

**Fertility**



# Introduction

The set of phenomena related to the reproduction of human populations is referred to in demography as fertility.

These phenomena are realized through events such as conception, delivery, and birth



How might a child come to be part of a household if not through the biological process of birth within the family?



# Birth - definition

Complete expulsion or removal of the **product of fertilization** from the mother's system, regardless of the duration of pregnancy.

For statistical purposes, medical records relating to the perinatal period should include all **live-born infants**, as well as **stillborn** fetuses that weighed at least 500 g at birth. If the birth weight is unknown, it should include those born after at least 22 weeks of pregnancy or measuring 25 cm in length (from the top of the skull to the heel).



# Birth statistics

In the vast majority of countries, the primary source of statistical information on births is the documents created during their registration at civil registry offices.

The WHO estimated that in 2012, approximately **one-third of all births worldwide were not properly recorded** in state registers, with three-quarters of these unregistered births occurring in Africa and Southeast Asia.



# Easy-peasy

**Poland:** Total fertility rate and age pattern of fertility based on: (a) official estimates of age-specific fertility rates through 2017; (b) registered births classified by age of mother and the underlying female population by age through 2017.



# Oh, wait...

**Pakistan:** Total fertility rate and age pattern of fertility based on: (a) birth-histories data from the 1975 WFS and 1979-1980 LFMS and 1990-1991, 2006-2007, 2012-2013, 2017 DHS and 1991, 1995-1996, 1996-1997, 1998-1999, 2001-2002 IHS and 1993, 1994-1995 CPS and 2000-2001 RHFPS and 2003 SWRHFPS and 2005-2006, 2007-2008, 2011-2012, 2013-2014 LSMS; (b) period parity progression ratios based on data on women and births in the preceding 12 months, both classified by age of mother and parity, from the 1990-1991 DHS; (c) births in the household in the preceding 12 (or 24) months classified by age of mother from the 1968-1969 NIS and 1984-1985 CPS and 1998 Census; (d) adjusted fertility using synthetic relational Gompertz model with data on children ever born and births in the preceding 12 (or 24/36) months, both classified by age of mother, from the 1968-1971 PGS and 1975 WFS and 1984-1985, 1994-1995 CPS and 1990-1991, 2006-2007 DHS and 1995-1996, 1996-1997, 1998-1999, 2001-2002 IHS and 1998 Census and 2000-2001 RHFPS and 2005-2006 LSMS. In addition, the (a) official estimates of age-specific fertility rates through 2007; (b) birth-histories data from the 1988, 1995, 1996, 2000, 2001, 2003, 2005, 2006, 2007 Annual PDS and 1996-1997 FFPS and 2005-2006, 2007-2008 IHS; (c) births in the household in the preceding 12 (or 24) months classified by age of mother from the 1961, 1981 censuses and 1962-1965 PGE and 1968-1971, 1976-1979 PGS and 1984, 1985, 1986, 1987, 1989, 1990, 1991, 1992, 1993, 1994, 1997, 1999 Annual PDS; (d) adjusted fertility using synthetic relational Gompertz model with data on children ever born and births in the preceding 12 (or 24/36) months, both classified by age of mother, from 1984, 1988 Annual PDS and 1996-1997 FFPS; (e) indirect estimates obtained using Mortara's method with data on children ever born by age of mother from the 1972 Census and 1973 HED Survey have been considered.



# Fertility

In demography, fertility refers to the number of births in a given population over a specific period of time.

It is one of the most important factors influencing population growth and changes in age structure





# Measures

- Birth rate
- Reproduction rate
- Fertility rate
- Gross fertility rate



1. What do you think the **Gross Fertility Rate** measures in terms of population?
2. Why do you think it is considered a crucial indicator when studying long-term population growth?



# Fertility and DT

Pre-transition populations tend to be characterized by:

- high and relatively stable fertility,
- minimal variation in fertility across reproductive ages,
- early family formation,
- long intervals between successive births,
- extended periods of procreative activity,
- low prevalence of birth control practices.



# Fertility and DT

In post-transition populations, there is:

- low and relatively stable fertility,
- significant variation in fertility by reproductive age,
- high or moderate family stability,
- shorter intervals between successive births,
- a shorter period of procreative activity,
- widespread and effective use of birth control practices.



# Fertility and DT

In populations undergoing demographic transition, there is a decline in fertility, along with increasing variation in marital habits, procreation attitudes and behaviours, and the growing prevalence of birth regulation.



What **demographic** factors do you think might influence fertility rates?



What **non-demographic** factors do you think might influence fertility rates?

# One child policy in China

From 1980 to 2015, the Chinese government limited couples to one child only.

In 2015, the Chinese government raised the birth limit to two, an effort to reverse the declining birth rates and rejuvenate an ageing population.

In May 2021, it announced that Chinese families could have up to three children.





# One child policy in China



# “The Emergency” and the Politics of Mass Sterilization

Sterilisation under the Emergency in India, 1975-1977.

**During September 1976 alone 1.7 million people were sterilised**, equalling the annual average for the preceding ten years.

75% of people sterilised by the Emergency government were men.



# Fertility regulation

Fertility regulation in demography means **all activities** aimed at achieving the desired number of kids by potential parents in the desired birth calendar.

Birth control is done by preventing conception and abortion.

During the demographic transition, there has been an increase in social acceptance of birth control, and thus of conception prevention practices.



# Abortion

Abortion is a common health intervention.

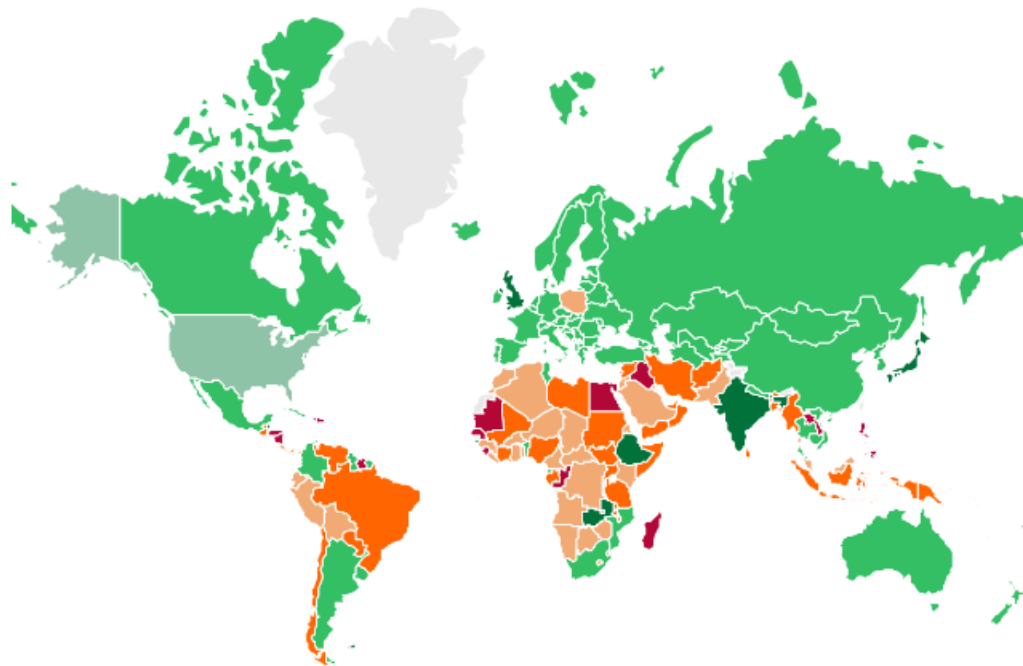
According to WHO, 6 out of 10 of all unintended pregnancies end in induced abortion.

Around 45% of all abortions are unsafe, of which 97% take place in developing countries.





# THE RIGHT TO ABORTION WORLDWIDE IN 2024



- On request
- Broad social or economic grounds
- To preserve health
- To save the woman's life
- Prohibited altogether
- Legislation varies at sub-national level

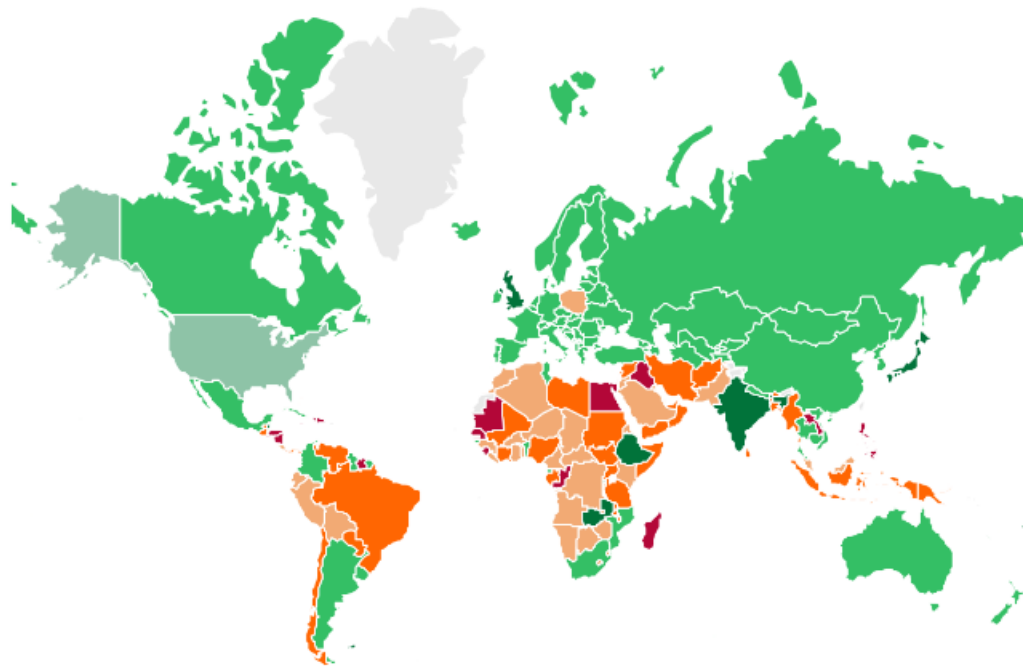
 Download data

Source : Center for reproductive rights





# THE RIGHT TO ABORTION WORLDWIDE IN 2024



- On request
- Broad social or economic grounds
- To preserve health
- To save the woman's life
- Prohibited altogether
- Legislation varies at sub-national level

 Download data

Source : Center for reproductive rights



# Ceausescu's children



# Ceausescu's children





# Spermageddon

Sperm levels among men in Western countries has more than **halved during the past 40 years**. Some experts warn that if these trends continue, the median sperm count could approach zero by 2045, leading to widespread fertility issues.

The WHO found that 1 in 4 couples living in a developing country still experience childlessness after five years of trying to get pregnant.



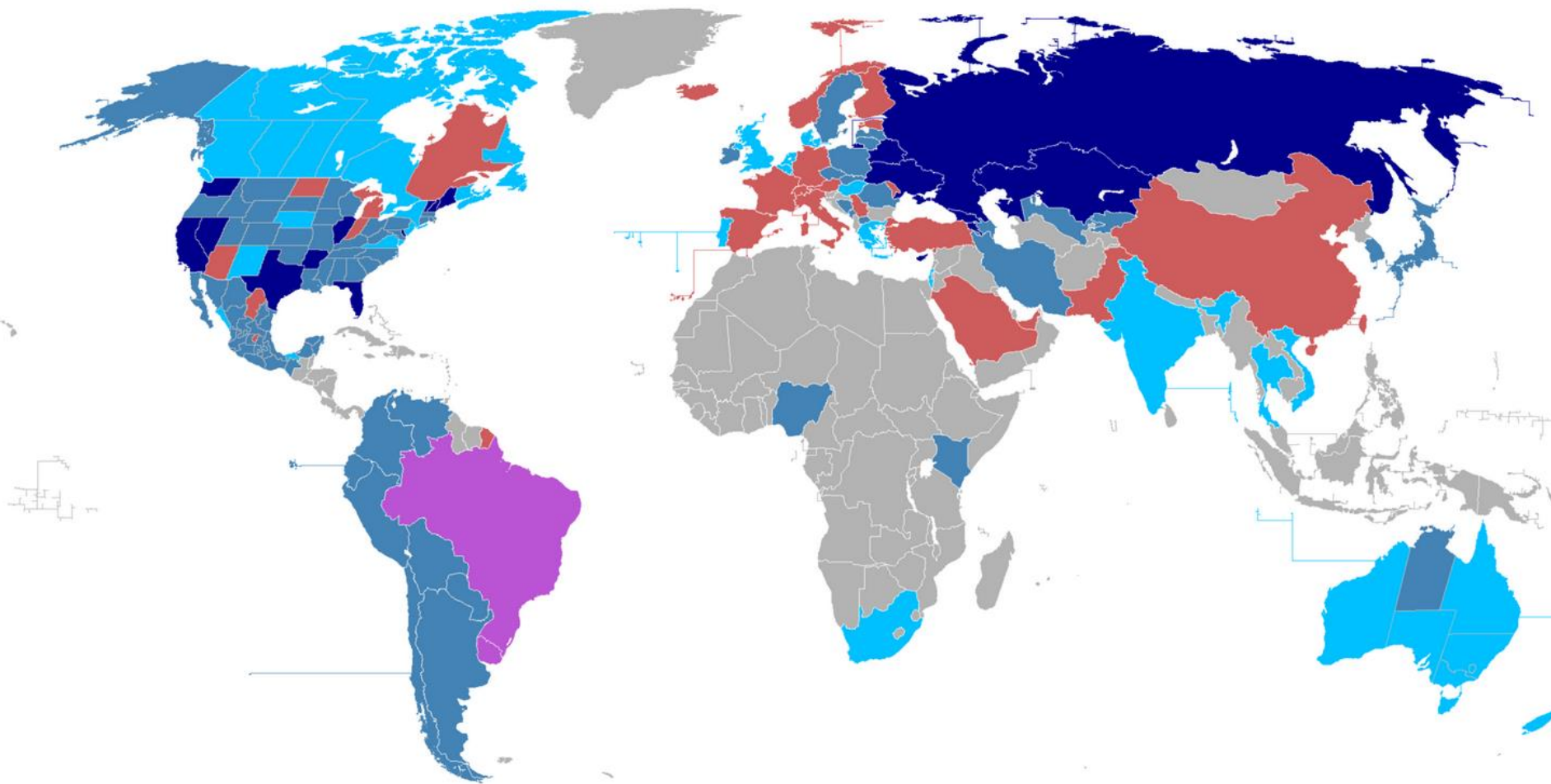
# Spermageddon



# Surrogacy

Surrogacy is an arrangement in which a woman (the surrogate) agrees to carry and give birth to a child on behalf of another person or couple (the intended parent/s).





of surrogacy in the world: ■ Both gainful and altruistic forms are legal ■ No legal regulation ■ Only altruistic is legal ■ Allowed between relatives up to second degree ■ Banned ■ Uncertain





What ethical challenges do you think arise when surrogacy is permitted in some countries but banned or heavily restricted in others?

# In vitro fertilization

In vitro fertilization (IVF) is a complex series of procedures used to help with fertility or prevent genetic problems and assist with the conception of a child.

On July 25, 1978, Louise Joy Brown, the world's first baby to be conceived via IVF was born.





What social implications do you think arise from the use of IVF?

# Artificial sperm





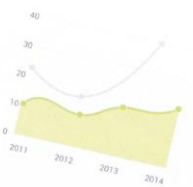
Thank  
you!

Morris Charts

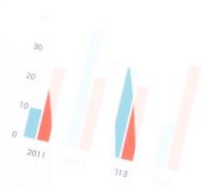
Line Chart



Area Chart



Bar Chart

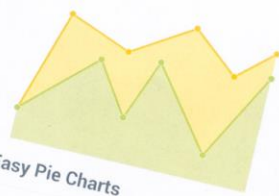


Donut Chart



Sparkline Charts

Line Chart



Bar Chart



Easy Pie Charts

