Current Trends in Demographic Processes in the Context of Sustainable Development of the Republic of Azerbaijan

Azerbaycan Cumhuriyeti'nin Sürdürülebilir Kalkınmasında Demografik Süreçlerin Güncel Eğilimleri

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ÖZET

Bu çalışma, Azerbaycan'daki demografik süreçlerin sürdürülebilir kalkınma çerçevesinde analizini konu edinmektedir. Çalışmanın temel amacı, ülke nüfusunun artış hızı, yaş yapısı ve doğurganlık oranlarında meydana gelen değişimleri demografik geçiş teorisi bağlamında incelemektir. Demografik göstergeler, sürdürülebilir kalkınmanın sosyal, ekonomik ve çevresel boyutlarına doğrudan etki etmektedir. Bu kapsamda çalışmada karşılaştırmalı analiz, tanımlayıcı ve istatistiksel yöntemler kullanılmış; grafiksel verilerle uzun dönemli eğilimler değerlendirilmiştir. Bu çalışmada, doğurganlık, ölüm oranı, yaş yapısı ve göç kalıplarına odaklanarak sürdürülebilir kalkınma bağlamında Azerbaycan Cumhuriyeti'nin demografik evrimi analiz edilmiştir. Araştırma sonuçları, Azerbaycan'da nüfus artış hızının yavaşladığını, doğum ve evlilik oranlarında düşüş gözlendiğini ve yaşlı nüfus oranının arttığını ortaya koymaktadır. Bu durum, sosyal güvenlik sistemine yönelik baskıların artacağını göstermekte ve devlet politikalarında sağlık, eğitim ve sosyal destek alanlarında uyarlanabilir stratejilerin geliştirilmesi gereğini ortaya koymaktadır.

ABSTRACT

This study aims to analyze demographic processes in Azerbaijan within the framework of sustainable development. The main objective is to examine changes in population growth rate, age structure, and fertility levels through the lens of the demographic transition theory. Demographic indicators directly influence the social, economic, and environmental dimensions of sustainable development. In this context, the study applies comparative, descriptive, and statistical methods; long-term trends are evaluated through graphical data. In this study, the demographic evolution of the Republic of Azerbaijan in the context of sustainable development was analyzed, focusing on fertility, mortality, age structure and migration patterns. The results reveal that while population growth in Azerbaijan continues, it has slowed down, with declining birth and marriage rates and an increasing elderly population. These findings suggest rising pressure on the social security system and highlight the need for adaptive strategies in public policy, particularly in healthcare, education, and social support.

1. INTRODUCTION

Sustainable development has emerged as a guiding paradigm of the 21st century, addressing the urgent need to balance economic advancement with environmental protection and social equity. First articulated by the Brundtland Commission in 1987, the concept underscores the importance of meeting present needs without compromising the ability of future generations to meet their own. Within this framework, demographic processes play a central and often underestimated role. Population dynamics-comprising fertility, mortality, migration, and age structure-shape the distribution of resources, the resilience of social welfare systems, and the capacity of economies to adapt to global shifts. Therefore, incorporating demographic considerations into sustainable development strategies is not merely beneficial, but essential.

In the current global context, demographic transformations are among the most significant structural forces shaping long-term development. Declining fertility rates, population aging, and the increasing complexity of migration patterns have imposed new socio-economic pressures on both developed and developing countries. These shifts influence labor markets, healthcare demand, educational systems, and urban planning. Azerbaijan, like many post-Soviet states, is undergoing a multidimensional demographic transition that reflects broader global trends while also exhibiting unique national characteristics. The trajectory of this transition-and the extent to which it aligns with the Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda-requires in-depth analysis and forward-looking policy formulation.

Although numerous studies have examined demographic transition theory in various international contexts, there is a significant gap remains in the literature regarding its application to Azerbaijan, especially through the lens of sustainable development. Existing analyses tend to focus on short-term population statistics or isolated aspects of demographic change, often without linking them to broader developmental frameworks. This study seeks to address this gap by offering an integrated, long-term analysis of Azerbaijan's demographic evolution. By situating national demographic trends within the global sustainability discourse, the article contributes original insights to the academic literature and provides a foundation for evidence-based public policy in the country.

The research applies a multidisciplinary approach that combines descriptive and comparative methods with quantitative statistical analysis. Official demographic data sourced from national and international institutions are utilized to trace historical patterns and assess current conditions. Graphical representations are employed to visualize changes in fertility, mortality, migration, and age structure over time. Particular attention is paid to the socio-economic drivers of demographic change and their policy implications. The final section of the study offers recommendations for aligning Azerbaijan's demographic development with its long-term sustainability goals, focusing on areas such as population replacement, migration management, and social policy adaptation.

2. SUSTANAIBLE DEVELOPMENT

Scholars have adopted various approaches to trace the historical and theoretical formation of the concept of sustainable development. Its emergence is often traced to the 1960s–1970s, a period associated with the work of the Club of Rome. This era was marked by the rise of socio-economic and technological trends that contributed to the development of post-industrial society theories, as discussed by scholars such as Daniel Bell, Zbigniew Brzezinski, and Alvin Toffler. A formal scientific definition of sustainable development was first articulated in 1987 by the World Commission on Environment and Development (WCED), led by former Norwegian Prime Minister Gro Harlem Brundtland. The Brundtland Commission famously defined sustainable development as "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*". The theoretical linkage between sustainable development and population growth dates back even earlier.

One of the foundational texts in this area is An Essay on the Principle of Population (1798) by English scholar Thomas Robert Malthus. Malthus argued that population growth tends to outpace food production, which ultimately leads to resource shortages and social crises. His ideas significantly influenced the development of demography, economic theory, and environmental science, laying the groundwork for future debates on population control and sustainable development. Throughout the 20th century, demographic theories evolved to address patterns of population growth, age structure transitions, and broader population dynamics.

Notable contributions include the theory of stable population by A.J. Lotka and J. Bourgeois-Pichat, and the concept of demographic transition proposed by A. Landry and F. Notestein. These theories explored the interactions among demographic, economic, and social processes, emphasizing the population's role in shaping societal development. Among contemporary models, the demographic transition theory-first introduced by Warren Thompson in 1929-remains a cornerstone. Thompson compared demographic changes across various countries and identified common stages. His work was later refined by Frank W. Notestein in his influential 1945 study Population Growth and Economic Development, which further systematized the concept and its implications for national development strategies.

Sustainable development, recognized globally as a guiding framework for societal progress, encompasses not only economic and environmental dimensions but also human and demographic aspects. It entails a direct imperative for human reproduction and continuity: the ongoing renewal of human life under conditions that preserve quality of life, support health, and respect ecological boundaries. From this perspective, sustainable development represents a shift in social priorities - away from unlimited economic growth and toward the protection of both the human and natural environments (Yalçın, 2022).

According to United Nations Secretary-General António Guterres, demographic change is one of five key "*megatrends*" shaping our shared future. Virtually all countries are experiencing demographic transformations, whether in the form of continued population growth, declining fertility rates, population aging, or intensified migration and urbanization. These shifts have profound implications for the implementation of the Sustainable Development Goals (SDGs), which underpin the UN's 2030 Agenda (United Nations, 2022).

At the 2019 Nairobi Summit (ICPD25), UN Member States pledged to leverage demographic diversity as a driver of inclusive economic growth and sustainable development. In this context, demographic indicators such as total population, age structure, and birth and death rates are increasingly recognized as core metrics for measuring sustainability and resilience (United Nations Development Programme, t.y.), Human Development Index (HDI).

According to a recent UN report on global population prospects, the world population is projected to peak around the mid-2080s, rising from 8.2 billion in 2024 to approximately 10.3 billion. It is expected that by 2050, half of the global population growth will be concentrated in just nine countries: India, Nigeria, Pakistan, the Democratic Republic of the Congo, Ethiopia, Tanzania, Indonesia, Egypt, and the United States. Sub-Saharan Africa alone is projected to double its population, while Europe is likely to experience a population decline.

To illustrate the trend, it took 12 years for the world population to grow from 7 to 8 billion. However, reaching 9 billion is expected to take 15 years - a clear indication that global population growth is slowing. Countries with the highest birth rates are generally those with the lowest income levels, and these are disproportionately concentrated in the Global South, especially in Sub-Saharan Africa.

UN experts also highlight key global demographic trends observed in recent decades, including: aging populations in developed countries; rapid population growth in developing regions; increased migration flows and displacement; accelerated urbanization and the expansion of megacities; persistent inequalities in the distribution of resources.

These trends underscore the urgency of aligning demographic policy with sustainable development strategies. Effective population management is essential for balancing resource consumption, environmental sustainability, and economic stability. Rapid population growth strains infrastructure and social services, while population decline may lead to labor shortages and weakened innovation capacity. Demographers explain changes in population growth rates through the theory of demographic transition, which describes the long-term evolution of population dynamics as societies develop economically and socially (Ələkbərov, 2021).

The concept dates back to the 19th century, when Achille Guillard first noted a correlation between birth and death rates. In the early 20th century, several scholars independently elaborated the concept. American demographer Warren Thompson classified population types based on combinations of birth and death rate levels. Frank W. Notestein further developed the model, and in the early 1930s, French demographer Adolphe Landry coined the term "*demographic revolution*" to describe the shift from high to low birth and death rates due to conscious fertility control.

The formal theory of demographic transition was introduced by Notestein in 1945. It gained traction especially in the post-WWII period, as decolonized nations began experiencing sharp population increases. In these

countries, mortality rates fell rapidly due to improvements in healthcare and sanitation, while fertility rates remained high - a phenomenon often described as a "*population explosion*".

In contrast, many developed nations had already completed their demographic transitions during the 19th century. In these countries, population growth slowed or stabilized as birth rates declined in tandem with modernization. Today, some newly industrialized nations (e.g., Türkiye) are approaching the final stages of the transition (Anderson, 2014). The classical model of demographic transition consists of four distinct stages;

- *Stage I – Pre-Transition*: Characterized by both high birth and high death rates, resulting in low or stagnant population growth. This stage is typical of societies with minimal technological development and heavy dependence on nature. In modern times, a few isolated tribes in equatorial forests (e.g., in New Guinea or the Amazon) still exhibit this pattern.

- *Stage II – Early Transition*: Birth rates remain high, but death rates begin to fall due to medical and public health improvements. This leads to rapid population growth - a phase often referred to as the "*demographic explosion*". In Europe, this stage began in the early 19th century; in many parts of Africa, Asia, and Latin America, it continues today.

- *Stage III – Late Transition*: Death rates remain low, but birth rates start to decline due to rising living standards, improved education, higher costs of childrearing, and increased female labor participation. Most Latin American countries are currently in this stage, with corresponding shifts in employment patterns and urbanization.

- *Stage IV – Post-Transition*: Both birth and death rates are low, leading to population stabilization or even decline. Societies in this stage often face challenges such as aging populations and shrinking labor forces.

As noted earlier, basic demographic statistics include population size and composition, crude birth and death rates, total fertility rates, and migration figures. These indicators vary across global regions, reflecting different stages of the demographic transition. The following section examines these variations with a focus on Asia, Europe, and Africa (UNFPA, t.y.).

3. REGIONAL DEMOGRAPHIC TRENDS

3.1. Population Growth in Asia

As of April 2025, the global population stands at approximately 8.2 billion, with an annual growth rate of about 0.85%, or roughly 70 million people per year. Asian countries consistently lead in both population size and growth. India and China remain the two most populous nations, each accounting for nearly 18% of the world's total population. India's population is projected to continue growing for several decades, whereas China's population peaked in 2022 and has since entered a decline. By the end of the 21st century, China's population may fall below one billion. According to projections, the ten most populous countries by 2100 will include Nigeria (546 million), Pakistan (487 million), the Democratic Republic of the Congo (432 million), the United States (394 million), Ethiopia (324 million), Indonesia (297 million), Tanzania (245 million), and Egypt (205 million). The highest population growth rates in Asia were observed in the 1970s, linked to the second stage of demographic transition. This period was marked by significant improvements in healthcare, sanitation, and nutrition, which reduced mortality rates while fertility levels remained high. From the 1970s to 1990s, growth rates declined, reflecting the third stage of transition. Many Asian countries adopted family planning programs, expanded education (especially for women), and experienced rapid urbanization and economic development (UNFPA, t.y.).

In China, the one-child policy - implemented in 1979 - dramatically reduced birth rates. By 2030, 30% of China's population is expected to be over 65, creating a shortage in the working-age population. Currently, countries like Japan, South Korea, and Taiwan face demographic aging due to very low fertility rates, longer life expectancy, evolving social norms, and limited immigration (Figure 1).

Figure 1. Population Growth Dynamics of European, Asian and African Countries (1952-2024)
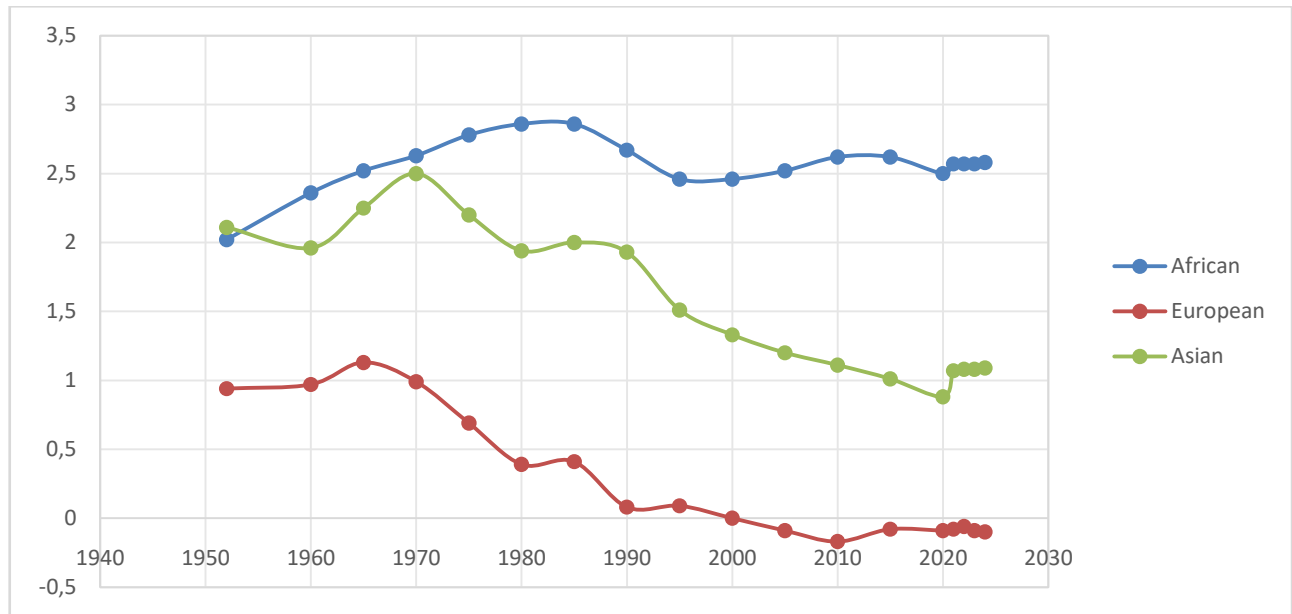
Source: United Nations Department of Economic and Social Affairs, 2025.

3.2. Population Trends in Europe

In contrast, Europe has experienced a long-term decline in fertility rates. For decades, birth rates in many European countries have remained below the replacement level of 2.1 children per woman. According to the United Nations Economic Commission for Europe (UNECE) and the United Nations Population Fund (UNFPA), although the region's population continues to grow slightly, this is primarily due to immigration. Natural population growth has been negative in many countries, and demographic aging is intensifying. The working-age population is shrinking across much of Europe, leading to increased pressure on social security systems and labor markets. European countries were the first to complete the demographic transition, beginning in the 18th century and concluding by the mid-20th century. The most significant population growth occurred during the 1960s - the so-called "*baby boom*" period following World War II. This growth was fueled by improved healthcare, economic expansion, and increased migration. However, since the 1970s, most European countries have seen declining birth rates and population stabilization. The baby boom was the last major population surge before these long-term shifts began (Figure 1).

3.3. Population Growth in Africa

According to United Nations and World Bank projections, Africa's population is expected to reach 2.5 billion by 2050, representing 25% of the world's population. Although population growth is anticipated to slow in the second half of the century, the continent will remain the leading contributor to global population growth. By 2100, Africa's share of the global population could reach nearly 40%. More than half of the world's population growth in the next 30 years will occur in just eight countries - five of which are in Africa. In these countries, the working-age population is projected to grow faster than other age groups, which may offer a "*demographic dividend*" if properly managed (UNFPA, t.y.).

The highest growth rates in African countries were recorded between 1980 and 1990. Africa's demographic transition began later than in Europe or Asia, and in many countries, it remains incomplete. Key challenges include the persistence of traditional family structures, low levels of female education, limited access to contraception, and slow economic development (Figure 1). Thus, the continent provides a clear example of how different stages of the demographic transition shape population dynamics and influence broader socio-economic development.

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3.4. Population Trends in Azerbaijan

According to official data, as of early 2024, the population of the Republic of Azerbaijan was approximately 10.18 million. Of this, 5.35 million people (55.4%) lived in urban areas, while 4.63 million (45.5%) resided in rural areas. The gender distribution is relatively balanced, with 49.8% men and 50.2% women.

Azerbaijan experienced its most rapid population growth during the early 1960s. The country entered the stage of "*demographic explosion*" in the 1950s and 1960s, as the birth rate increased significantly while the death rate remained low. As a result, the Azerbaijani population doubled between 1925 and 1970.

Figure 2. Population of the Republic of Azerbaijan (As of the Beginning of 2025, Thousand People)
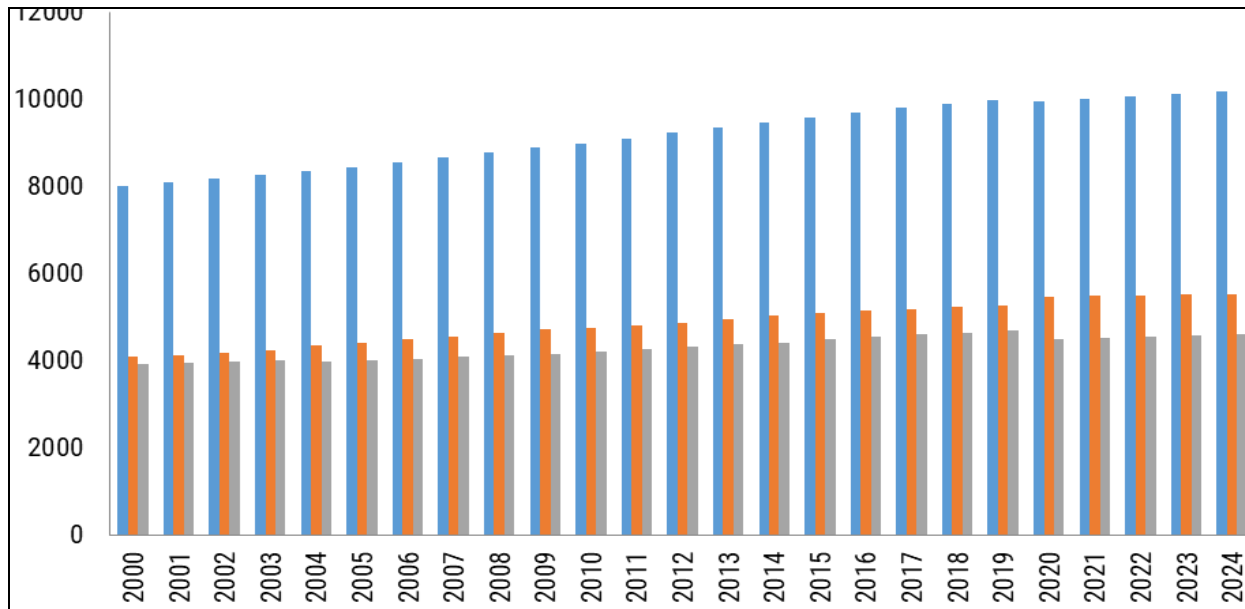
Source: State Statistical Committee of the Republic of Azerbaijan, 2023.

In the mid-1960s, Azerbaijan had the highest natural population growth rate in the South Caucasus region, peaking at 3.6% annually. During this period, the country moved from the first to the second stage of the demographic transition, characterized by high birth rates and declining mortality rates (Figure 2).

By the late 1990s, natural growth and birth rates had declined compared to earlier decades, signaling a transition into the fourth stage of demographic change. Since the mid-1990s, Azerbaijan's total fertility rate has approached replacement level (around 2.1), while mortality rates have continued to decline and life expectancy has increased. Small family structures, particularly one- and two-child models, have become predominant.

Although Azerbaijan has not yet fully completed the fourth stage of demographic transition, the trends suggest that the country is in the early phase of this stage. Notably, in the 2000s, targeted state measures - including macroeconomic stabilization, diversification of the economy, support for entrepreneurship, and investments in regional development - contributed to improved living standards. These changes were reflected in demographic indicators, including positive natural growth rates between 2000 and 2020 (Шукуров, 2024).

However, the COVID-19 pandemic disrupted these trends. Despite efforts to manage the public health crisis, Azerbaijan experienced a sharp decline in birth rates and natural population growth during 2020–2022. Mortality rates also rose slightly in this period, reflecting global pandemic-related trends.

4. TOTAL BIRTH AND DEATH RATES IN AZERBAIJAN

For a comprehensive description of the dynamics of population growth rates, total indicators of birth and death rates are used. Total birth and death rates are key demographic indicators that play an important role in the analysis and forecasting of population size, structure and rates of change.

Figure 3. General Indicators of Birth and Death Rates in Azerbaijan (1950-2023)
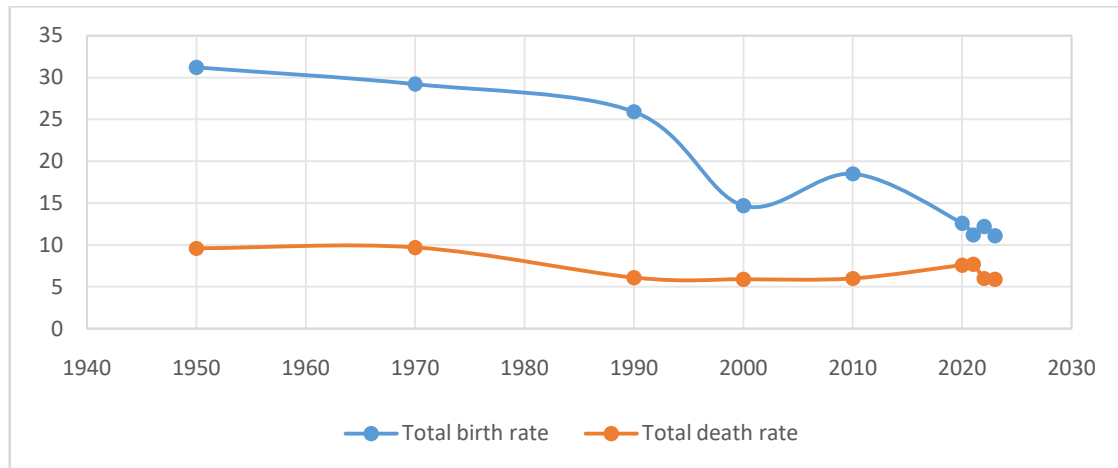

Source: State Statistical Committee of the Republic of Azerbaijan, 2023.

According to official statistics from the State Statistical Committee of Azerbaijan, the total birth rate: in 1950, there were 31.21 births per 1,000 population, in 1970 – 29.2, in 1990 – 25.9 (Figure 3). From 2000 to the present, these figures declined from 14.7 to 11.1. The total death rate was 9.6 deaths per 1,000 population in 1950, 9.7 in 1970, and 6.1 in 1990. Since 2000, the indicators were 5.9, but in subsequent years there was a slight increase in these indicators, reaching 7.7 in 2021. The values of the indicators in 2023 are equal to those of 2000. Analysis of these indicators shows that the natural population growth has a positive trend and indicates that population growth continues, albeit at a slower rate.

The **total fertility rate (TFR)** is one of the most significant demographic indicators. It reflects the average number of children a woman is expected to give birth to over her reproductive life (typically between ages 15 and 49). This indicator plays a vital role in forecasting future demographic trends, labor force development, and the sustainability of social security systems. For stable population replacement (absent migration), a TFR of approximately **2.1 children per woman** is required. A TFR below 2.1 leads to long-term population decline, while a TFR of 3.0 or higher indicates rapid growth.

Figure 4. Indicators of the Total Fertility Rate in African Countries (1950-2020)
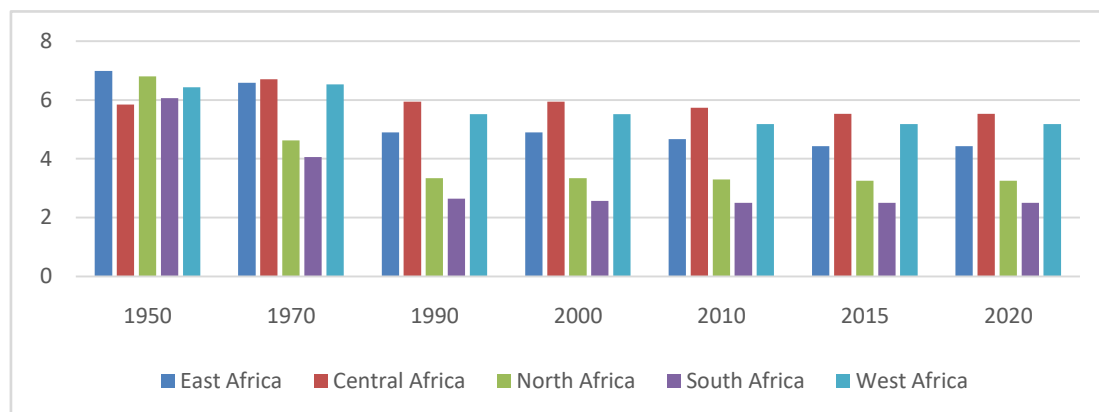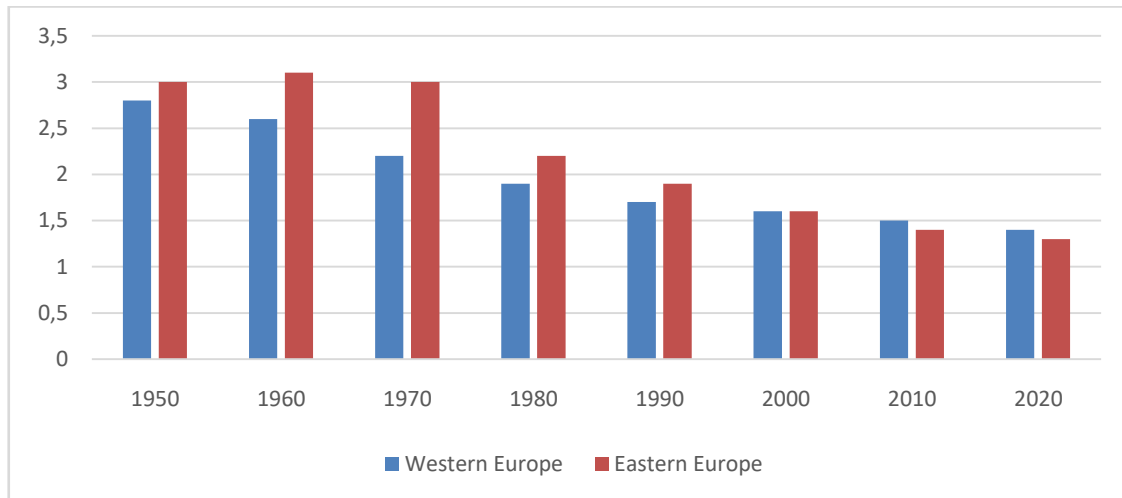

Source: UNFPA, 2022.

The total fertility rate indicators for Asian, African and European countries are characterized by different dynamics. As can be seen from Figures 4,5, 6, the highest indicators in all regions were recorded in 1950-1970. As mentioned above, these regions went through stages of demographic transition at different times. It should be noted that after the Second World War, all regions had a baby boom, and therefore the birth rate was high. As can be seen from the data presented, in African countries during the 1950-1970s, there were 6-7 children per woman (Figure 4). These countries were characterized by an agrarian society and high mortality rates. In Asian countries, with low urbanization, the traditional family prevails (5-6 children per woman). Post-war recovery, support for large families in Eastern Europe is characterized by positive dynamics - in the countries 3-4 children

per woman, in Western Europe 2.5-3 children per woman (United Nations Development Programme - Gender Social Norms Index (GSNI), 2021).

Figure 5. Indicators of the Total Fertility Rate in European Countries (1950-2020)
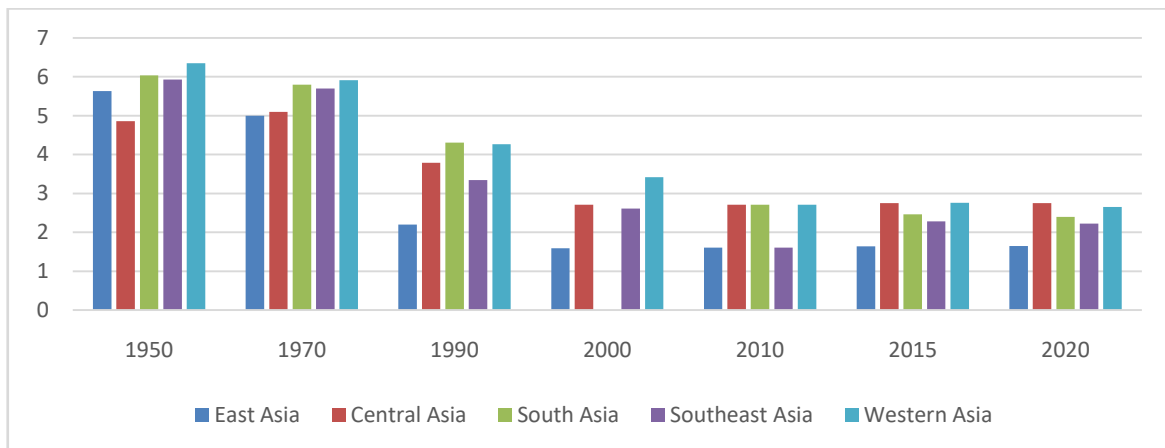

Source: UNFPA, 2022.

Since the beginning of the 1990s, a sharp decline in indicators has begun in all regions. It should be noted that in the 1990s, the second stage of the demographic transition began on a large scale. In connection with this, fewer children in families, but a better quality of life. In those years, increasing changes in lifestyle and traditions, career priorities, the spread of education (especially women's education), the changing role of women in society, birth control, and the use of contraception came to the fore.

The sharp decline in the total fertility rate in Europe was caused by the aging of the population. The decline in the level of indicators of the total fertility rate in 2020-2023 is associated with: economic instability and uncertainty, a decrease in infant mortality, an increase in life expectancy, changes in cultural and social norms, the consequences of the COVID-19 pandemic, etc (United Nations Development Programme, t.y.); Human Development Index (HDI), 2023).

**Figure 6.** Indicators of the Total Fertility Rate in Asia Countries (1950-2020)

Source: UNFPA, 2022.

The decline in the birth rate leads to an aging population and a decrease in the working age, which puts pressure on pension and social systems. Some countries are taking measures to stimulate the birth rate, but their effectiveness is limited (Seker, 2017).

Analysis of the level of the total fertility rate clearly shows that global trends are also manifested in Azerbaijan. In the 1960s-1970s, an increase in these indicators was recorded: 5.07 children per woman (Figure 7). The decline in the coefficient in the 1990s was primarily due to the unstable political situation, in particular the collapse of the USSR, the economic crisis, military aggression and the loss of 20% of the territory, more than a million refugees and internally displaced persons, mass migration. During this period, the birth rate was 2.98 per woman. In subsequent years, a decrease in these indicators is observed. If in 2010 there were 1.92 children per

woman, then in 2020 it was 1.76, and in 2023 it was 1.6 children.

Figure 7. Indicators of the Total Fertility Rate in Azerbaijan (1950-2023)
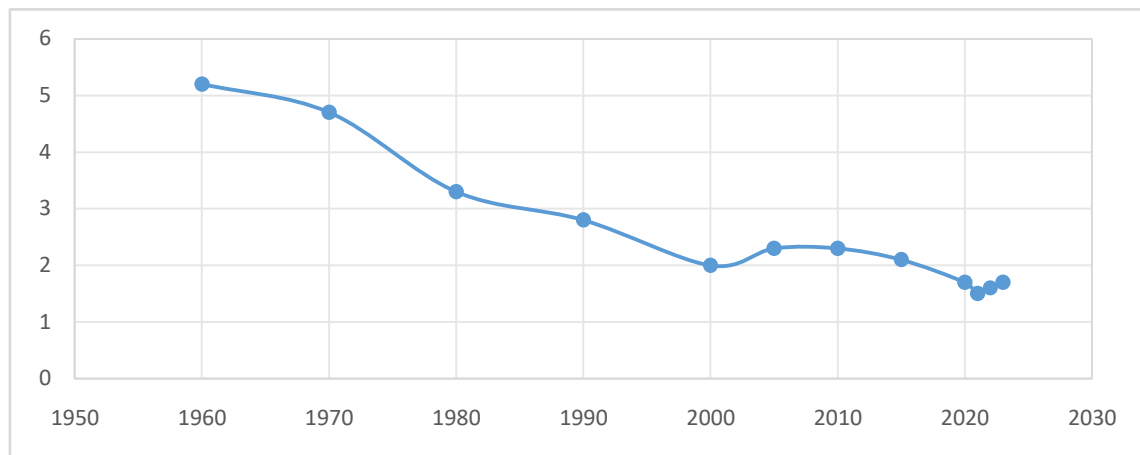
Source: State Statistical Committee of the Republic of Azerbaijan, 2023.

As can be seen from the presented data, the main reasons for the decline in the total fertility rate in Azerbaijan are the same as in the whole world. It is necessary to note the increase in the level of women's education, the expansion of women's participation in state and non-governmental organizations, the later marriage age and the decrease in the number of large families, the availability of family planning, changes in family values, and urbanization processes. If these trends continue, Azerbaijan may face increased pressure on its pension system and healthcare infrastructure. A shrinking working-age population could also generate socio-economic challenges in the long term.

Migration is a critical demographic process that influences the cultural, economic, and social fabric of both sending and receiving countries. For sustainable development, effective migration policies must ensure the protection of migrants' rights while meeting the socio-economic needs of the country. In Azerbaijan, **migration plays an important role** in demographic development and includes both: **emigration** (people leaving the country) and **immigration** (people settling in Azerbaijan). Migration flows have evolved due to shifts in political stability, economic conditions, and regional conflict (Alakbarov and Babayeva, 2019). The **1990s– 2000s** were characterized by the highest levels of international migration in Azerbaijan's modern history. Key drivers included: Migration trends in recent decades have changed under the influence of economic, political and social factors. As can be seen in Figure 8, the highest indicators of international migration of the population belong to the years 1990-2000. The main reasons for this process were the military conflict in Nagorno-Karabakh, the collapse of the USSR, the economic crisis and instability, more than 1 million refugees and internally displaced persons (Muradov, 2021).

As a result of the occupation and military aggression launched by Armenia against Azerbaijan since 1988, approximately 20% of the country's territory has been lost, and more than 1 million people have become refugees and internally displaced persons. These processes, especially migration flows, have directly affected the country's population, and the migration balance during that period dropped to minus 49. However, with the liberation of the occupied lands as a result of the victory in the 44-day Patriotic War that took place in 2020, a new stage has begun in the country: the gradual return of the population to their native lands. For this purpose, the "*Great Return*" State Program was adopted, covering the years 2022–2030 and providing for the return of more than 500,000 internally displaced persons to their native lands. Currently, the population of the Karabakh economic region is approximately 110,000–120,000 people, and the East Zangezur economic region is approximately 60,000–70,000 people. However, these figures are still low compared to the pre-war or Soviet period. The main factors affecting the acceleration of the return of the population include;

- Intensive restoration of infrastructure in the liberated territories

- The volume of state investments and construction of settlements

- Creation of agricultural and industrial parks

- Ensuring the level of security in the region.

At the current stage, the main goal is to ensure the employment of the able-bodied population in these regions. To this end, the implementation of a number of large projects has been launched in the region. These include the construction of hydro and wind power plants (HPPs and KES) in the Kalbajar and Lachin regions within the framework of the "*green energy zone*" concept, the organization of industrial clusters, and the electrification of the region (AZƏRTAC, 2025). At the same time, within the framework of the Great Return program, the construction of smart cities, the construction of transport and communication infrastructure (railways and highways), as well as large-scale housing construction projects, are being implemented. All these measures are an integral part of both the Great Return State Program and the adopted strategic plan for the restoration of the liberated territories.

Figure 8. International Migration of the Population in Azerbaijan, Thousand People (1990-2023)
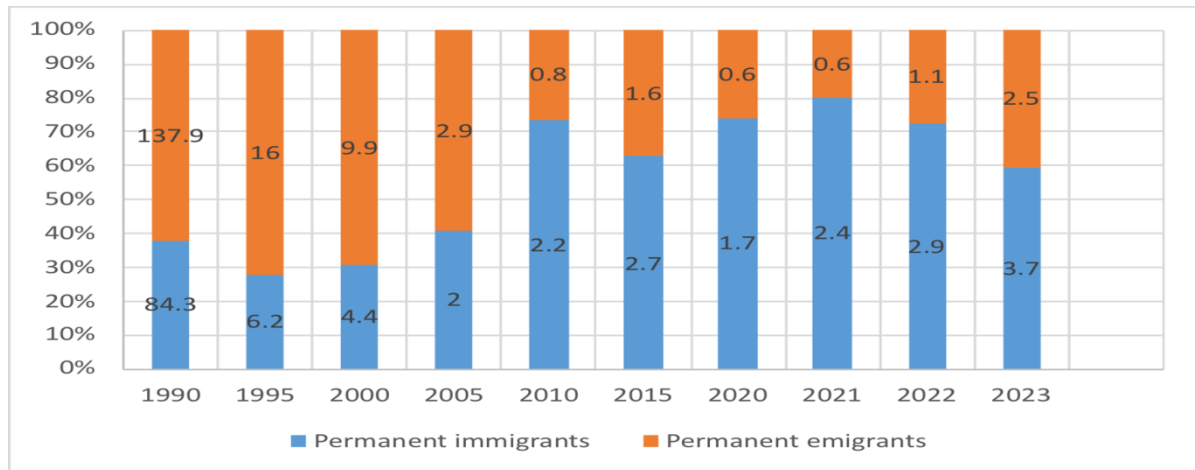
Source: State Statistical Committee of the Republic of Azerbaijan, 2023.

During this period, many emigrated to **Türkiye, European countries, the USA** and **Canada,** drawn by better educational, employment, and social prospects. Türkiye, in particular, attracted Azerbaijani migrants due to shared cultural and linguistic ties. European countries are favorable for migration in terms of education and employment programs. Canada is considered one of the best countries for emigration, attracting people from all over the world with its high living standards, stable economy and flexible migration policy (Figure 9).

**Figure 9.** Permanent Immigrants to Azerbaijan, Persons
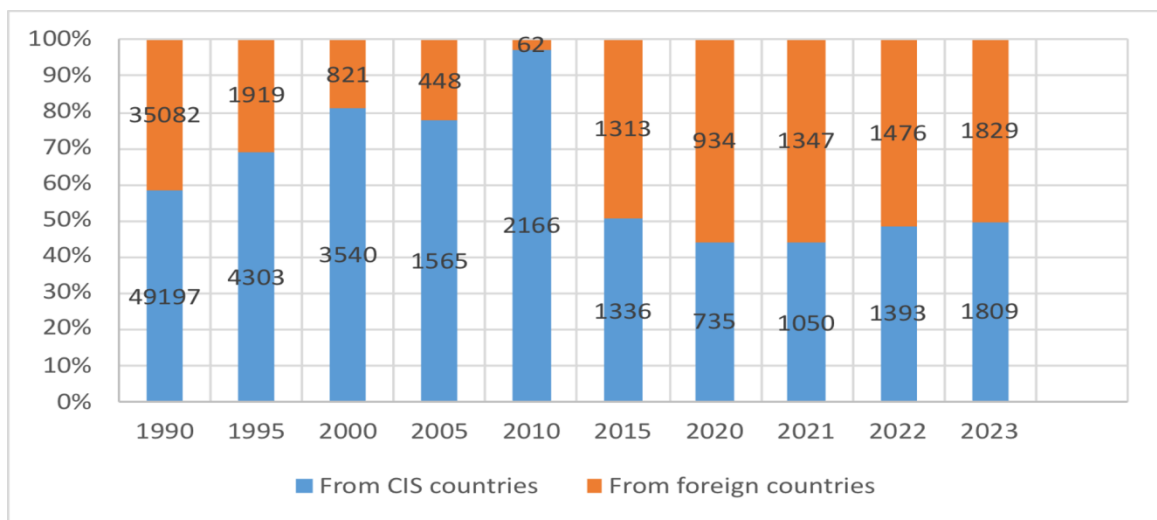
Source: State Statistical Committee of the Republic of Azerbaijan, 2023.

Between **1995 and 2022**, the main sources of immigration to Azerbaijan were the **Russian Federation, Georgia** and **Kazakhstan.** Initially, immigrants from CIS countries dominated, but from 2015 onward, migrants from non-CIS countries increased. During that period, migrants from the CIS countries predominated among those arriving for permanent residence in the Republic of Azerbaijan, especially in 1995-2000. Later, in 2015-2021, the number of arrivals from other foreign countries and the CIS countries was either approximately equal to each other or higher. Key reasons for immigration to Azerbaijan include: a stable economy and

favorable business environment; repatriation of ethnic Azerbaijanis; opportunities in education and labor markets; strategic geographical location and low tax policies (Alakbarov, 2019).

Figure 10. Emigrants from Azerbaijan for Permanent Residence, Persons
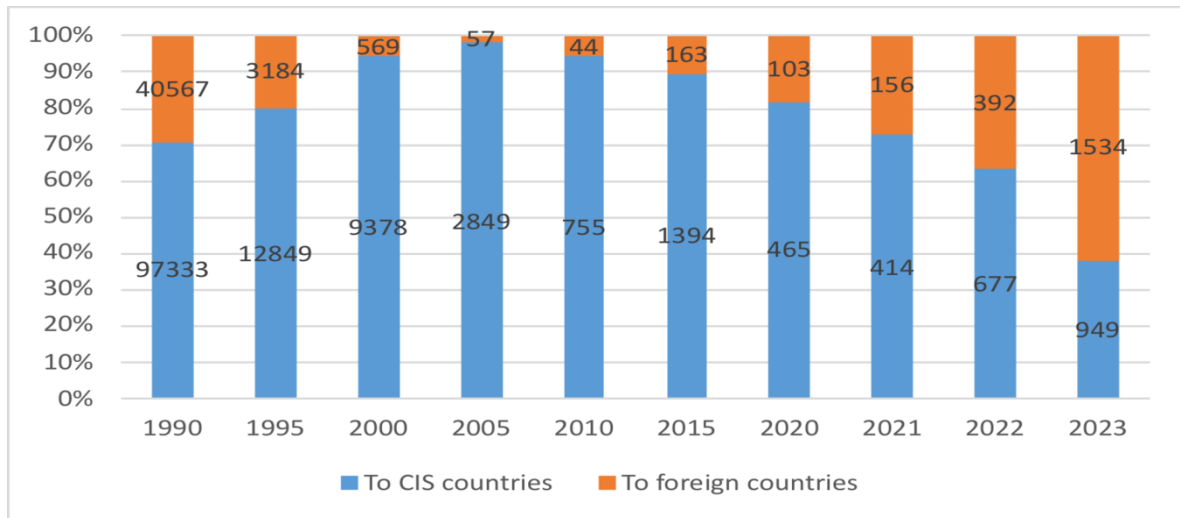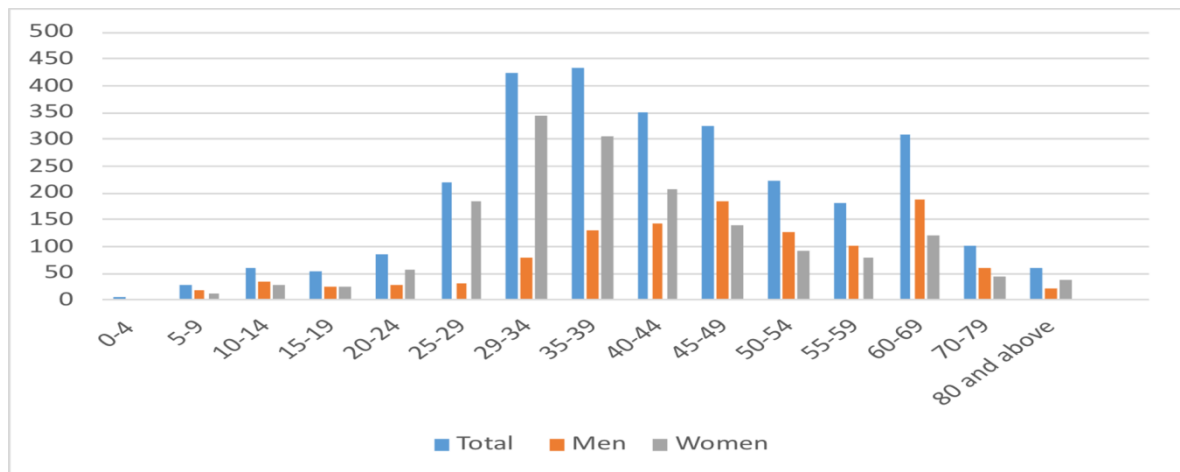

Source: State Statistical Committee of the Republic of Azerbaijan, 2023.

Entrepreneurs from **Türkiye, Iran** and **China** have launched companies and participated in trade and construction sectors. Azerbaijani universities have become attractive to students from countries such as **Pakistan, India, Iran**, and Arab states - with many graduates choosing to remain in Azerbaijan after their studies (Figure 10).

These factors made the 1990-2000s one of the most turbulent periods in the history of Azerbaijan in terms of international and internal migration. During this period, many emigrated to **Türkiye, European countries, the USA,** and **Canada,** drawn by better educational, employment, and social prospects. Türkiye, in particular, attracted Azerbaijani migrants due to shared cultural and linguistic ties.

Migration trends exhibit notable variation across different age groups, with each segment having distinct implications for demographic structure and policy planning. The child and adolescent group (ages 0–14), while not economically active, represents an important demographic in the context of educational integration and long-term social cohesion. Migration in this category signals broader family mobility and requires targeted investments in schooling and child welfare infrastructure to support successful integration. The most demographically significant group comprises individuals of working age (typically 15 to 64 years), who migrate in pursuit of improved economic opportunities, higher living standards, and professional advancement. In Azerbaijan, the age cohorts between 29 and 39 form a substantial proportion of incoming migrants.

Figure 11. Distribution of Migrants by Gender and Age Groups in the Republic of Azerbaijan

Source: State Statistical Committee of the Republic of Azerbaijan, 2023.

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This influx, if strategically managed, offers potential benefits such as labor market expansion, entrepreneurial activity, and demographic rejuvenation. These migrants often contribute to economic development by establishing businesses, enhancing workforce diversity, and forming young families, thereby positively influencing fertility dynamics and age structure stability. However, unmanaged or excessive inflows may produce adverse outcomes. These include increased competition for employment, added pressure on urban infrastructure and public services, and the potential for social fragmentation if integration policies are weak or absent (Kucuk and Ekinci, 2021). The presence of migrants in economically productive age brackets is therefore a double-edged phenomenon-providing demographic and economic stimulus when effectively integrated, but risking social strain if left uncoordinated. Migration among elderly individuals (65 years and older) is relatively limited and generally motivated by family reunification, retirement considerations, or the desire for improved living conditions. While numerically smaller, this group has implications for healthcare demand and long-term social support systems. In recent decades, Azerbaijan has shifted from a negative to a consistently positive migration balance, with more individuals entering the country than departing. This trend reflects both improved living conditions and Azerbaijan's growing attractiveness as a destination for education, employment, and investment. While this positive balance partially compensates for the country's declining fertility rates, it underscores the need for a nuanced migration policy that harmonizes demographic objectives with social integration and labor market needs.

5. CONCLUSION

This study has analyzed the demographic evolution of the Republic of Azerbaijan in the context of sustainable development, focusing on fertility, mortality, age structure, and migration patterns. The findings confirm that Azerbaijan is undergoing a complex demographic transition, marked by a declining birth rate, increasing life expectancy, and changes in internal and external migration dynamics. These trends signal a gradual shift toward population aging, with likely long-term implications for the sustainability of Azerbaijan's welfare and health infrastructure.

From a theoretical standpoint, the study reinforces the applicability of the demographic transition model to the Azerbaijani context. The empirical results align with existing research on post-Soviet countries, particularly in relation to the sharp decline in fertility after the 1990s and the subsequent stabilization of population growth. However, unlike in some neighboring states where depopulation has become a critical issue, Azerbaijan still demonstrates moderate natural growth, albeit at a decreasing rate. This distinction highlights the importance of country-specific policy responses tailored to unique demographic realities.

In comparison to similar studies conducted in Eastern Europe and Central Asia, the current research contributes original insights by integrating demographic data with the framework of the Sustainable Development Goals (SDGs). Prior analyses often treat demographic trends in isolation, while this study underscores their direct relevance to national development strategies. It bridges demographic theory and policy, offering a holistic understanding of population dynamics and their socioeconomic implications. By contextualizing Azerbaijan's demographic patterns within a broader global framework, the study enhances the depth and relevance of regional demographic research.

Nevertheless, the study has certain limitations. It relies primarily on national-level aggregated data and lacks a qualitative or gender-sensitive component. Regional disparities within the country, the specific experiences of migrant populations, and the cultural dimensions of family planning are beyond the scope of this paper but warrant further investigation. Additionally, causal relationships between demographic indicators and policy variables were not quantitatively modeled, which limits the ability to draw predictive conclusions.

Based on these findings, several policy directions are recommended. Firstly, to address declining fertility, Azerbaijan should expand access to reproductive healthcare, implement family support schemes, and promote work-life balance through parental leave and childcare services. Secondly, an integrated migration policy should be developed to attract qualified labor, support reintegration, and address demographic imbalances across regions. Thirdly, pension and healthcare reforms must be aligned with the needs of an aging population to ensure the financial sustainability of social protection systems. Lastly, continued investment in education, particularly for women and rural populations, will be key to improving demographic resilience.

For future research, scholars are encouraged to explore sub-national demographic trends, including urban-rural disparities and regional aging patterns. Qualitative studies focusing on fertility preferences, intergenerational attitudes, and cultural determinants of demographic behavior would add valuable depth. Moreover, comparative

analyses between Azerbaijan and other upper-middle-income countries could shed light on shared challenges and best practices in managing demographic transition within sustainable development frameworks.

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