dos-resultados-definitivos-do-iv-rgph-nacional.pdf/view

MACARINGUE, F. A. *Tendências da fecundidade em Moçambique (1987-2007): nível, padrão etário, parturição progressiva e intervalos entre nascimentos*. Tese (Doutorado em Demografia) – Faculdade de Ciências Econômicas, Universidade Federal de Minas Gerais. Belo Horizonte, 2019. 175 f. Disponível em: https://repositorio.ufmg.br/bitstream/1843/31943/1/Francisco%20Alberto%20Macaringue.pdf

MAZIVE, E.S. *Principais fatores associados às variações nos níveis de fecundidade na África Subsaariana*. Tese (Doutorado em Demografia) – Faculdade de Ciências Econômicas, Universidade Federal de Minas Gerais. Belo Horizonte, 2016. Disponível em https://repositorio.ufmg.br/bitstream/1843/FACE-A82FYF/1/tese_versao_final.pdf

NAÇÕES UNIDAS. *Manual X: Indirect Techniques for Demographic Estimation*. New York, 1986.