

Changing demographics in the world

by Joseph Chamie



Lagos residents, despite social distancing order, cluster at Oke-Odo Market, Lagos Nigeria on March 30, 2020, for last minute shopping. According to some projections, by 2100 Nigeria could have one of the largest populations on earth. (ADEKUNLE AJAYI/NURPHOTO/GETTY IMAGES)

The world experienced extraordinary demographic changes during the 20th century that are continuing to play out through the 21st century. In addition to unprecedented rapid rates of growth, the population of the world and virtually every country's population went through remarkable transformations in the three key demographic components, i.e., mortality, fertility, and migration, as well as major changes in their distributions across regions and within countries.

The demographic transformations and changes, which are continuing across the planet, have resulted in significant and far reaching social, economic, political, environmental and climate consequences for nations in every region of the world. Those consequences are in turn creating mounting critical challenges to demographic well-being, development

efforts, international relations, security, climate, the environment and the sustainability of human populations.

To effectively consider likely future population trends and challenges, it is useful to examine past demographic trends particularly the unprecedented changes that took place during the 20th century. An understanding of population trends of the recent past, including the extraordinary changes in the key demographic components, provides instructive insights

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that can help guide sound policymaking, equitable socio-economic development, and environmental concerns, including addressing the devastating consequences of climate change.

WORLD POPULATION GROWTH

For most of human history, the world's population grew very slowly. By the close of the 15th century, for example, world population had increased to about a half a billion. The one billion milestone for world population was reached around the start of the 19th century (Table 1).

The reason for the slow growth of world population up to the one billion mark was due to high mortality rates largely the result of famine, disease, and war. Daily life was harsh, difficult, and limited for virtually all men, women, and children; the only exceptions were the wealthy and powerful few. Infant mortality and child deaths

were common, maternal mortality was high, and few people reached the old age of 60 years.

While it took thousands of years for world population to reach one billion in 1804, the two billion mark was reached in 1927, approximately 123 years later. After that demographic milestone, the growth of world population accelerated (Figure 1). It took 33 additional years for world population to reach three billion in 1960 and another 14 years to reach the four-billion mark. The most rapid growth for world population to gain a billion people was from five billion in 1987 to six billion in 1998, a record-breaking span of only 11 years. In 2021, world population has grown to 7.9 billion and is expected to reach 8 billion by 2023.

During the 20th century, the world's population grew at a record-breaking pace, nearly quadrupling in size from 1.6 billion to 6.1 billion. The large part of this growth—some 80%—occurred during the second half of the 20th century.

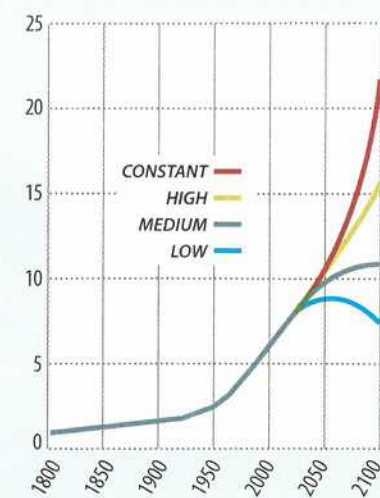
In addition, the world's most rapid rate of population growth and largest annual increase also occurred during the second half of the 20th century. The global growth rate peaked at around 2% in the late 1960s and by the century's end had declined to about 1.3%. The peak annual increase in world population occurred in the late 1980s with the addition of approximately 93 million. Today the annual increase to world population is about 80 million.

Although its growth rate and annual increase are on the decline, world population is expected to continue growing throughout the 21st century. According to the United Nations' medium variant projection, world population is expected to add nearly 5 billion more people during the current century, reaching close to 11 billion in 2100.

The population projection variants show a wide range of possible population outcomes by the end of the 21st century. The constant variant, which assumes the current fertility rates of countries remain unchanged, has world population nearly tripling to close to 22 billion by 2100. If national fertility rates fall faster than assumed in me-

FIGURE 1

World Population Growth by Projection Variant, 1800–2100 (in billions)



SOURCE: UNITED NATIONS

dium projection variant, world population by the end of the century would be slightly more than 7 billion, or approximately a half billion less than today. Alternatively, if country fertility rates remain slightly higher than assumed in the medium projection variant, world population by 2100 would be nearly 16 billion, or about double the size of today's world population. *

DISTRIBUTION

In addition to the unprecedented rapid rate of world population growth during the past century, world population's distribution across the planet has changed markedly. Besides notable demographic changes at the regional and national levels, the distributions of populations within countries have also been transformed.

During the 20th century the relative demographic standing of Europe changed significantly. Whereas Europe represented about one-quarter of the world's population in 1900, its percentage declined to about 12% by the close of the 20th century. Today Europe's population of 748 million is slightly less than 10% of the world's population and is projected to decline to 712 million by 2050, or 7% of world population (Table 2).

TABLE 1

Past and Projected World Population

Population	Year	Years to add one billion
1 billion	1804	from the dawn of humanity
2 billion	1927	123 years later
3 billion	1960	33 years later
4 billion	1974	14 years later
5 billion	1987	13 years later
6 billion	1998	11 years later
7 billion	2011	13 years later
8 billion	2023	12 years later
9 billion	2037	14 years later
10 billion	2056	19 years later

SOURCE: UNITED NATIONS

Before you read, download the companion **Glossary** that includes definitions, a guide to acronyms and abbreviations used in the article, and other material. Go to www.fpa.org/great_decisions and select a topic in the Resources section. (Top right)

Of the nearly 3 billion increase in world population expected by the close of the century, most of it, 2.9 billion or 97%, will take place in Africa. Africa is followed by Northern America, which increases by 120 million, or 4% of the projected increase. Europe's population, in contrast, is projected to decrease by 118 million, or a decline of 4%, over the next eight decades (Figure 2.)

Close to 50 European countries are expected to experience population decline over the next three decades. Among those countries whose populations are expected to decline by 10% or more are: Ukraine (19%), Hungary (12%), Poland (12%) and Italy (10%).

In contrast to Europe, the world's five other major regions experienced rapid growth during the 20th century that is continuing but at a slower pace in the 21st century. The populations of Africa and Latin America and the Caribbean increased six-fold and seven-fold, respectively, during the past century. Also, the populations of Asia, Northern America and Oceania increased approximately four-fold in the 20th century.

Particularly noteworthy is the growth of Africa's population, which increased from 8% of the world's population in 1900 to 17% today. That rapid demographic growth is expected to continue, with Africa's population projected to increase five-fold during the 21st century, reaching 4.3 billion or nearly 40% of the world's population by the close of the current century.

The future rapid growth of Africa is most evident in a dozen countries whose populations are expected to increase by more than 100% by mid-century. Especially rapid population growth is projected for Niger (161%), Angola (128%), Democratic Republic of the Congo (111%) and Tanzania (110%).

Nearly all the world's annual population growth by 2050—about 97%—is taking place in developing countries. By far, the developing country contributing most to world population growth during the next three decades is India at 17%. The next six contributing countries are: Nigeria (7%), China

TABLE 2

World Population by Region and Percentage, 1900–2100

Population (in millions)						
	1900	1950	2000	2021	2050	2100
WORLD	1,650	2,536	6,143	7,875	9,735	10,875
AFRICA	133	228	811	1,373	2,448	4,280
ASIA	947	1,405	3,741	4,680	5,285	4,720
EUROPE	408	549	726	748	712	630
LATIN AMERICA AND CARRIBEAN	74	169	522	660	761	680
NORTHERN AMERICA	82	173	312	371	424	491
OCEANA	6	13	31	43	57	75

Percent Distribution						
	1900	1950	2000	2021	2050	2100
AFRICA	8.1%	9.0%	13.2%	17.4%	25.1%	39.4%
ASIA	57.4%	55.4%	60.9%	59.4%	54.3%	43.4%
EUROPE	24.7%	21.7%	11.8%	9.5%	7.3%	5.8%
LATIN AMERICA AND CARRIBEAN	4.5%	6.7%	8.5%	8.4%	7.8%	6.3%
NORTHERN AMERICA	5.0%	6.8%	5.1%	4.7%	4.4%	4.5%
OCEANA	0.4%	0.5%	0.5%	0.5%	0.6%	0.7%

SOURCE: UNITED NATIONS

(6%), Pakistan (5%), and Ethiopia, Indonesia, and Democratic Republic of Congo (all about 4%).

Among developed countries, the top contributing country to world population growth over the coming three decades is the United States at slightly more than 2%. After the U.S., and at

considerably lower levels, the next five developed countries contributing to world population growth are: Canada (0.4%), United Kingdom (0.4%) Australia (0.4%), France (0.2%) and Germany (0.2%).

The population ranking of countries has changed remarkably during the past century and is expected to continue changing in the coming decades. In 1950 six of the ten most populous countries in the world were more developed countries, i.e., the United States, Russia, Japan, Germany, the United Kingdom, and Italy. By 2021 only the United States and Russia remain among the top ten.

Moreover, according to the United Nations medium variant population projection, the only more developed country among the top ten most populous by the end of the century is expected to be the United States in fourth place behind India, China, and Nigeria. However, according to the constant variant population projection, which assumes current fertility rates remain unchanged for the remainder

FIGURE 2

Projected Population Increases: 2021–2100 (medium variant, in millions)

WORLD	3,000
AFRICA	2,907
ASIA	40
EUROPE	-118
THE AMERICAS	20
NORTHERN AMERICA	120
OCEANA	32

SOURCE: UNITED NATIONS

of the century, not a single more developed country remains among the top ten most populous. In addition, in 2100 according to the constant projection variant, Nigeria's population at 2.3 billion takes the number one position, followed by India at 2.0 billion, Democratic Republic of the Congo at 1.6 billion and China at 1 billion. (Figure 3).

The distribution of the world's population has also changed markedly within countries. Prior to modern times populations largely lived in rural areas. At the start of the 20th century, for example, a minority of the world's population, 15%, lived in urban areas. That proportion doubled to 30% by 1950 and reached 47% at the century's close. Today most of the world's population, 56%, are urban dwellers and that proportion is projected to reach 60% by the end of the current decade.

In addition to urbanization, another striking demographic change that occurred within countries is the emergence of mega-cities, which are agglomerations of 10 million or more inhabitants. In 1950, there were two cities in this category: New York and Tokyo with 12 million and 11 inhabitants, respectively. Today there are 35 mega-cities and most of them, ap-

proximately 80%, are in less developed regions.

The world's largest mega-city is Tokyo with 37 million inhabitants, followed by Delhi with 30 million, Shanghai with 27 million, São Paulo and Mexico City with 22 million, Dhaka and Cairo with 21 million, and Beijing and Mumbai with 20 million. The number of mega-cities is expected to continue increasing, reaching 48 by 2035, with virtually all the increase taking place in less developed regions.

MORTALITY

Perhaps the most welcomed demographic change in world population during the recent past is the decline in mortality levels, including infant, child, and maternal death rates. The decline in mortality rates across every age group has resulted in increased life expectancies for men, women, and children throughout the world.

During the past 70 years, for example, the global infant mortality rate fell from approximately 140 to 40 infant deaths per 1,000 live births. Average life expectancy at birth for the world increased by 28 years, from 45 to 73 years.

Prior to the outbreak of the coronavirus pandemic, the improvements in

mortality levels were projected to continue throughout the 21st century, with world population's average life expectancy at birth projected to reach 77 years by 2050 and nearly 82 years by 2100. Some of the countries expected to have the highest life expectancy at birth of 88 years by midcentury are Italy, Japan, Singapore, Spain, and Switzerland.

Despite the impressive reductions in mortality rates, many countries, particularly those in sub-Saharan Africa, are lagging behind. The impact of diseases, epidemics and low levels of socio-economic development have resulted in life expectancies at birth of many African countries falling well below the world average of 73 years. For example, ten African countries, including Nigeria, Somalia, and South Sudan, have life expectancies at birth less than 60 years, the world average achieved a half century ago.

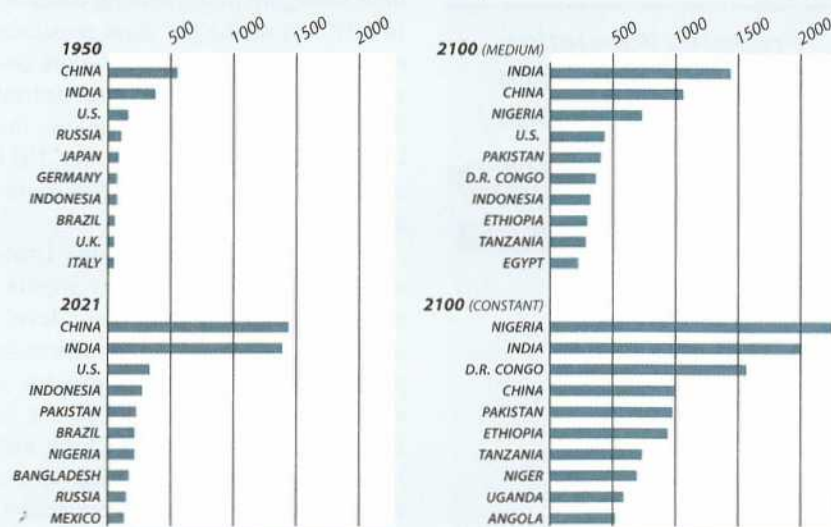
Before the arrival of the coronavirus pandemic, the five top causes of death were ischemic heart disease (16% of all deaths), stroke (11%), chronic obstructive lung disease (6%), lower respiratory infections (5%) and neonatal conditions (4%). Although the available data on mortality in 2020 are preliminary and believed to be seriously undercounted, the human toll due to the coronavirus pandemic has been substantial and has no doubt reduced life expectancies.

Since the beginning of 2020, Covid-19 has killed close to 5 million people worldwide, including more than 650 thousand in the United States; more than 580 thousand in Brazil; and close to 450,000 in India. Based on official reported statistics, Covid-19 has become the fourth leading cause of death globally, accounting for just under 1 in 20 deaths worldwide since the start of 2020.

However, recent estimates suggest that the total number of deaths could be more than twice as large as reported globally and many times greater than reported in some countries. Considering unreported deaths, the Covid-19 death toll could become the world's third leading cause of death after heart disease and stroke.

FIGURE 3

World's Most Populous Nations in 1950, 2021 & 2100 (in millions)



SOURCE: UNITED NATIONS

According to official statistics, Covid-19 was the leading cause of death in some countries, including France, Spain, and England. Also, when adjusted for undercounting, Covid-19 jumps from the second leading cause to the leading cause of death in some countries, such as Iran, Italy, and the United States.

Data for several hard-hit countries indicate that life expectancy at birth has declined because of the pandemic. In the United States, for the first half of 2020, life expectancy at birth declined by 1.2 years for males and 0.9 years for females.

Importantly, noteworthy differences in life expectancy declines were also observed across major U.S. socioeconomic groups. The largest decline in life expectancy at birth was 3 years for non-Hispanic Black males and the smallest was 0.7 years for non-Hispanic white females.

Among the troubling concerns about the coronavirus pandemic in the near term is the emergence of more contagious and possibly more lethal variants of the coronavirus, which are challenging the effectiveness of current vaccines. For example, the Delta variant can generate roughly 1,000 times the viral load of its coronavirus predecessor and is undercutting the efforts of many countries to control its spread, with some worrying that vaccines may not be enough to stop the pandemic's spread.

Also, another unknown is the possibility for lingering consequences from Covid 19. Several variants of the SARS-CoV-2 coronavirus first detected in China have already been reported in Brazil, South Africa, the United Kingdom, and the United States.

Another major concern is the formidable challenge of ensuring global availability and access to Covid-19 vaccines. While more than three billion doses of vaccines had been administered by the middle of 2021, most of them have been in high-income countries. Also, the protections and immunity offered by current vaccines are increasingly believed to wane over time, consequently requiring a booster



Crowded wholesale market amid Covid-19 emergency in Kolkata, India, July, 14, 2021. (INDRANIL ADITYA/NURPHOTO/GETTY IMAGES)

vaccine, especially for the elderly and most vulnerable.

Somewhat ironically, the refusal to take the Covid-19 vaccines has emerged as a major public health concern in both developed and developing countries. Based on more than a dozen country surveys, it is estimated that about a fifth of people across the world would refuse to be vaccinated. High levels of vaccine refusal threaten the goal of achieving herd immunity in many countries, resulting in increasing numbers of Covid-19 deaths.

In developing and developed alike, lines of men and women who have lost their employment stretch outside food pantries and distribution centers. Covid-19 has also killed many thousands of breadwinners, which has also contributed to higher levels of food insecurity, which is particularly bleak in Africa.

Numerous aspects of the coronavirus remain unclear, unresolved, and puzzling, including the implications for projection assumptions of mortality rates for the coming decades of the 21st century. One thing, however, appears certain for the second and third years of the pandemic: many more people will likely succumb to the Covid-19 and even more will be forced to deal with the consequences of those deaths and illnesses suffered by family members, friends and colleagues.

FERTILITY

Another remarkable transformation in world population that occurred during the 20th century and is continuing throughout the 21st century is the decline in fertility. For a variety of factors, including lower mortality, urbanization, education, improvements in the status of women, availability of modern contraceptives, delayed childbearing and increased costs of childrearing, global fertility has decreased significantly from an average of about 5 births per woman at mid-20th century to 2.5 births per woman today. According to the United Nations medium variant projection, the global fertility rate will fall below the replacement level near the close of the 21st century.

In 1950 less than a handful of countries had fertility rates below the replacement level of about 2 births per woman. Today approximately 80 countries, representing no less than half of the world's population, report fertility rates below replacement levels. According to the United Nations medium variant projection, by the close of the century, except for about 20 sub-Saharan African countries, all countries are projected to have fertility rates below replacement levels.

Future rebounds in fertility rates cannot be ruled out. However, once fertility rates fall below replacement lev-

els, that trend typically endures. This pattern has been especially evident in the many countries where fertility has recently declined to 1.6 children or less per woman, including Canada, China, Germany, Hungary, Italy, Japan, South Korea, Russia, and the United States.

Aside from a global mortality catastrophe, the future size of the world's population is determined basically by the number of children women bear. If the average number of births per woman remains above the replacement level, as is assumed in the United Nations high and constant fertility projection variants, world population continues to increase. However, if women around the world have less than two births on average, as is assumed in the medium and low fertility projection variants, then world population eventually decreases.

In many of those countries, including Canada, Germany, Japan, Italy and the United Kingdom, fertility rates have remained below the replacement level for decades. As a result, governments are increasingly concerned about demographic decline, population aging, and the social, economic, and cultural consequences of very low fertility, with many adopting a variety of policy measures to encourage higher birth rates.

Nearly two out of three countries with below-replacement fertility, have adopted policies and established programs to raise birthrates, including most recently China with a fertility rate of 1.3 births per woman. In addition to public programs promoting marriage, childbearing, parenting and gender equality, governments try various incentives to raise fertility rates including baby bonuses, family allowances, maternal and paternal leave, tax breaks, flexible employment schedules and family-friendly work environments.

Pronatalist incentives may encourage some couples to have additional children or start families earlier than planned. Such measures by and large tend to be costly, the impact modest at best, and insufficient at raising fertility rates above replacement levels. Powerful forces overwhelm pronatalist policies, especially economic uncertainty related to automation and the decline

of good jobs and the high costs of child rearing including higher education.

AGING

While rapid population growth for the world may be the defining feature of the 20th century, the hallmark of the 21st century is likely to be population aging. The consequences of population aging are reverberating across the globe, including challenging the existing world order and impacting virtually every aspect of society, including economic activity, investments, politics, taxation, education, housing, household/family structure, retirement, pensions, and healthcare services.

Due to the declines in fertility as well as mortality, the age structure of world population has aged markedly. For example, the median age of world population has increased by six years over the past seven decades, i.e., from 24 to 30 years. In addition, the elderly proportion aged 80 years or older has tripled over this time period, increasing from about 0.5% to 1.6%.

Throughout much of human history population age structures were comparatively young. In the past century, for example, the percentage of elderly, those aged 65 years and older, averaged around 5%. In striking contrast, the proportion of elderly will more than triple during the 21st century.

Nearly all the G20 countries, which together account for more than 80% of world GDP, 75% of global trade and 60% of world population, are expected to have no less than one-quarter of their populations aged 65 years and older by 2100. And eight of those countries, including China, Germany, Italy, and Japan, are projected to have one-third or more of their population elderly by the close of the century.

As a result of continuing low birth rates and increased longevity, population aging will be even more critical during the 21st century. In many countries, including Germany, Italy, Japan and Spain, the potential support ratio, which is the ratio of the working age population aged 15 to 64 years per one person 65 years or older, is projected to decline to less than two people in the

working ages per one elderly person.

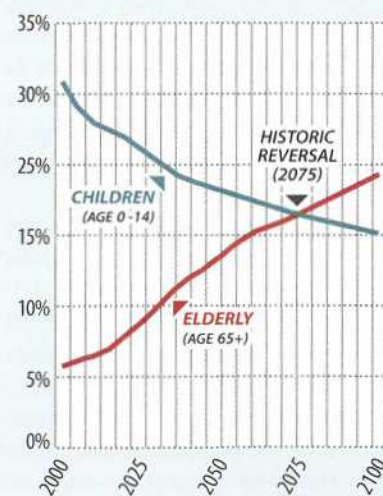
Due to the increasing elderly population coupled with the relative decline of workers paying taxes, many countries are confronting difficult choices concerning budgetary allocations, taxation levels and provision of social and health services. To avoid controversial budgetary reforms and unpopular tax increases, some governments are reducing expenditures and entitlements for the elderly and shifting more of the costs for support, care giving and health services to the individual and their families.

Another clear indicator of the unprecedented population aging underway worldwide is the Historic Reversal, or the demographic turning point when children (0 to 14 years) in a population become fewer than its elderly (65 years and older). The Historic Reversal first occurred in 1995 in Italy and today some 30 countries have experienced the Historic Reversal, including Canada, France, Germany, Greece, Japan, Spain, and the United Kingdom. In 2075, and for the first time in human history, the world's population is projected to go through the Historic Reversal with the elderly increasingly outnumbering children (Figure 4).

Housing and households are also

FIGURE 4

World Population of Children and the Elderly, 2000 – 2020



SOURCE: UNITED NATIONS

being affected by population aging. In the past and continuing today in some developing countries, elderly persons generally lived with adult children and grandchildren. With rising levels of urbanization, increasingly neither the elderly nor their adult children are choosing to live together but prefer separate households with proximity.

Population aging is certainly a significant human achievement, the result of smaller family sizes, lower mortality rates and increased longevity. However, this notable achievement comes with both challenges and opportunities for governments, businesses, organizations, and private citizens. Those able to recognize and adjust to the 21st century's demographic transformation of age structures are far more likely to benefit and prosper than those who ignore or dismiss the momentous consequences of population aging.

INTERNATIONAL MIGRATION

International migration has been a continuous and prominent characteristic of human populations and demographic change throughout the ages. During the recent past many millions of men, women, and children have crossed international borders to settle in another country, transforming international migration into a major modern global issue.

Following the Second World War, the number of international migrants grew rapidly during the second half of the 20th century from 77 million in 1960, or 2.1% of the world's population, to 173 million by the close of the twentieth century, 2.8% of the world's population.

In 2020, the number of people residing outside their country of birth reached 281 million, or 3.5% of world popula-

tion, nearly four times the number of migrants in 1960. If the current proportion of international migrants were to remain at its current level, the projected number of international migrants in 2050 would reach 343 million.

Most international migrants, approximately 60%, live in more developed regions. About 30% of international migrants live in Europe, slightly more than a fifth reside in North America, and 3% live in Oceania. Nearly a third of all migrants reside in Asia, with Africa at 10% and Latin America and the Caribbean at 4%.

Half of the world's migrants lived in ten countries. In 2020 the United States hosted the largest number of international migrants at 51 million, Germany had the second largest number at around 13 million each, Saudi Arabia, Russia and the United Kingdom followed with 13, 12 and 9 million, respectively.



People gathered at the Main Square to attend 'S.O.S. For the Border' protest in solidarity with refugees who got stuck or died at Polish-Belarusian border. Krakow, Poland on November 1st, 2021. Protestors demonstrated on All Saints' Day holding green lights and candles, a color that became a signal of help and shelter offered to refugees by locals living near the border. (BEATA ZAWRZEL/NURPHOTO/AP IMAGES)



Hiwot (left) with her baby Tarikua (six months) in a camp for internally displaced people. Tarikua was born in the local hospital that was one of the many buildings destroyed following an armed attack on the town of Ataye, Ethiopia, which destroyed more than 1,500 buildings and killed at least 100 people. Although the Oromo Liberation Army (OLA), a rebel group that lawmakers designated a terrorist organisation in May 2021, are suspected to be responsible for the attack it is still not clear who was behind it. (PETTERIK WIGGERS/PANOS PICTURES/REDUX)

International migrants come from many sending countries. The top ten sending countries in 2020 accounted for slightly more than one-third of all international migrants. The leading countries of origin of international migrants were India with 18 million, followed by Mexico with 12 million, China with 11 million, Russia with 10 million, and Syria with 8.2 million.

In addition to the rapid growth of international migration, the remittances that migrants send home to assist their families have increased rapidly during the past half century. Annual remittances have increased from several billion U.S. dollars in 1970 to more than 700 billion US dollars today, far exceeding the level of overseas development assistance.

The coronavirus pandemic has largely brought human movement to a halt, an event that has been unprecedented in modern times. In addition to the global restrictions on international travel, billions of people have been negatively affected by the pandemic's far-reaching economic fallout.

Like the rapid increase in the numbers of international migrants, the numbers of refugees worldwide have also grown markedly during the recent past. The global number of refugees and asylum seekers at the end of 2020 was more than 26 million, an increase by

approximately 11 million since 2010 and double the level in 2000.

About 21 million refugees are under the mandate of the UN High Commissioner for Refugees (UNHCR), and approximately 6 million Palestine refugees are registered with the UN Relief and Works Agency for Palestine Refugees (UNRWA). By the end of 2020, more than 4 million people were asylum seekers, including 850,000 Venezuelans. In addition to the civil war in Ethiopia that displaced more than a million people, close to five million people fled Venezuela to neighboring countries, the region's biggest exodus in recent history and one of the world's largest displacement crises.

Another major global migration challenge is illegal immigration. Millions of men, women, and children who have slim chances of immigrating legally are risking their lives to reach and settle in another country. While precise figures of migrants unlawfully resident are difficult to establish, the total number worldwide is estimated at no less than 50 million.

Often closely linked to illegal migration are smuggling and human trafficking. Due to the demands for cheap and compliant labor, sexual exploitation, and the low risks and high profits, criminal groups are increasingly involved in smuggling and human trafficking in virtually every region of the world. Growing numbers of men, women, and children are falling victim to deception and mistreatment, including debt bondage, torture, unlawful confinement, sexual abuse and rape, and threats and violence against them, their families, and their friends.

In recent years, international migration flows, especially illegal migration, have seriously challenged the capacities and finances of government authorities and intergovernmental organizations as well as public attitudes toward immigrants. Governments in virtually every region have adopted policies to limit international migration, including restricting levels and composition, reducing refugee flows, rejecting asylum seekers, repatriating those unlawfully resident, and redefining or denying

citizenship to certain groups. Attempts by regional and international organizations to encourage acceptance of immigrants and growing numbers of refugees have encountered fierce political resistance, public opposition and nativistic policies.

EQUALITY OF WOMEN

Another noteworthy population trend during the recent past concerns the changes in the role and status of women. During the 20th century, significant social, economic, and political progress was achieved in women's equality.

Progress has been greatly facilitated by improvements in women's health, urbanization, delayed marriage and childbearing, and declines in family size. Among the more developed countries, and increasingly in the urban areas of less developed regions, the traditional stay-at-home mom is being replaced by the working mom. Also, growing numbers of women are seeking higher education, careers, and individual social identity.

At the same time, the powerful demographic changes taking place around the world are exerting pressure on governments to reexamine many of their policies and programs relating to the role and status accorded to women. In some instances, however, especially in African and Asian countries, conservative groups are resisting attempts to achieve gender equality in social, economic, and political spheres of society and are seeking to maintain traditional roles and lifestyles for men and women.

Son preference is one traditional gender belief that is of global concern, especially in the years ahead. With couples increasingly having one child in China and fewer children in India as well as other populous countries, and the growing use of prenatal ultrasound scanning, government authorities are facing difficulties enforcing laws and prohibitions against sex-selective abortion.

The biologically natural sex ratio at birth for human populations is typically around 105 males per 100 females, though it ranges from 103 to 107. Today, five countries with highly skewed

sex ratios at birth show the highest numbers of missing girls, with a ratio of 113 males to 100 females in China and Azerbaijan, followed by Vietnam, Armenia, India at about 111 males per 100 females (Figure 14). Over time, those skewed sex ratios at birth produce abnormal gender imbalances in adulthood.

While the cultural belief that the family is incomplete or unbalanced without a son is evident in many parts of the world, this belief is especially widespread and strong in countries of East and South Asia. Among other things, couples desire a son to continue the family name and bloodline, earn money, look after the family, perform ritual functions, and take care of parents in old age. A daughter, in contrast, is often considered a liability as she is perceived as costly to marry off and once married, she is expected to move to her husband's household.

Gender imbalances related to missing girls have serious negative consequences for societies and individuals that are compounded over time. The gender imbalances at birth become especially problematic when children reach adulthood. Because of the relative shortages of marriageable women, growing numbers of men experience loneliness, encounter difficulties in finding wives and feel frustrated and saddened by being unable to establish families.

The progress achieved in women's equality during the 20th century is expected to continue during the 21st century. Worldwide women now outnumber men in both university attendance and graduation. Growing numbers of women are seeking higher education, employment, political office, and social identity. In addition, more women are entering professions that were traditionally the domain of men.

Although women's educational attainment exceeds that of men in most countries, women remain behind men in such areas as income, business ownership, research, and politics. Different fields of study and vocational training chosen by women and men may explain some disparities. However, the

persistence of the female disadvantage suggests that societal expectations and cultural norms on the appropriate roles for women and men are limiting the achievement of gender equality.

Also, women continue to stay at home more than men. Across countries, even in those that actively promote the equality of the sexes, the labor force participation rates of women, while substantially higher than in the past, remain below those of men. Among OECD countries the average labor participation rates of women and men are 64% and 80%, respectively.

A leading factor influencing gender differences in labor participation involves childbearing and child rearing. By and large, a substantial proportion of mothers withdraw from formal employment after childbirth. In Germany and the United Kingdom, for example, one in four women leave the labor force following the birth of a child. In addition, the responsibilities for childrearing increase the levels of part-time work among mothers.

Gender differences in time devoted to unpaid care work also impact women's employment. In every region, women spend more than twice as much time than men on housework and family care. In addition to raising children and providing unpaid household work, caregiving responsibilities for the elderly, ill or needy family members typically fall on women's shoulders.

FAMILY COMPOSITION AND HOUSEHOLDS

The family consisting of a working father, stay-at-home mom, several children, and marriage "until death do us part" appears no longer to be the societal norm in many countries, especially more developed nations. In many countries, being married has become less of a necessity for financial survival, social interaction, and personal fulfillment.

Single-parent households have also increased markedly during the past several decades. In some regions such as Latin America, the proportions of births outside marriage are estimated at more than 60%. Also, in many European countries, most births occur outside

marriage, with government assistance typically provided to single parents. Today, about 14% of the world's 2.3 billion children reside in a single-parent household, most often with only a mother.

A related global transformation in living arrangements with far-reaching consequences is the rise of one-person households, which increased rapidly during the 20th century, accelerating after 1950, especially among the more developed countries. Of the world's 2 billion households, about 15%—or 300 million—are estimated to be one-person households.

The proportion of people who live alone has grown steadily over the recent past. Since the 1960s, for example, one-person households in many countries have increased substantially. In many European countries, as well as in Australia, Canada, China, Japan, South Korea and the United States, the proportion of one-person households has more than doubled (Figure 15).

The highest rates of one-person households occur in Europe. Among European countries one-person households of 40% or more are reported in Denmark, Finland, Germany, Norway, and Sweden. Other European countries with high rates of one-person households include Austria (37%), Switzerland (37%), Netherlands (36%), France (35%) and Italy (33%). Moderately high levels of one-person households are also observed in countries outside Europe, such as Japan (32%), the United States (28%), Canada (28%), South Korea (27%), Australia (24%) and New Zealand (24%).

Developing countries generally have lower proportions of one-person households than developed countries. Some of the lowest rates of one-person households—less than 10%—are observed in China, India, Indonesia, Iran, Mexico, the Philippines, and Vietnam.

One-person households offer opportunities for men and women wishing to have privacy, solitude, introspection, and personal lifestyle choices. However, growing numbers of one-person households also pose challenges to the social and economic development of

TABLE 3

Major Population Trends in the 21st Century

1. Larger world population, billions added during 21st century
2. Future growth concentrated in less developed countries
3. Population declines in many countries by midcentury
4. Increased urbanization and larger cities
5. Lower mortality, higher life expectancies, with emerging risks
6. Lower fertility with below replacement level in many countries
7. Population aging and increased longevity
8. Increased international migration
9. Progress in women's equality
10. Changing family composition and household structure

urban centers and rural areas and the capacities of governments to provide services and care to those living alone, especially the elderly.

Also, the growth of one-person households has various societal and normative implications, including the well-being of the individuals residing on their own. One-person households tend to be more vulnerable and therefore potentially more costly to society than those having a partner or companion. With a single and often limited source of income, one-person households are more precarious with lower median household incomes and generally face more difficulties when dealing with unemployment, injury, illness, adversity, disability, social isolation, and loneliness.

In addition, the increase in one-person households has government policy implications. One-person households often mean smaller savings for retirement and therefore potentially greater financial aid and assistance needed for the elderly in the future.

CONCLUSIONS

The momentous demographic changes in the world's population that occurred in the 20th century and are continuing throughout the 21st century pose social, economic, political, environmental, and climate challenges and disquieting implications for the world's future. While many demographic changes are expected in the many

countries across the globe, ten major world population changes in the coming decades stand out and should be highlighted (Table 3).

In brief, world population is expected to be adding billions more people during the remainder of the 21st century, with most of this future demographic growth concentrated in the growing urban areas of less developed countries. As noted earlier, population growth rates have declined relatively rapidly in virtually all regions of the world except sub-Saharan Africa. It is the last major region to go through the demographic transition from high rates of mortality and fertility to comparatively low rates.

Over the next three decades, African countries will contribute about 60% of world population growth of nearly 2 billion people, followed by Asian nations that will contribute about one-third of the world's growth. Some two dozen African countries are expected to have their current populations double by around midcentury. Increased efforts and assistance will be needed to expedite the demographic transition to low death and birth rates among sub-Saharan African countries.

At the same time of this rapid growth among sub-Saharan African countries, many other countries will be experiencing population decline due to fertility rates remaining below the replacement level and facing significantly older population age structures and

increased longevity due to declining mortality rates. Also, migration, both legal and illegal, is expected to increase from the poorer less developed countries to the wealthier more developed countries. In addition, progress is expected in women's equality as well as significant changes in family composition and the structure of households.

It is widely recognized that the world's increased urbanization offers a large variety of social, economic, and cultural benefits, opportunities, and freedoms. In addition to employment and career development, urban residents have ready access to education, health care, social services, cultural institutions, recreation, information, and government agencies. However, urbanization places stresses on social services, infrastructure and the physical environment that can make urban living difficult, especially for low-income groups in developing countries.

More recently, many large cities are facing the devastating effects of climate change. In addition to flooding, rising sea levels, droughts, wildfires, and higher temperatures, many cities, especially those in Bangladesh, China, India, Indonesia, and Pakistan, are now confronting serious air pollution. In addition to the increased risks of morbidity and mortality, ambient air pollution has enormous economic and social costs, particularly for cities in low- and middle-income countries.

The coronavirus pandemic has also greatly impacted the demography of the world's population and sensitized global leaders to emerging health threats from contagious viruses and diseases. Preliminary data and trends point to a continuation of the pandemic's serious consequences on mortality, morbidity, fertility, and migration for the near future. Although long-term projections point to improvements in mortality levels in the coming decades, the coronavirus has certainly limited those improvements at least for the near term and will certainly require a rethinking of assumptions regarding mortality rates during the 21st century.

The failure to adequately meet the basic needs and aspirations of the

world's growing population is having serious consequences, particularly in the less developed countries. In addition to rising poverty levels, shortages of water, food, and energy, and worsening environmental conditions, the serious consequences include social unrest, political instability, civil violence, and armed conflict.

Those consequences will not remain confined within national borders but will spill over into neighboring countries as well as distant regions. Among the likely repercussions are calls for increased development assistance, requests for emergency and humanitarian relief aid, rising numbers of internally displaced persons and asylum seekers, and substantially more men, women, and children seeking to migrate to wealthier nations by both legal and illegal means.

A variety of views have been offered regarding the major population trends expected in the 21st century. For example, it is widely acknowledged that slower population growth provides countries with more time to adjust to future population increases. This in turn increases the ability and prospects of those countries to improve the quality of life of their citizens and foster economic growth and development, while at the same time safeguarding the environment, natural resources, and the climate. In other words, slowing down rapid population growth would make it considerably easier for countries to build the foundations for future sustainable development.

Recognizing the benefits of slower rates of population growth, the 1994 United Nations International Conference on Population and Development recommended "...to facilitate the demographic transition as soon as possible in countries where there is an imbalance between demographic rates and social, economic and environmental goals, while fully respecting human rights."

However, others are concerned about the consequences of population declines and population aging for economic growth, the labor force, retirement, social security, and health-care systems. They would like to see a growing popu-



Nursing students show baby care skills during a capping ceremony on May 10, 2021, in Jinan, Shandong Province of China. (ZHANG YONG/CHINA NEWS SERVICE/GETTY IMAGES)

lation and labor force with fertility rates above the replacement level.

And still others view below replacement fertility and ensuing population decline as positive demographic changes resulting in numerous benefits, especially the conservation of resources and reduced stresses on the environment and climate. They see the growth of human populations seriously impacting earth's environment and contributing to climate change, which in turn are seriously imperiling human sustainability on the planet.

Thousands of scientists have unequivocally declared that the planet Earth is facing a climate emergency and continuing to experience serious environmental issues, including biodiversity loss, deforestation, drought, ecological degradation, natural resource depletion, crop yields, food production, pollution, and congestion. In particular, global warming is making things worse, with rising temperatures drying out soils and depleting mountain snowpack that normally supply water during the spring and summer.

A recently released landmark report on the hazards of climate change by the Intergovernmental Panel on Climate Change (IPCC) has predicted a devastating future for human populations. An essential part of efforts to address the many environmental and climate issues, according to the report is a rapid as possible transition to world population stabilization.

Finally, it is important to recognize the unprecedented growth of world population – the most rapid in human history—that tripled world population since the mid 20th century, adding nearly 5.5 billion more people. That extraordinary demographic growth continues to pose serious challenges for humanity.

The recent declines in world population growth provide some indication of future demographic stabilization or peaking, perhaps as early as the close of the 21st century. At that time, would population be projected to be nearly 11 billion by 2100, which is 3 billion more than today or nearly seven times as many people as were living on the planet at the start of the 20th century.

Demographic trends, particularly population growth, aging, urbanization, and international migration, are contributing to the many challenges facing humanity, including food production, water shortages, poverty, undernourishment, increased mortality, climate change, environmental degradation, reduced biodiversity, human rights, civil unrest, displacement, and armed conflict. Understanding and anticipating the consequences of those powerful demographic megatrends could stave off security, economic, social, and political crises and promote the development and wellbeing of countries worldwide.

(Additional charts for this topic can be accessed through the online glossary.)

discussion questions

1. What is more concerning, the boom in population growth and the negative impact this has on quality of life, or population decline and the negative impacts this has on the labor force, retirement, social security etc.?
2. How can developed countries such as the United States help combat the Covid-19 pandemic in other parts of the world?
3. How has the Covid-19 pandemic impacted some communities

differently than others? What can be done to counter this?

4. Some countries have implemented pro-natalist campaigns to boost declining fertility levels. Should the government be involved with population control in this way?
5. International migration has increased over the past decades. How will this phenomenon impact the demographics in the United States? What are the potential benefits and consequences?

suggested readings

Harper, Sarah. *How Population Change Will Transform Our World*. Oxford University Press. 272 pgs. April 2019. Our next generations face challenges, especially women in poorer parts of the world; young people trying to find work in full labor markets; and governments balancing the needs of local and immigrant populations. But the future is not all bleak. Sarah Harper describes the opportunities open to us, and the important transformation our societies will need to make to grasp them.

Mackenzie, Debora. *COVID-19: The Pandemic That Never Should Have Happened and How to Stop the Next One*. Hachette Books. 304 pgs. July 2020. No one has yet brought together our knowledge of Covid-19 in a comprehensive, informative, and accessible way. But that story can already be told, and Debora MacKenzie's urgent telling is required reading for these times and beyond. It is too early to say where the Covid-19 pandemic will go, but it is past time to talk about what went wrong but rather how we can do better.

Winter, Jay and Teitelbaum, Michael. *The Global Spread of Fertility Decline: Population, Fear, and Uncertainty*. Yale University Press. 344 pgs. June 2013. This eye-opening book looks at demographic trends in Europe, North America, and Asia—areas that now have low fertility rates—and argues that there is an essential yet often neglected political dimension to a full assessment of these trends. Political decisions that promote or discourage marriage and childbearing, facilitate or discourage contraception and abortion, and

stimulate or restrain immigration all have played significant roles in recent trends.

Collier, Paul. *Exodus: How Migration Is Changing Our World*. Oxford University Press. 320 pgs. May 2015. In *Exodus*, Paul Collier, the world-renowned economist and bestselling author of *The Bottom Billion*, clearly and concisely lays out the effects of encouraging or restricting migration. Drawing on original research and case studies, he explores this volatile issue from three perspectives: that of the migrants themselves, that of the people they leave behind, and that of the host societies where they relocate.

Hartmann, Betsy. *Reproductive Rights and Wrongs: The Global Politics of Population Control*. Haymarket Books. 488 pgs. December 2016. Threaded throughout *Reproductive Rights and Wrongs* is the story of how international women's health activists fought to reform population control and promote a new agenda of sexual and reproductive health and rights for all people. While their efforts bore fruit, many obstacles remain.

United Nations (2019) "World Population Prospects: 2019." United Nations, Population Division. New York, NY.
(Report Highlights: https://population.un.org/wpp/Publications/Files/WPP2019_Highlights.pdf)
(Estimates & Projections: <https://population.un.org/wpp/Download/Standard/Population/>)

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