POPULATION GROWTH AND STATISTICAL ANALYSIS OF UZBEKISTAN

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Abstract: This article examines the growth of the population of Uzbekistan through statistical trends, demographic patterns, and forecast modeling. By analyzing historical and recent population data, the study reveals a continuous upward growth trajectory driven by a young demographic structure and natural population increase. The research highlights the challenges caused by rapid population expansion, including infrastructure pressure, urban congestion, and employment imbalance, while proposing solutions and policy recommendations for sustainable demographic development.

Keywords: population growth, Uzbekistan, demography, statistical analysis, fertility rate, migration, forecasting, infrastructure, urbanization

Introduction

Uzbekistan is the most populous country in Central Asia, and its demographic dynamics significantly influence its economic and social development. Understanding population growth trends using statistical tools is essential for formulating policies in labor markets, housing, education, healthcare, and long-term planning.[1] This article aims to present a clear demographic picture of Uzbekistan's population growth and interpret the implications of these changes using a statistically informed approach.

Literature Review. Previous demographic studies on Uzbekistan have emphasized the importance of population growth as both an economic engine and a social challenge[2]. Demographic transition theories show that developing nations often experience higher growth rates due to youthful population structures. Researchers also note that post-independence Uzbekistan has maintained one of the highest fertility rates in the region. International demographic reports further highlight that Uzbekistan will continue to experience steady growth in the coming decades, with potential shifts in age distribution and urbanization patterns.

Methodology. This study employs a qualitative statistical analysis using secondary demographic data sourced from national statistical agencies, international demographic databases, and academic reports. Tools of descriptive statistics, longitudinal trend examination, and growth-rate approximation are applied. Key indicators include total population, annual incremental change, fertility trends, and population density evolution over selected years.

Analysis and Discussion of Results.   1-jadval

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[1] United Nations Uzbekistan demographic reports — https://uzbekistan.un.org
[2] World Population Review — https://worldpopulationreview.com/countries/uzbekistan-population

Statistical Population Table

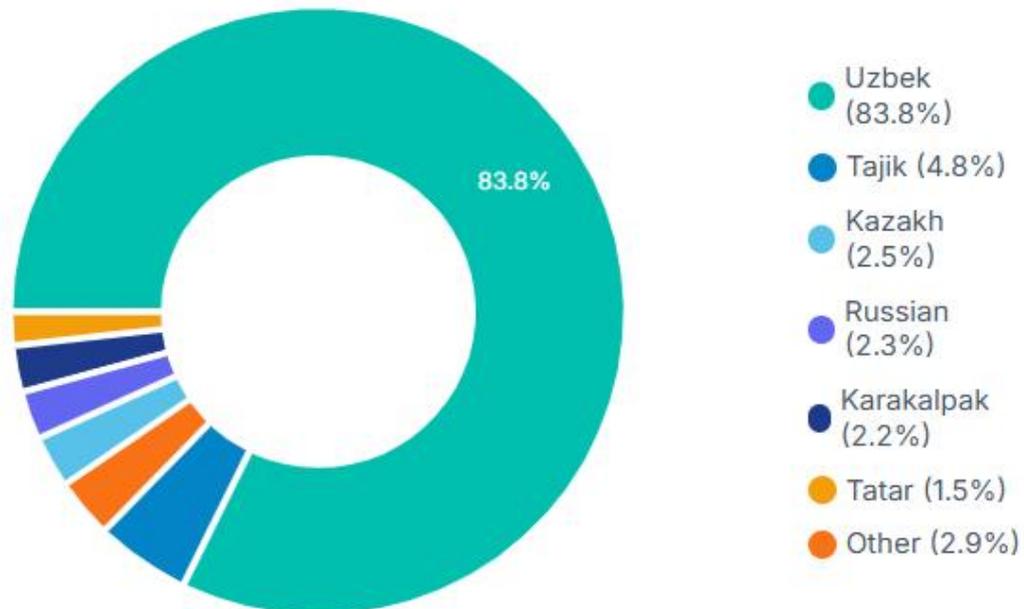| YEAR	Population(million)
1990	20.46
2000	24.79
2010	28.39
2015	30.75
2020	33.59
2023	35.65
2024	36.36
2025	37.70

This data reveals a persistent upward trend, with an average annual growth rate of approximately **1.8–2.0%**

1. **Interpretation of Population Trends**

- The population has **nearly doubled since 1990**.
- Uzbekistan's demographic structure remains young, with a high proportion of individuals under age 27[3].
- Urban centers are experiencing accelerated population concentration, especially Tashkent and the Fergana Valley.
- The increase is primarily driven by natural growth rather than migration.

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[3] Worldometer — https://www.worldometers.info/world-population/uzbekistan-population

The latest data available data on ethnicity in Uzbekistan is from 1996.[4] It showed the following major ethnic groups in Uzbekistan: Uzbek (80%), Russian (5.5%), Tajik (3%), Karakalpak (2.5%), Tartar (1.5%), Other 2.5%). There is some dispute about these figures, however, and it is possible that the number of Tajiks in Uzbekistan is considerably higher.

Although not a large enough group to make the above list, there are also around 20,000 ethnic Koreans in Uzbekistan,[5] descendants of the Koreans deported to Central Asia by Stalin.

Uzbekistan's population is not only affected by internal growth, but also by external migration, meaning that many people of other nationalities are coming to work in Uzbekistan.

2. Problems Due to Rapid Population Growth

- Increased pressure on education, healthcare, housing, and transport infrastructure.
- Rising unemployment risks among young job seekers.
- Urban overcrowding and regional demographic imbalance.
- Environmental stress on water and land resources.
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- The increase in population leads to a lack of resources, not enough food for each citizen, or social problems. We can also see that in India, a country with a large population, environmental problems and social injustices and violence are common.

3. Solutions

- Expanding regional development programs to reduce excessive migration to major cities.

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[4] CIA.gov 404
[5] Koryo-saram - Wikipedia

- Encouraging job creation through diversification of industry and entrepreneurship support.
- Modernizing healthcare and education infrastructure.
- Promoting sustainable resource management and environmental protection.
- As if every problem has a solution,the population should not increase, that is, if each family has more than 5 children, in order to maintain balance, an additional state fee should be paid to the state or stricter clauses should be added to the city's internal regulations, that is, severe penalties should be imposed for violations of the law and serious damage to the environment. To determine this, the city administration should be guided by artificial intelligence, because if we attach the laws and issues that violate them to artificial intelligence, it will easily identify people who are violating the law and causing harm to the city. This will help solve our problems easily and quickly.

Conclusion and Recommendations

Population growth in Uzbekistan presents both opportunities and challenges. On one hand, a young and expanding population can support economic development through workforce expansion and consumption growth. On the other hand, without strategic planning, population pressure can strain public services and resource supplies. Thus, demographic analysis must inform national policies to ensure sustainable, balanced development.

1.Government ministries should enhance demographic monitoring and integrate population data into strategic planning.
2. Educational institutions should expand training in demography, statistics, and economic planning.
3. Investment in infrastructure must be proportionate to projected population increases.
4. Policymakers should support family welfare programs and employment initiatives for youth.
5. Introduce automated systems and AI-driven analysis to monitor population dynamics, migration patterns, and fertility rates in real time.

References:
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4. World Bank Demographic Data — https://data.worldbank.org/indicator/SP.POP.TOTL?locations=UZ
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