

# **Learning and Teaching Resource Package Related to the Geography of China**

## **Topic 2 Changing Population**

### **(Senior Secondary Worksheet)**

#### **Theme: Population Change**

#### **Pre-lesson task**

In this lesson, we will study the population changes in our country. Read the excerpt of an article published in the New York Times in 2023, analyse figures 2.1 and 2.2 and discuss the following questions.

#### **Knowledge box 2.1**

India is on the cusp of passing China in population, according to the latest U.N. estimates. At 1.428 billion people, India has already edged past China. With China's population declining, the margin between the two countries will only grow as India becomes the most populous country in history.

The gentle slope of the demographic curve propelling India into first place looks enviable to the many developed nations that are rapidly aging. Indians are living longer, and the number of babies being born each year has barely budged. Unlike China, which is facing the hangover of its decades under the one-child policy, India faces no steep drop-off and accompanying economic and social dangers. It has a young and expanding work force as China's grays and contracts.

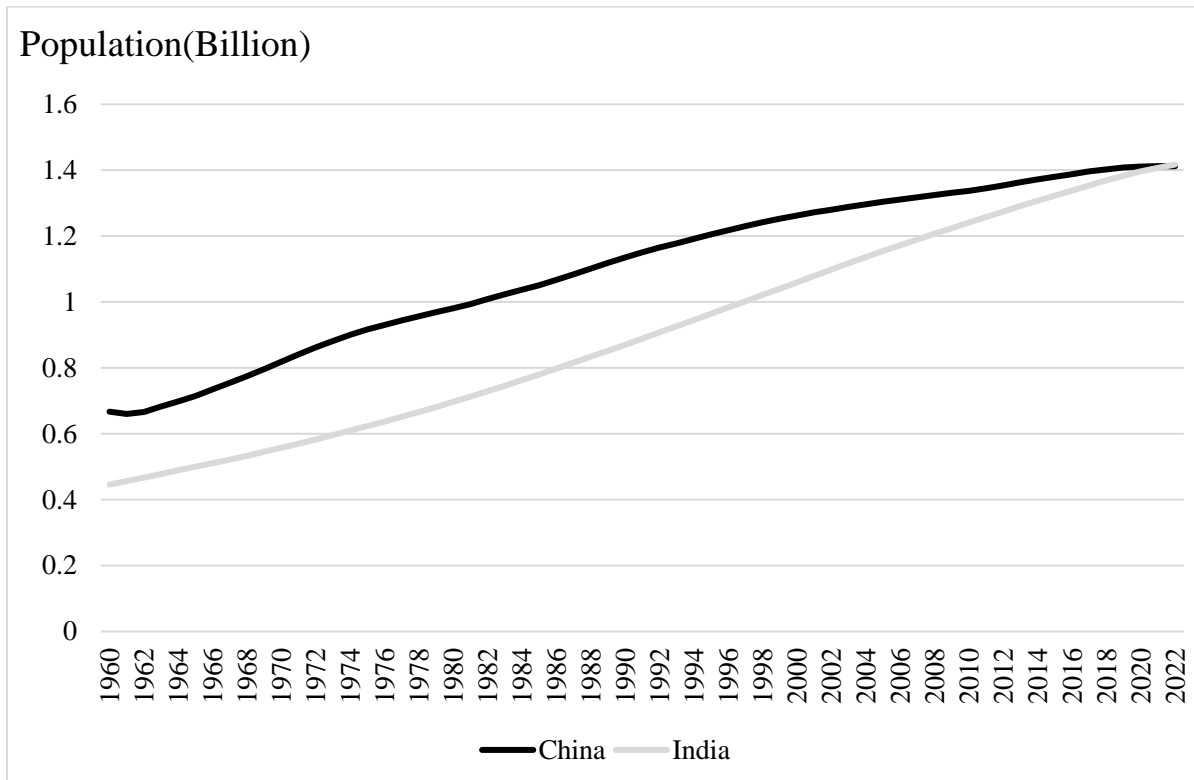
In some of India's regions, the population is still growing too fast for their economies, producing many more able-bodied young people than there are jobs to occupy them. In other parts, however – especially the better-developed south, where women have more education and family planning programs have proved successful – the population has already peaked. There, young families rarely produce more than two children.

In the early 1990s, when China accelerated market reforms, it roughly followed the template of others in East Asia – Japan and South Korea – and became a champion of export-driven manufacturing. It built an economy that today is more than five times the size of India's.

Excerpts from New York Times, 19 April 2023

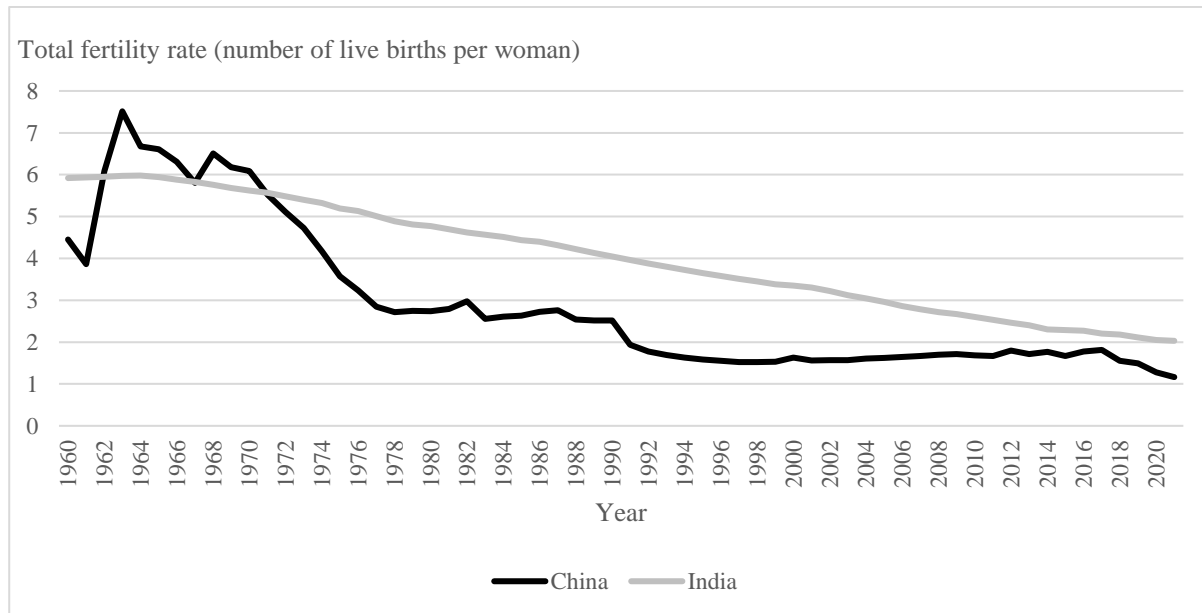
<https://cn.nytimes.com/world/20230421/india-china-population/dual/>

**Figure 2.1 Population growth of China and India**



Source: Word Bank

**Figure 2.2 Changes of total fertility rate of China and India**



Source: World Bank

Note: The total fertility rate (TFR), usually referred to as the fertility rate, reflects the total number of children a woman gives birth to in her lifetime. Due to reasons such as infant mortality and diseases, generally speaking, the total

fertility rate in developed countries must reach at least 2.1 to reach the generation replacement level and prevent the total population from declining with the replacement of generations.

(a) Select the correct answer for the following multiple-choice questions.

(a1) Which was the most populous country in the world before 2023?

A. China

B. India

(a2) Which was the most populous country in the world in 2024?

A. China

B. India

(a3) Which country had higher total fertility rate in the 1960s?

A. China

B. India

(a4) Which country had higher total fertility rate after 1970?

A. China

B. India

[Answer:

(a1) A; (a2) B; (a3) A; (a4)B.]

(b) China had long held the title of the world's most populous country, but it has now been surpassed by India. What are the reasons behind this shift in population change?

[Hint: China, which held the position of the world's most populous country for a long time, has now been overtaken by India. Several factors contribute to this shift:

Disparities in birth rates: Over the past few decades, India has maintained relatively higher birth rates or total fertility rate compared to China. China implemented the one-child policy in the late 1970s to control population growth. This policy, although effective in curbing population expansion, led to a decline in birth rates. In contrast, India did not enforce such strict population control measures, resulting in higher birth rates and contributing to its population growth.

Demographic transition: China experienced a rapid demographic transition, characterised by declining birth rates and increasing life expectancy. As a result, the population growth rate slowed down. In India, although birth rates have also declined, they have not reached the same levels as in China, leading to a higher population growth rate.

Educational attainment: Higher levels of education are often linked to lower fertility rates. China has made significant investments in education over the past few decades, potentially influencing

lower birth rates. On the other hand, India's education system is improving but still faces disparities, which may impact fertility decisions.

Economic development: China has experienced rapid economic growth and high levels of urbanisation, factors often associated with lower birth rates. The improved standard of living and increased access to contraception and family planning services in urban areas may have contributed to lower fertility rates in China. In contrast, India, while also undergoing a slow rate of economic growth, continues to grapple with significant economic disparities that may impact fertility decisions. It's note that even India experienced economic growth, but it is still at a low level.]

## In-class learning and teaching

Learning objectives:

- To understand population changes in our country.
- To understand the change in family planning policy in our country.
- To understand the importance of the population issue and appreciate that it is a major issue that our country needs to face.

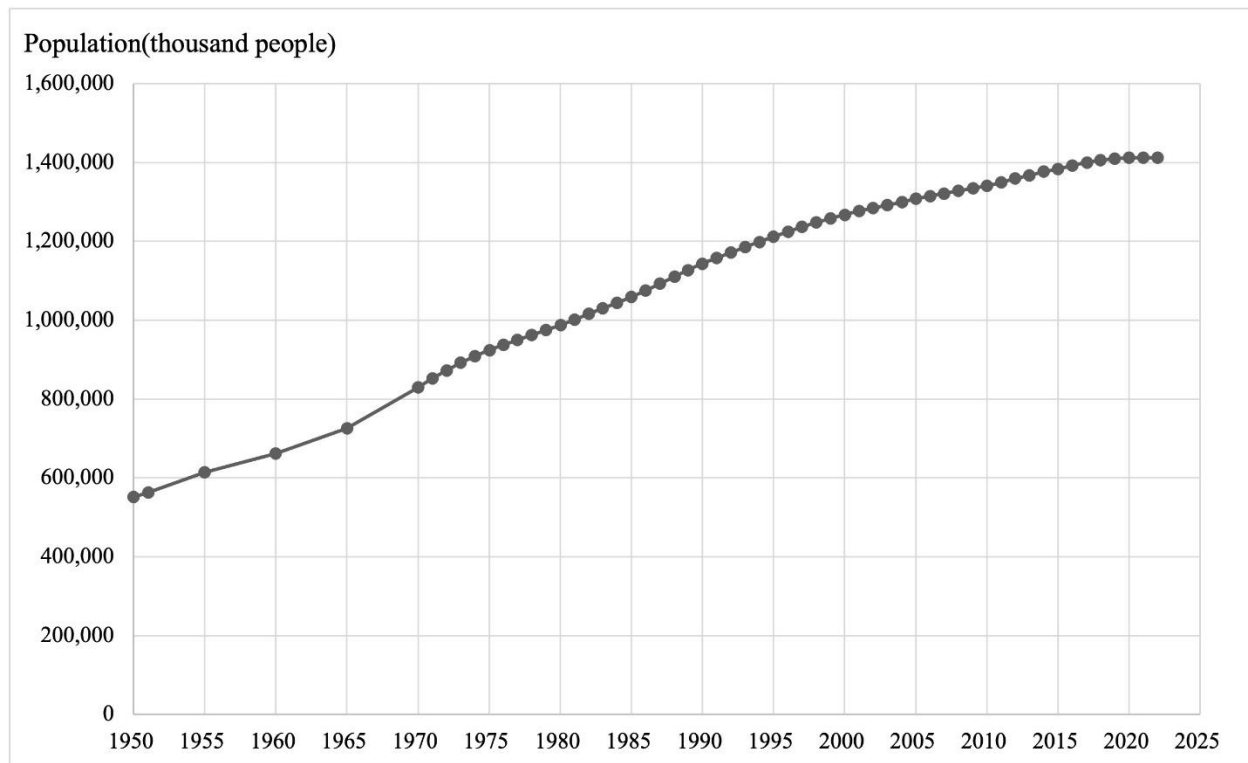
### Development 1: Changes of population growths in our country

Watch **Topic 2 Changing Population Video (Senior)**, study the figures of total population and population growth rates and discuss the following questions.

Other relevant videos (only in Chinese):

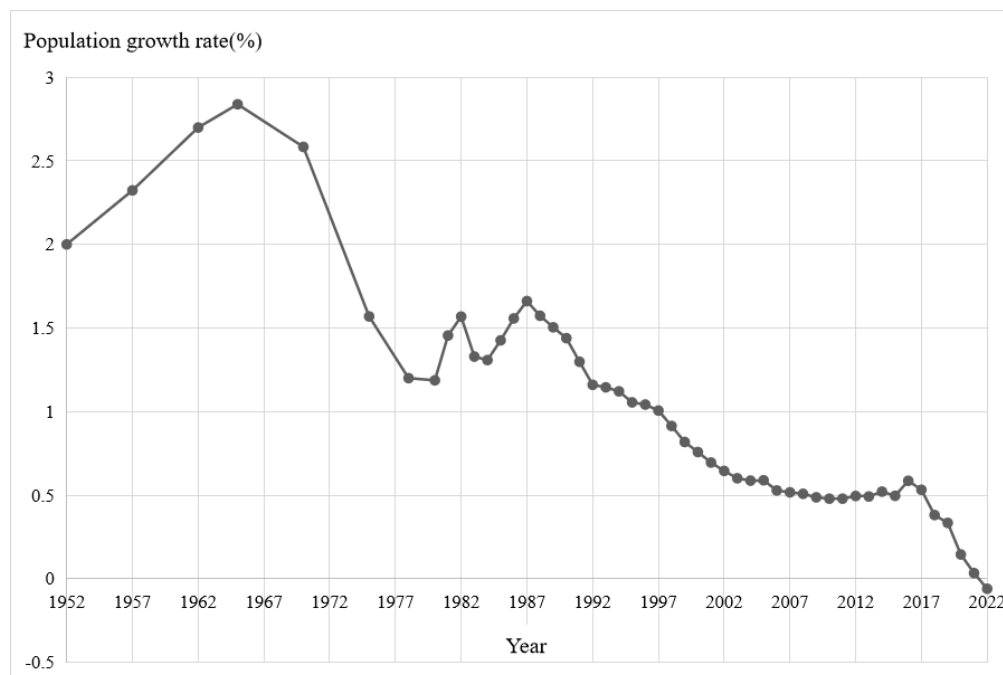
[24 hours] Census data released· Ning Jizhe, Director of the National Bureau of Statistics, responded to the slowdown in my country's population growth in the past decade ([24 小時] 人口普查數據公布・國家統計局局長 寧吉喆 回應近十年間我國人口成長放緩趨勢) 0:00-02:30	<a href="https://tv.cctv.com/2021/05/11/VIDEzgsrxClAOn8PtVHOYRnb210511.shtml?spm=C53156045404.P4yTQKr09uhz.0.0">https://tv.cctv.com/2021/05/11/VIDEzgsrxClAOn8PtVHOYRnb210511.shtml?spm=C53156045404.P4yTQKr09uhz.0.0</a>
"Population" demographic transition to the future 「人口」人口轉型向未來	<a href="https://tv.cctv.com/2019/07/09/VIDEywmoxqpYv8NzHM8RVkLA190709.shtml">https://tv.cctv.com/2019/07/09/VIDEywmoxqpYv8NzHM8RVkLA190709.shtml</a>

**Figure 2.3 Number of the total population in our country**



Source: China Statistical Yearbook

**Figure 2.4 Population growth rate in our country**



Source: China Statistical Yearbook

Note: According to the definition of the United Nations, population growth rate refers to the average annual rate of change of population size during a specified period. The formula shows as follows:

$$\text{Population growth rate} = \frac{\text{Final population (P)} - \text{Initial population (P}_0\text{)}}{\text{Initial population (P}_0\text{)}}$$

(a) What are the changes in population growth in the past over 70 years in our country?

[Hint:

(1) According to Figure 2.3: The population of our country has shown a steady increase over the years, with a few fluctuations and periods of rapid growth.

From 1949 to 1955, the population grew from 541.7 million (in 1949) to 614.7 million (in 1955), indicating a relatively moderate growth rate. However, from 1955 to 1976, there was a significant increase in population, reaching 937.2 million in 1976. This period of rapid growth can be attributed to various factors, including improvements in healthcare, economic development, and changes in government policies.

After 1976, the population growth rate gradually slowed down, but the overall trend remained positive. From 1976 to 2023, the population increased from 937.2 million to 1409.7 million. This indicates a more gradual growth rate compared to the previous period. The population reached its peak in 2021 with 1412.6 million, it declined to 1409.7 million in 2023, and it is projected to continue slow declining in the coming years.

These findings highlight the significant population growth that our country has experienced over the past decades. The government has implemented various measures to manage and control population growth, such as the one-child policy, which was in effect from 1979 to 2015. Overall, the population growth trend in our country has shifted from rapid growth to a more moderate and gradually slowing growth rate. However, from 2021 to 2023, the population declines from 1412.6 million to 1409.7 million. Our country is now focused on managing the implications of an aging population, ensuring sustainable population growth, and maintaining social and economic stability.

(2) According to Figure 2.4: The population growth rate represents the percentage change in population from one year to the next. From 1978 to the early 1980s, our country experienced relatively high population growth rates, ranging from 1.20 % to 1.66%. This period coincided with the implementation of the one-child policy, which aimed to control population growth. The policy resulted in a decline in birth rates, leading to a decrease in population growth.

In the following years, the population growth rate gradually declined. From the late 1990s to the early 2000s, the growth rate dropped below 1%, indicating a significant slowdown in population growth. This decline can be attributed to factors such as urbanisation, changing societal attitudes, and the effects of the one-child policy.

In recent years, the population growth rate has continued to decrease, reaching very low levels. From 2020 to 2023, the growth rate is projected to be negative, indicating a decline in population. This trend reflects the challenges of an aging population, declining birth rates, and other demographic factors that our country is currently facing.

These data highlight the significant shift in population growth rates in our country over the years. From high growth rates in the past to the current period of low or negative growth, our country is experiencing a demographic transition with implications for social, economic, and healthcare systems. The government's policies and initiatives are aimed at addressing these challenges and ensuring sustainable population growth in the future.]

(b) Why is our country's population growth slowing down?

[Hint: Our country's population growth has been slowing down due to several factors.

**One-Child Policy:** Our country implemented the one-child policy in the late 1970s as a measure to control population growth. This policy restricted most couples to having only one child. As a result, birth rates significantly declined, leading to a decrease in population growth.

**Economic development and urbanisation:** Our country has experienced rapid economic development and urbanisation in recent decades, with many people moving from rural areas to cities in search of better job opportunities and improved living standards. Urban areas tend to have lower fertility rates compared to rural areas, contributing to the overall decline in population growth.

**Socio-economic factors:** As our country has undergone rapid economic development, there has been a shift in societal attitudes towards smaller family sizes. Factors such as increased education, improved access to healthcare, and changing social norms have influenced couples to have fewer children.

**Aging population:** Our country is also facing the challenge of an aging population. The decline in birth rates, coupled with increased life expectancy, has resulted in a higher proportion of elderly individuals in the population. This demographic shift has implications for the labor force, social welfare, and healthcare systems.

**Government policies:** In recent years, our government has relaxed the one-child policy and allowed couples to have three children since 2021. However, the impact of these policy changes on population growth has been limited, as many couples have chosen to have only one child due to various factors such as economic considerations and lifestyle choices.

**Gender Imbalance:** The one-child policy, coupled with a cultural preference for male children, led to a significant gender imbalance in our country. The preference for male heirs resulted in sex-selective abortions and the abandonment of female infants. This gender imbalance has affected marriage rates and further contributed to a decline in population growth.]

## Development 2: Changes in family planning policy in our country

Family planning policies are governmental or societal strategies designed to control population growth by influencing the family size and birth rates within a population. Our country's family planning policies have undergone several revisions, including the implementation of specific birth quotas such as the one-child policy, two-child policy, and three-child policy. Read the following knowledge box and discuss the following questions.

### Knowledge box 2.2

In response to an overpopulation crisis, our country started to implement the one-child policy in 1979. Under this policy, each couple was allowed to have only one child. This policy, however, had several exceptions, such as for twins, rural families who needed more hands for farm work, and ethnic minorities. The policy was enforced through various mechanisms, including incentives for compliance, penalties for non-compliance (like fines), and in some cases, forced abortions and sterilisations.

The one-child policy had significant social and economic impacts, including an aging population, a skewed sex ratio due to a cultural preference for male children, and a shrinking workforce. In response to these issues, the Chinese government ended the one-child policy in 2015 and replaced it with a two-child policy. Under the two-child policy, couples no longer have to pay a social compensation fee if they have more than one child. The policy aimed to boost the birth rate and balance the age structure of the population. After the policy was implemented in 2016, the birth rate rose. But in the following years, the birth rate went down again. In 2018, only 15.23 million babies were born.

To combat the persistent decrease in the birth rate and the ongoing issue of an aging population, the Chinese government further relaxed its family planning policy in 2021, introducing the “three-child policy”. However, there were only 9.56 million and 9.02 new-born population in 2022 and 2023 respectively. It is too early to determine the full impact of this policy, as it would depend on the government's supporting measures and the willingness of couples to have more children in the face of rising living and educational costs.

(a) Select the correct answer for the following multiple-choice questions

(a1) What was the family planning policy before the late 1970s in our country?

- A. No family planning policy
- B. The one-child policy
- C. The two-child policy
- D. The three-child policy

(a2) What was the family planning policy from the late 1970s to 2015 in our country?

- A. No family planning policy
- B. The one-child policy
- C. The two-child policy
- D. The three-child policy

(a3) What was the family planning policy from 2016 to 2020 in our country?

- A. No family planning policy
- B. The one-child policy
- C. The two-child policy
- D. The three-child policy

(a4) What is the family planning policy after 2020 in our country?

- A. No family planning policy
- B. The one-child policy
- C. The two-child policy
- D. The three-child policy

[Answer:

(a1) A; (a2) B; (a3) C; (a4) D.]

(b) Why did our country implement the family planning policy in the late 1970s?

[Hint: Our country implemented the family planning policy, commonly known as the one-child policy, in the late 1970s as a response to concerns about the country's rapidly growing population. At the time, our country faced numerous challenges related to overpopulation, including strains on resources, environmental degradation, and economic constraints.

The decision to implement the family planning policy was influenced by several factors. First, our country's population had been steadily increasing, and it was projected to reach unsustainable levels if left unchecked. The government recognised that rapid population growth could hinder economic development and exacerbate social and environmental issues.

Second, our country's limited resources, including food, water, and energy, were under strain due to the growing population. The government believed that controlling population growth was necessary to ensure the availability of resources for the country's development and to improve living standards for its citizens.

Third, the government aimed to address socio-economic disparities and promote social stability. By limiting family size, the policy aimed to reduce poverty levels and provide better access to education, healthcare, and other social services for the population.

The family planning policy was implemented through a combination of incentives and penalties. Couples were encouraged to have only one child through benefits such as preferential access to housing, education, and healthcare, while those who violated the policy could face fines, loss of employment, or other penalties.

Overall, the implementation of the family planning policy in the 1970s was driven by concerns about overpopulation and the need to address socio-economic and environmental challenges in our country.]

(c) Read the Figure 2.5 of age structure in 1982, 2000, and 2020. What are the impacts of the family planning policy on population age structure in our country?

[Hint:

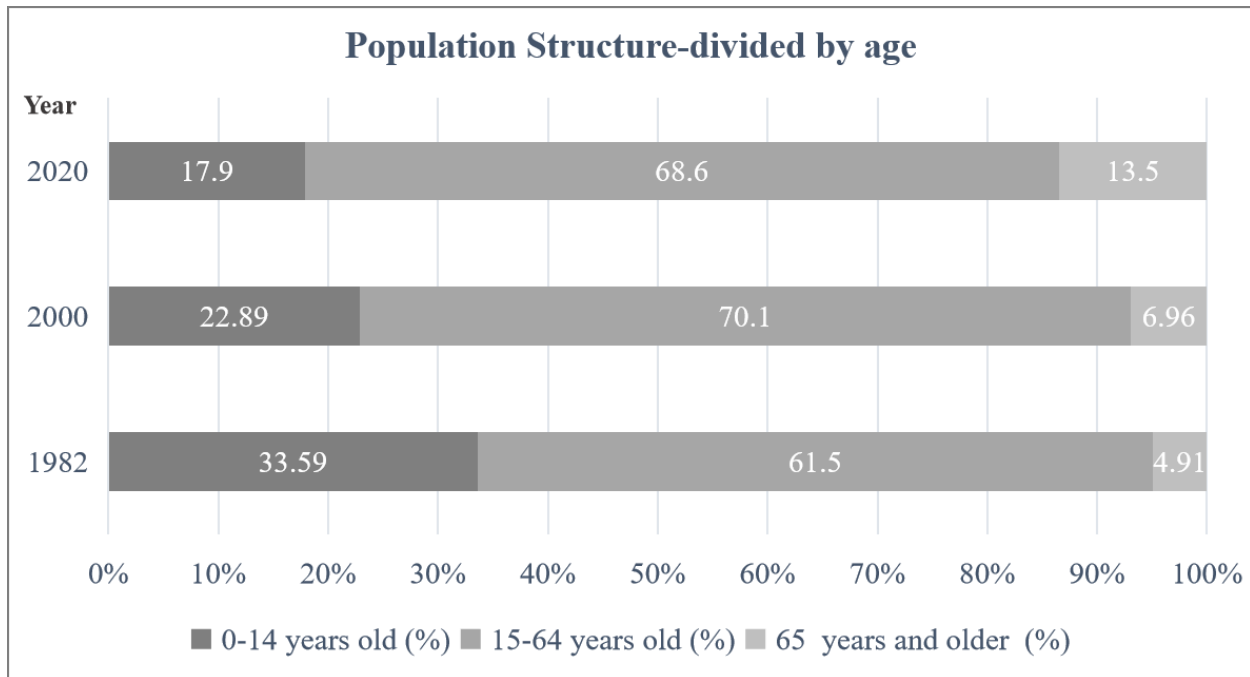
The data provided illustrates the significant changes in our country's population age structure from 1982 to 2020. In 1982, the percentage of the population aged 0-14 was 33.6%, indicating a relatively young population. This figure dropped significantly to 22.9% in 2000 and further to 17.9% in 2020, reflecting a decrease in the birth rate, likely influenced by our country's one-child policy.

The percentage of the population aged 15-64, which represents the working-age population, increased from 61.5% in 1982 to a peak of 70.1% in 2000, suggesting a potential demographic dividend during this period. However, this percentage decreased slightly to 68.6% in 2020, indicating a shrinking workforce.

Most notably, the percentage of the population aged 65 and above, representing the elderly population, has steadily increased from 4.9% in 1982 to 7.0% in 2000, and significantly to 13.5% in 2020. This trend signifies a rapidly aging population, which could pose challenges for social security and healthcare systems.

Overall, these figures illustrate the profound impact of our country's family planning policy on its population age structure, resulting in a declining youth population, a shrinking workforce, and a rapidly aging society]

**Figure 2.5 Population age structure in 1982, 2000, and 2020**



Source: National Bureau of Statistics of China

(d) Why has our country started to change the family planning policy since 2016?

[Hint: Our country decided to change its family planning policy in 2016 primarily due to the demographic challenges it was facing.

**Aging Population:** The one-child policy, in effect from 1979 to 2015, led to a significant decrease in birth rates. This, combined with increased life expectancy, resulted in a rapidly aging population. The percentage of the population aged 65 and above, representing the elderly population, has steadily increased from 4.9% in 1982 to 7.0% in 2000, and significantly to 13.5% in 2020. An aging population can put significant strain on social services and healthcare systems.

**Shrinking Workforce:** The decrease in birth rates also led to a decrease in the size of the working-age population. The percentage of the population aged 15-64, which represents the working-age population, increased from 61.5% in 1982 to a peak of 70.1% in 2000, then decreased slightly to 68.6% in 2020. This could potentially lead to labor shortages and slow down economic growth. If the workforce keeps shrinking, the cost of labor will rise sharply in the future, thus undermining our country's overall competitive edge in the international market. Second, our country's social security system is supported by the insurance premiums paid by the young labor force. If the number of the aging population keeps on increasing and the number of young people keeps on decreasing, the number of people paying insurance premiums will be insufficient, which may seriously affect the future of our country. The long-term solution to this problem is still to keep encouraging people's livelihood and increasing the number of young people.

In response to these challenges, our country replaced the one-child policy with a two-child policy in 2016, allowing all couples to have two children. The goal of this policy change was to help balance population development and address the issue of an aging population. Sustaining economic growth and improving livelihoods are integral to fostering demographic balance.]

## Post-lesson task

Read the following excerpt of transcript of the press conference of the National Health Commission of China in January 20, 2022 and discuss the following questions.

### Knowledge box 2.3

The decline in the size of the birth population has been influenced by several factors. One of these factors is also related to the COVID-19 pandemic, and our preliminary judgment is that the epidemic mainly has direct and indirect impacts. For example, increased insecurity and uncertainty about the future makes families potentially hesitant to have children in the future and also reduces people's willingness to have children. The fact that the COVID-19 pandemic outbreak may directly or indirectly lower household members' incomes increases the influence of childcare costs. There are many enterprises, especially small and micro-enterprise units, that are struggling during the outbreak of the Covid-19 pandemic, which not only affects the income of family members but also increases work-family conflicts in the household and increases the fear or trepidation of childbearing. Of course, some people will worry that maternal and child health care, pregnancy and childbirth check-ups, and other such routine services will be affected during the epidemic. All these factors may prompt the public to choose to postpone or even cancel their childbearing plans.

Since last year, there have been several international studies focusing on the impact of the COVID-19 pandemic on mortality and fertility rates, and Chinese scholars have also been paying attention to the impact in this regard. Most studies so far indicate that the impact of the Covid-19 pandemic on births is negative.

Excerpt of transcript of the press conference of the National Health Commission of China in January 20, 2022

- (a) Fertility preferences refer to an individual's or a couple's desire or intentions about having children. How does Covid-19 pandemic affect fertility preferences in our country?

[Hint: The COVID-19 pandemic has likely influenced fertility preferences in our country.

**Economic uncertainty:** The pandemic has led to economic instability and job losses, which may discourage people from having more children due to financial concerns. Economic uncertainties often correlate with lower fertility rates.

**Health concerns:** Fears about the health risks associated with pregnancy and childbirth during a pandemic may also influence people to delay or reconsider their plans to have children.

**Increased caregiving responsibilities:** With schools and daycare centers closed during lockdowns, many parents have had to take on additional caregiving and homeschooling duties, which could influence their willingness to have more children.

Social restrictions: Lockdowns and social distancing measures have led to reduced interaction between partners, which could contribute to a decline in pregnancies.

Stress and mental health: The pandemic may have increased stress and anxiety levels, which can impact fertility and the desire to have children.

Post-pandemic recovery: As the situation stabilises and economies recover, there could be shifts in fertility preferences. Some individuals or couples who delayed family planning decisions during the pandemic may reassess their plans in a post-pandemic environment.]

(b) What are the impacts of Covid-19 pandemic on population growth in our country?

[Hint: The COVID-19 pandemic is likely to have both short-term and long-term impacts on population growth in our country.

First, economic uncertainty, health concerns, and increased caregiving responsibilities during the pandemic may have led many couples to delay childbearing, contributing to a decline in birth rates. In fact, our country reported a significant drop in the number of newborns registered after 2020. There were only 9.56 million and 9.02 new-born population in 2022 and 2023 respectively.

Second, the pandemic, combined with existing trends, could accelerate the aging of our country's population. If the birth rate declines while life expectancy remains high or increases, the proportion of older people in the population will increase.

Third, a decline in birth rates could eventually lead to a decrease in the size of the working-age population, potentially impacting economic growth and productivity.

In response to the declining birth rate, our country announced a new policy in 2021 allowing couples to have up to three children. However, it remains to be seen how effective this policy will be, particularly in the context of the pandemic.

It's important to note that the actual impacts will depend on a range of factors, including the duration and severity of the pandemic, the effectiveness of our country's response, and individual decisions about childbearing.]