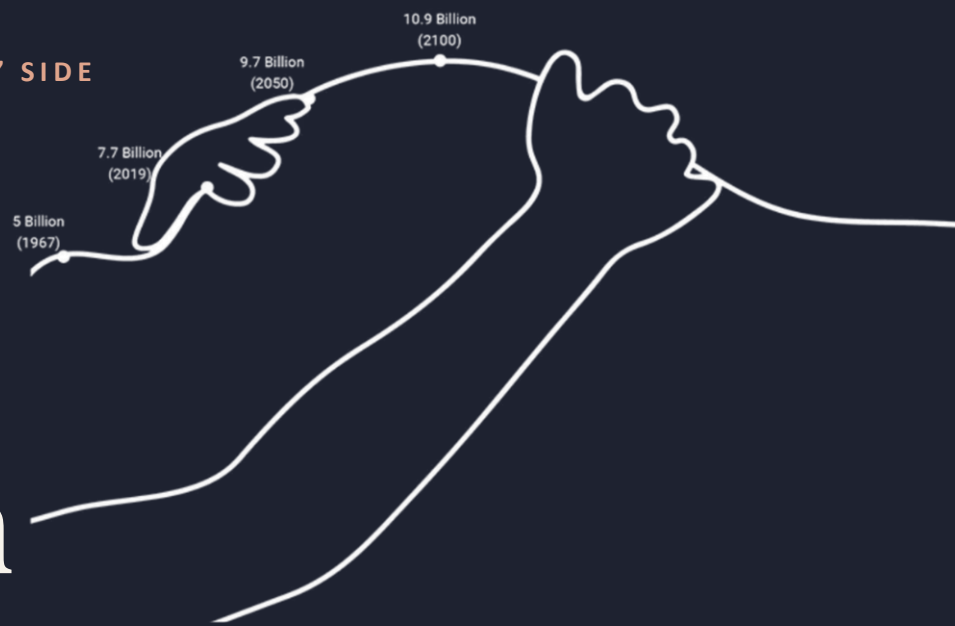


The question is the problem



Since Cairo, has too little attention been paid to rapid population growth, particularly in some countries in Western Asia and in Sub-Saharan Africa ?

— **Vanessa Di Lego** Cedeplar · Federal University of Minas Gerais, Brazil

My answer, in three moves

No.

1

Growth never left the stage

It is demography's oldest question, from Fibonacci to Lotka.

2

Rights are the unfinished agenda

And, in today's pronatalist turn, the argument most at risk.

3

The question I would rather ask

Population composition and ageing in the poorest countries

Seven centuries of the same equation

1202

Fibonacci

Liber Abaci — a pair of rabbits

$$F_n = F_{n-1} + F_{n-2}$$

1760

Euler

Mortality and the multiplication of mankind

$$P(t+n) = P(t) \cdot (1+r)^n$$

1798

Malthus

Geometric people, arithmetic food

1, 2, 4, 8, 16 ...
1, 2, 3, 4, 5 ...

1838

Verhulst

The logistic: growth meets a ceiling

$$\frac{dP}{dt} = rP(1 - P/K)$$

1911

Sharpe & Lotka

Stable population theory

$$1 = \int e^{-ra} l(a) m(a) da$$

The object of study never changed. What changed was the fear attached to it and how policy incorporate this.

The same argument in new clothes

1798 →

Malthusian

The fear: hunger

Positive checks — famine, disease, war
— restore the balance.

1950s →

Neo-Malthusian

The fear: poverty

Coale & Hoover (1958), The Population Bomb (1968), Limits to Growth (1972).

1990s →

Eco-Malthusian

The fear: climate

$I = P \times A \times T$ (Ehrlich & Holdren, 1971),
with P as the usual suspect.

“...and decrease the surplus population.”

Scrooge, in Dickens’ A Christmas Carol (1843)

“Ao vencedor, as batatas.”

Machado de Assis, Quincas Borba (1891) — the Malthusian struggle as satire

Three centuries, three inaccurate views

MALTHUS, 1798

“Subsistence increases only in an arithmetical ratio.”

He modelled mouths and assumed the harvest was fixed. What grew was yield per hectare: Haber–Bosch nitrogen from 1909, then the Green Revolution. World population doubled after 1960 and food per person rose.

NEO-MALTHUSIAN, 1958–72

“Growth will lock poor countries into poverty — and starve them.”

The famines of the 1970s did not arrive; Ehrlich lost his wager. Fertility fell as child survival and schooling rose, and East Asia turned the same young age structure into a demographic dividend. Development came first, not last.

ECO-MALTHUSIAN, 1990s–

“Too many people are heating the planet.”

Emissions track consumption, not headcount. The richest 10% of humanity emit 48% of the total and the poorest half 12%; since 1990 the top 1% drove 23% of all emissions growth, the bottom half only 16%.

Three predictions, one error: counting people as a quantity while ignoring what they learn, what they build and what they consume.

MOVE 1 · EXAMPLE OF THE PROBLEM WITH THE ECO-MALTHUSIAN CLAIM

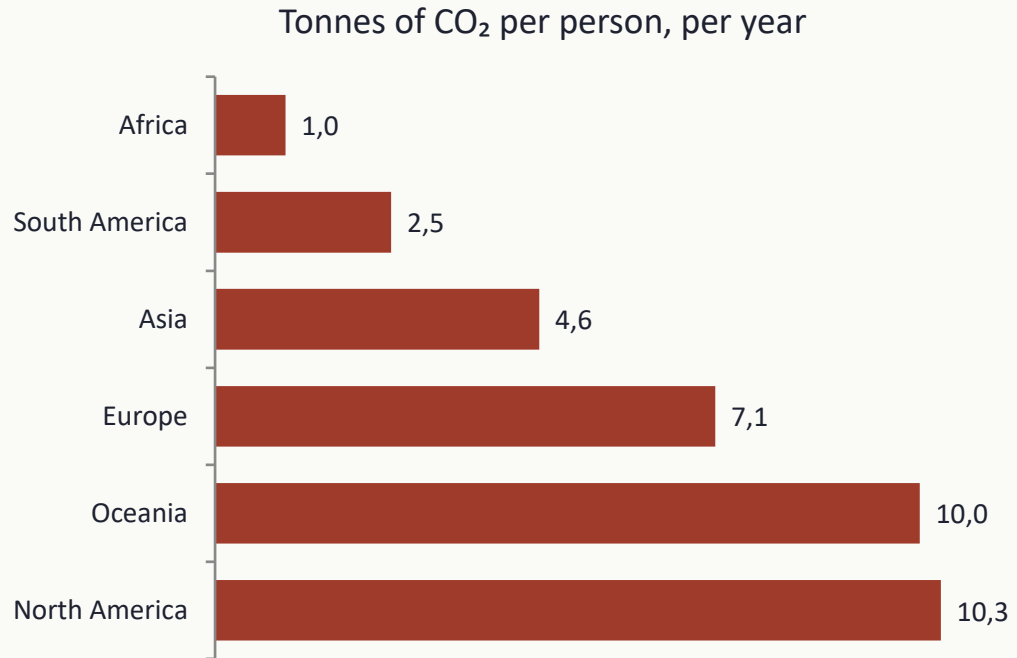
In $I = P \times A \times T$, the weight is not in P

~17%

of the world's people live in Africa

~4%

of global CO₂ emissions come from it



When the numbers came first

Where	When	What happened
India	1975–77	Emergency-era sterilization drives with quotas
China	1980–2015	One-child policy, enforced by targets and penalties
Peru	1996–2000	Sterilization of poor, largely Indigenous women
Brazil	1991–93	Congressional inquiry: mass sterilization of women

What Cairo was answering in 1994

BEFORE

Bucharest 1974, Mexico City 1984

Population as economic planning: aggregate targets, incentives, donor-driven programmes.

THE ROOM

179 governments — and the women's movement

feminists and health advocates arrived organised, and the text carries their language.

THE WORLD IT MET

5.7 billion people, HIV, adjustment

An epidemic near its peak, health systems squeezed by structural adjustment, unsafe abortion widespread.

Cairo, 1994

179 governments affirm the right “to decide freely and responsibly the number, spacing and timing” of one's children.

The shift

A twenty-year Programme of Action that replaced demographic targets with reproductive health, girls' schooling and maternal survival. **A SHIFT FROM AGGREGATE RATES TO PEOPLE**

Eight centuries of growth, thirty-two years of rights

Growth: argued since Fibonacci, 1202 — 824 years

Rights: on the agenda since Cairo, 1994 — 32 years →

1400

29% → 57%

of women in sub-Saharan Africa wanting to avoid pregnancy now use a modern method, up from 1994 — the Cairo agenda, working.

1600

77%

of demand for family planning is satisfied with modern methods globally — and that is the good news.

1800

250m+

women who want to avoid pregnancy still use no modern contraception; 260,000 died in pregnancy or childbirth in 2023.

2000

Have we met reproductive rights?

Where mortality is still avoidable

260,000

women died of pregnancy or childbirth in 2023 — one every two minutes. Global ratio 197 per 100,000 against an SDG target of 70; sub-Saharan Africa 454, and 70% of all maternal deaths. Lifetime risk there: 1 in 55, against 1 in 21,248 in Australia and New Zealand. Progress has slowed to 1.5% a year since 2016.

And where fertility is low

Delay

Later parenthood, unrealised intentions, involuntary childlessness and the costs of assisted reproduction — unevenly distributed by education, migration and place. Below replacement, delay can raise growth and make populations younger: even the arithmetic is not what policy assumes.

At both ends of the income distribution, people still cannot have the children they want, when they want them. That is where the attention went missing.

THE PENDULUM SWINGS BACK

Whether the fear is too many people or too few, the policy target tends to be the same: women's bodies.

— Atwood's Gilead, imagined in 1985, was a pronatalist state.

Assisted Reproductive Technology (ART) as a Birth-Rate Policy and not as Guaranteeing Rights

What is announced

Hungary, 2020: the state acquires fertility clinics and makes IVF free, under a “procreation over immigration” agenda.

Assisted reproduction is framed as a lever for birth rates, not as care.

What is rarely said

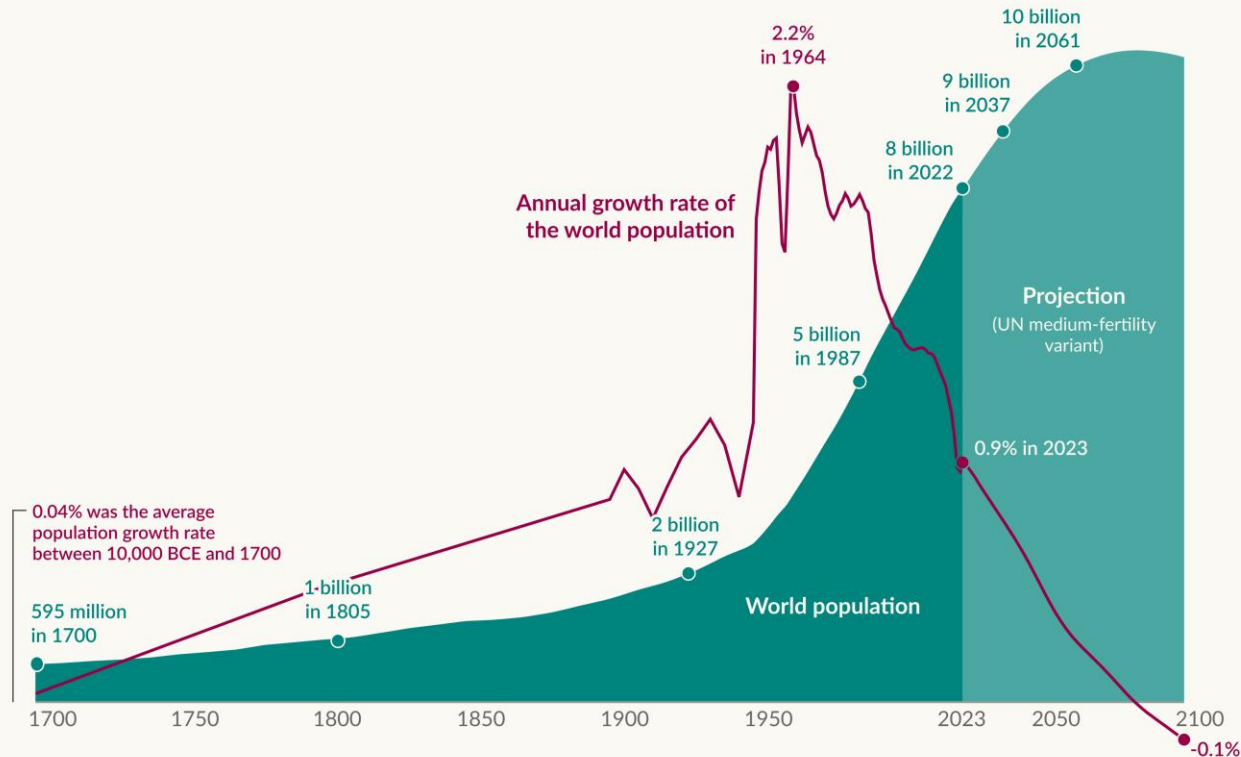
- Weeks of daily hormone injections
- Risk of ovarian hyperstimulation
- Egg retrieval under sedation
- Several cycles are common; success falls with age
- The grief of cycles that fail

*And the rights question is only now reopening at the other end of the transition: this year's Vienna Yearbook of Population Research, on delayed reproduction, shows **low fertility too is a story of intentions unmet. VYPR 24(1), 2026***

Growth is real — and already slowing

World population growth, 1700–2100

Our World
in Data



Data source: HYDE (2023); Gapminder (2022); UN WPP (2024)

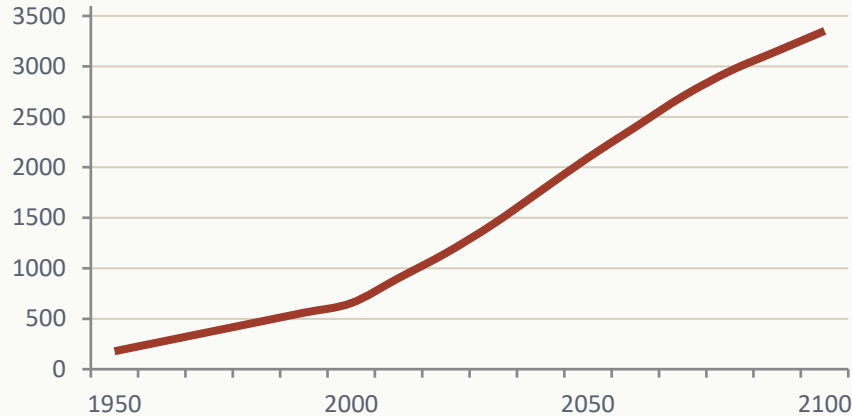
OurWorldinData.org — Research and data to make progress against the world's largest problems.

Licensed under CC-BY by the author Max Roser,
Hannah Ritchie and Veronika Samborska

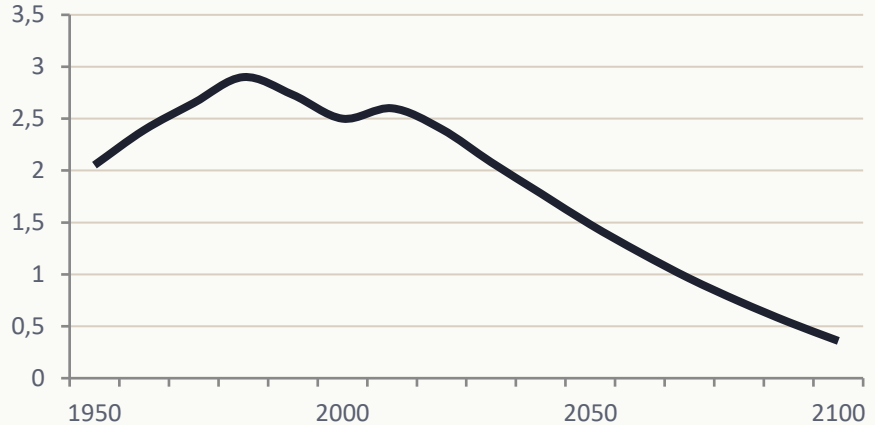
THE REGIONS NAMED IN THE QUESTION

Growth is real — and already slowing

Sub-Saharan Africa, millions



Annual growth rate, Africa (%)



0.18bn in 1950, 1.27bn today, 3.35bn by 2100 — yet the rate peaked at **3.0% in 1981** and is 2.2% now; The curve keeps rising on **momentum**, the age structure already built, which no target can undo.

MOVE 2 · WHAT THE GROWTH IS MADE OF

Most of it is already in the age structure

80%

of the global increase to 2054 — about 1.7 billion people — comes from the momentum of past growth, not from today's fertility.

1 in 5

Fertility above replacement contributes only just over a fifth of the increase to 2054 in the countries still growing.

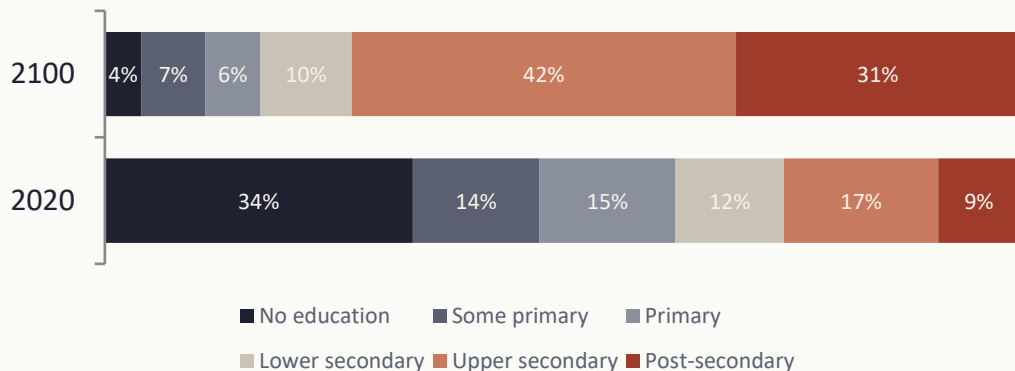
3.8%

If no more births occurred to girls under 18, sub-Saharan Africa in 2054 would be smaller by only this much — yet those girls' lives would change entirely.

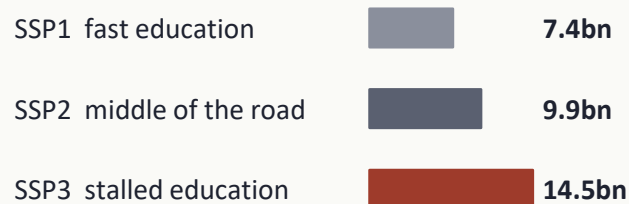
If four-fifths of the growth is already built into the age structure, policy attention shifts from population size and birth control to investing in human capital and individual reproductive rights.

The projection turns on schooling

Africa, population aged 25+ by education



World in 2100, by scenario



The scenarios differ mainly in how fast schooling expands. That assumption alone separates a world of 7.4 billion from one of 14.5 billion.

Education is the variable that moves the projection — and it is a right.

The ageing no one is preparing for

74m → 235m

Africans aged 60 and over, 2020 to 2050. The same transition that slows growth also builds, in three decades, the old-age structure Europe took a century to reach.

Fast, and poor

Europe aged slowly and behind a welfare state. Here it arrives quickly, into high inequality.

No retirement

About one in five older people in the region receives a pension; most work while they can.

Care by household

Long-term care is barely institutional. The system is the family — and the family is thinner.

IN CLOSING

No.

Guaranteeing Rights and understanding demographic composition are the key

Hunger, poverty, climate: the growth argument keeps changing its clothes. Our job as demographers is to see the body underneath — and whose body it is. *Population growth is arithmetic with a fear attached to it.* For two hundred years we have argued over the one number that often tells us the least — the total — while the structure that decides who learns, who works, who cares and who is cared for moved underneath us.