Population affects a nation's politics, economy, culture, and infrastructure. The key characteristics of the population of a country or region include the distribution, structure, and migrational patterns. Population distribution is the population size of regions at a particular time. Population structure is the composition of the population of a country or region, including such important variables as age, gender, income, and household composition. Migrational patterns show the population movement between regions over a particular period. Changes in population distribution come from natural increase and decrease (births and deaths) and migration. Natural increases and decreases in the population are monitored with statistics on total fertility and mortality rates. Migration, on the other hand, is classified as the migration between urban and rural areas, between city and city, and between regions; as a result, the socio-spatial process of migration takes place. Migration and spatial characteristics function as determining factors for population influxes and decreases in the population are monitored with statistics on total fertility and mortality rates. Migration, including regional in-migration and out-migration, both domestically and internationally. Domestic migrations are classified as the migration between urban and rural areas, between city and city, and between rural areas. In general, economic, demographic, and geographic factors jointly affect migration patterns. The following maps illustrate population distributions at the national level for every decade since 1980. Each dot represents 1,000 persons at the city, county, and district (gu, gu) levels. These maps identify both over-populated and under-populated areas. Population distribution patterns differ over several decades, the population of Korea has migrated to the northwest region of the country, showing the importance of the Seoul Capital Region. Understanding population distribution is of paramount importance since the distribution provides a synopsis of a country's political, economic, social, cultural, and spatial patterns at the national and regional levels.
An aging population and fertility decline have drastically changed Korea’s population structure. In 2000, Korea became an aging society, with over 7% of the population aged 65 years or older. This population is moving towards an aging society at a faster rate than other nations; in 2017, over 19% of the population were aged 65 years or older. Although a lower overall life expectancy has affected the population aging, the decline in the birthrate has played a crucial role.

Total Fertility Rate (TFR) is a standard demographic indicator used internationally to estimate the average number of children that a woman would have over her childbearing years, based on current birth trends. In the early 1970s, the TFR was about 4.5 but had declined to below-replacement fertility in the early 1990s. According to OECD standards, the TFR is classified as a “low birth rate” (0.8 to below 1.5 births per woman) and a “super low birth rate” (below 1.3). Both TFR and the number of births have each year rapidly declined through the financial crisis in the late 1990s. Korea has become a super low fertility country since 2003 (TFR of less than 1.3) and recorded a TFR of 0.91 in 2018.

The demographic changes with the population pyramid started to round out and look similar to shapes in a triangle. The rapidly aging population and associated demographic changes have raised serious issues that might cause economic social and economic effects.
Spatial Vulnerability of Aging Population

While the Korean population is aging rapidly, the rural population is aging more rapidly than that in urban areas. Population aging issues may have greater impacts on small and medium cities and rural communities already suffering from socio-economic declines in the near future. Changes in the risk index for local extinction by administrative units (Eup·Myeon·Dong) in Korea and non-Capital areas are more significant than those in local communities in the Capital area because of the out-migration among youth. The risk index for local extinction is more critical than in local communities in the Capital area because of demographic change, from the steady expansion they saw between the 1970s and the early 2000s. This net decline in the number of residents may be due to the out-migration of people to new residential areas.

Changes in the Risk Index for Local Extinction by Administrative Units

Changes in the Risk Index for Local Extinction by Administrative Units (Si·Gun·Gu)

The Risk Index for Local Extinction by Administrative Units (Si·Gun·Gu)

Changes in the Risk Index for Local Extinction by Administrative Units (Eup·Myeon·Dong)

The Risk Index for Local Extinction by Administrative Units (Eup·Myeon·Dong)

Change in School-Age Population

The Risk Index for Local Extinction by Administrative Units (Eup·Myeon·Dong)

Changes in the Risk Index for Local Extinction by Administrative Units (Eup·Myeon·Dong)

Change in School-Age Population

Living Population

Living population (de facto population) in Seoul suggests the estimated population at a specific time and place by combining the public big data from the Seoul metropolitan government and telecommunications data from Korea Telecom. Big data like the public transportation zones, population census, economic census, and building databases are used to estimate the living population. There is a difference between the real and estimated populations at a specific time and place due to people who do not have a cellular phone, and it can be moderated by calibrating the population census. However, living population in Seoul can suggest a difference between the time and place which cannot be obtained from the population by census data. This data shows a difference between the resident population, weekday nighttime, weekday daytime, weekday evening time, and weekend daytime by administrative district (neighborhood). Distribution of population from census data shows the commuting out of the central business districts in Seoul. However, comparing the distribution of the population among time and residential and business districts can be costly obtained. Spatio-temporal population distribution can be captured by accessing the population in Seoul.

Number of Seoul Metro Users

While the Korean population is aging rapidly, the rural population is aging more rapidly than that in urban areas. Population aging issues may have greater impacts on small and medium cities and rural communities already suffering from socio-economic declines. The situation in local communities in the non-Capital areas is more significant than those in local communities in the Capital area because of the out-migration among youth. The risk index for local extinction is more critical than in local communities in the Capital area because of demographic change, from the steady expansion they saw between the 1970s and the early 2000s. This net decline in the number of residents may be due to the out-migration of people to new residential areas.

Changes in the Risk Index for Local Extinction by Administrative Units (Eup·Myeon·Dong)

Changes in the Risk Index for Local Extinction by Administrative Units

Changes in the Risk Index for Local Extinction by Administrative Units (Si·Gun·Gu)
In rural governments who are attempting to attract them to migrate to their territories. The rise due to the baby boomer generation retiring. Many new retirees are now heeding the call of local rural governments who are attempting to attract them to migrate to their territories. Additionally, the percentage of the population returning to farming is on the rise due to the baby boomer generation retiring. Many new retirees are now heeding the call of local rural governments who are attempting to attract them to migrate to their territories.

Korea’s migrational patterns show that the number of migrants increased rapidly from 1970 to 1980; this trend declined a bit in 1990, and finally, the absolute number of migrants has decreased since 2000. Since 1990s, the data indicate that the population has settled down and become stabilized. The direction of migration and origin and destination distributions often reflect distance decay (basically, the closer the destination from the origin, the higher the volume of migration, and vice versa). The population migration patterns observed in Korea over the last half-century reflect the characteristics of urbanization more than distance decay in the 1970s and 1980s. Distance decay characteristics became frequent in the 1990s onward. Suburbanization/counter-urbanization has frequently occurred. Statistics Korea (2019).