

TRACING THE GROWTH OF THE GLOBAL COMMUNITY: A POPULATION FORECASTING ANALYSIS

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1. INTRODUCTION

1.1 OVERVIEW

The Rapid growth of the human population, especially over the last 300 years, is one of the most remarkable trends in population change ever observed. Demographers project that world population will rise to 9 billion by 2050 and level off somewhere between 9–12 billion people by the end of the century. The world population is projected to reach 8.5 billion in 2030, and to increase further to 9.7 billion in 2050 and 10.4 billion by 2100. As with any type of projection, there is a degree of uncertainty surrounding these latest population projections.

Economically, globalization involves goods, services, data, technology, and the economic resources of capital. The expansion of global markets liberalizes the economic activities of the exchange of goods and funds. Removal of cross-border trade barriers has made the formation of global markets more feasible. Advances in transportation, like the steam locomotive, steamship, jet engine, and container ships, and developments in telecommunication infrastructure, like the telegraph, Internet, mobile phones, and smartphones, have been major factors in globalization and have generated further interdependence of economic and cultural activities around the globe.

In 2000, the International Monetary Fund (IMF) identified four basic aspects of globalization: trade and transactions, capital and investment movements, migration and movement of people, and the dissemination of knowledge. Globalizing processes affect and are affected by business and work organization, economics, sociocultural resources, and the natural environment. Academic literature commonly divides globalization into three major areas: economic globalization, cultural globalization, and political globalization.

The world's population reached 8 billion people, a milestone in human development. While it took the global population 12 years to grow from 7 to 8 billion, it will take approximately 15 years—until 2037—for it to reach 9 billion, a sign that the overall growth rate of the global population is slowing.

1.2 PURPOSE

The world's population is more than three times larger than it was in the mid-twentieth century. The global human population reached 8.0 billion in mid-November 2022 from an estimated 2.5 billion people in 1950, adding 1 billion people since 2010 and 2 billion since 1998. The world's population is expected to increase by nearly 2 billion persons in the next 30 years, from the current 8 billion to 9.7 billion in 2050 and could peak at nearly 10.4 billion in the mid-2080s.

This dramatic growth has been driven largely by increasing numbers of people surviving to reproductive age, the gradual increase in human lifespan, increasing urbanization, and accelerating migration. Major changes in fertility rate have accompanied this growth. These trends will have far-reaching implications for generations to come.

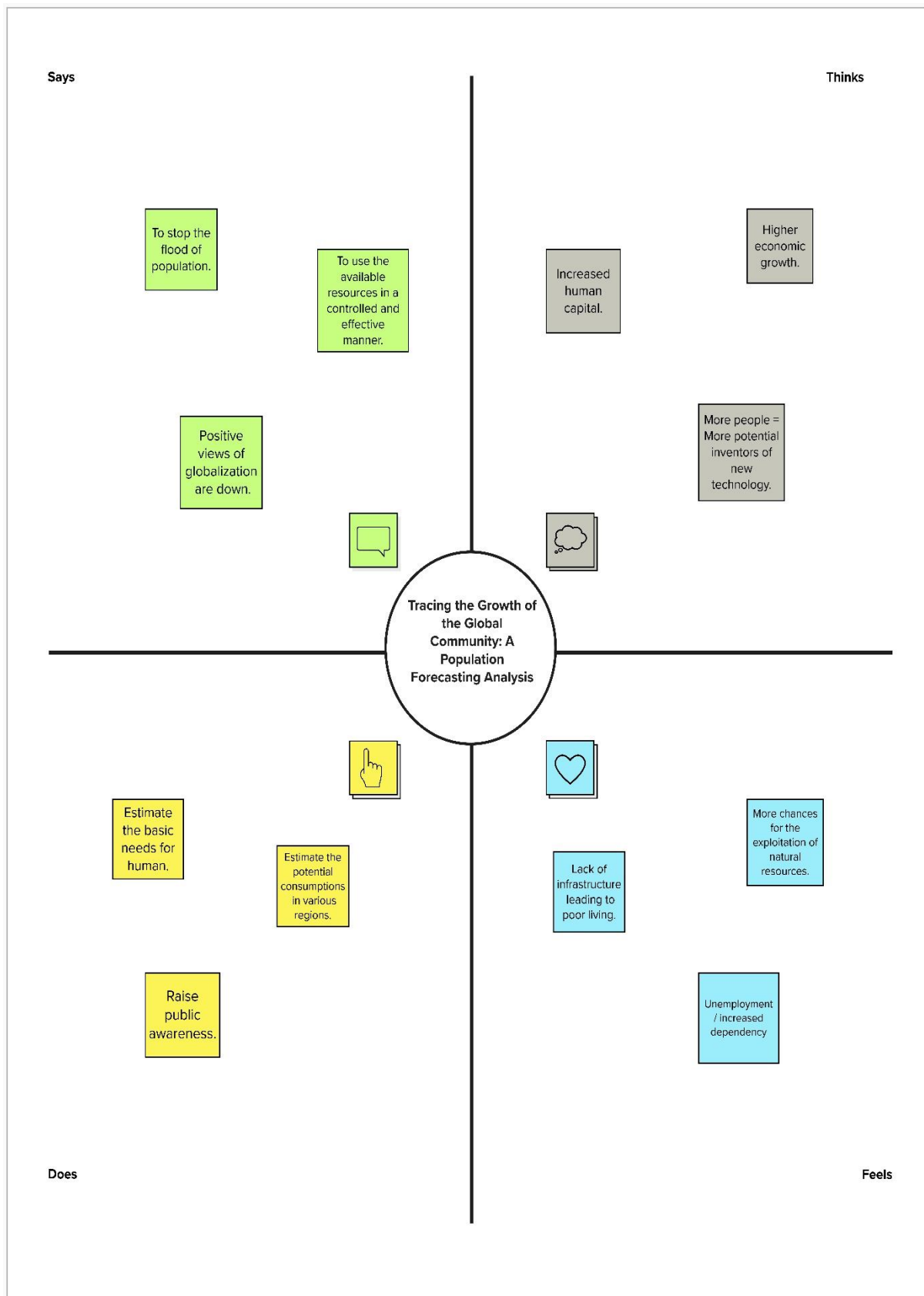
Ultimately, a healthy world economy needs to rest on healthy national economies and societies. Global rules that restrict domestic policy space too much are counterproductive insofar as they narrow the scope for growth- and equity-producing policies. They thus undermine the support for and legitimacy of an open global economy. The challenge is to design an architecture that respects the domestic priorities of individual countries while ensuring that major cross-border spill overs and global public goods are addressed.

Globally, it will not make sense to pursue the extensive harmonization and coordination of policies in finance and trade that are ultimately neither sustainable nor, in view of the heterogeneity of needs and preferences around the world, desirable. International institutions will do better to accommodate the inevitable reduction of the pace of globalization (or, perhaps, some deglobalization) than to shoehorn countries into ill-fitting rules.

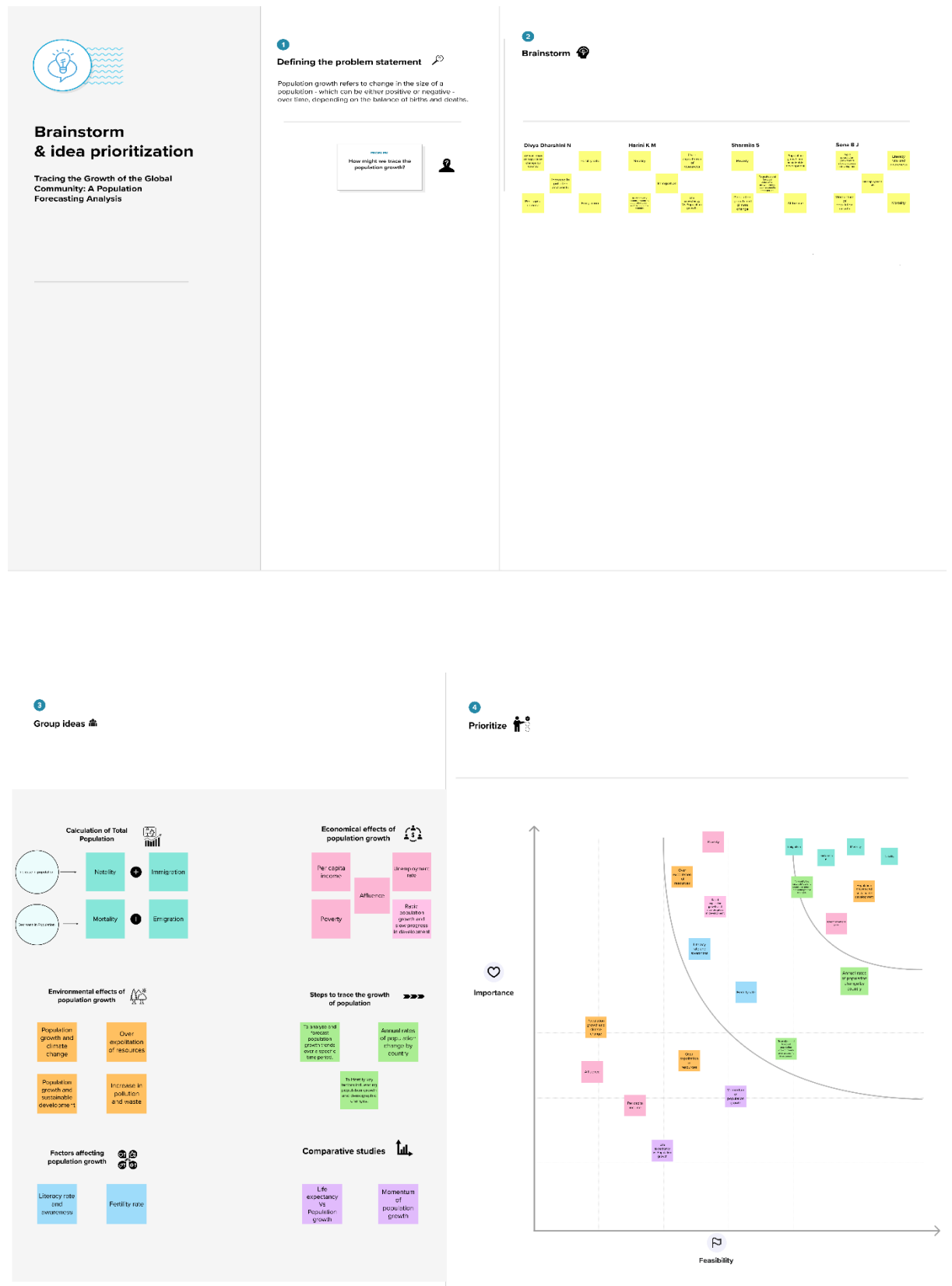
A new settlement will need to be forged between advanced countries and large emerging markets in which the latter no longer see themselves as free-riders on the policies of the former. It is possible that some of this shortfall can be addressed by reforms and new forms of representations: by individual citizens and countries acting in ways that are more conscious of the global consequences of their decisions, by activists and regulators expanding their transnational networks, and by multilateral economic institutions improving their own governance.

2. PROBLEM DEFINITION AND DESIGN THINKING

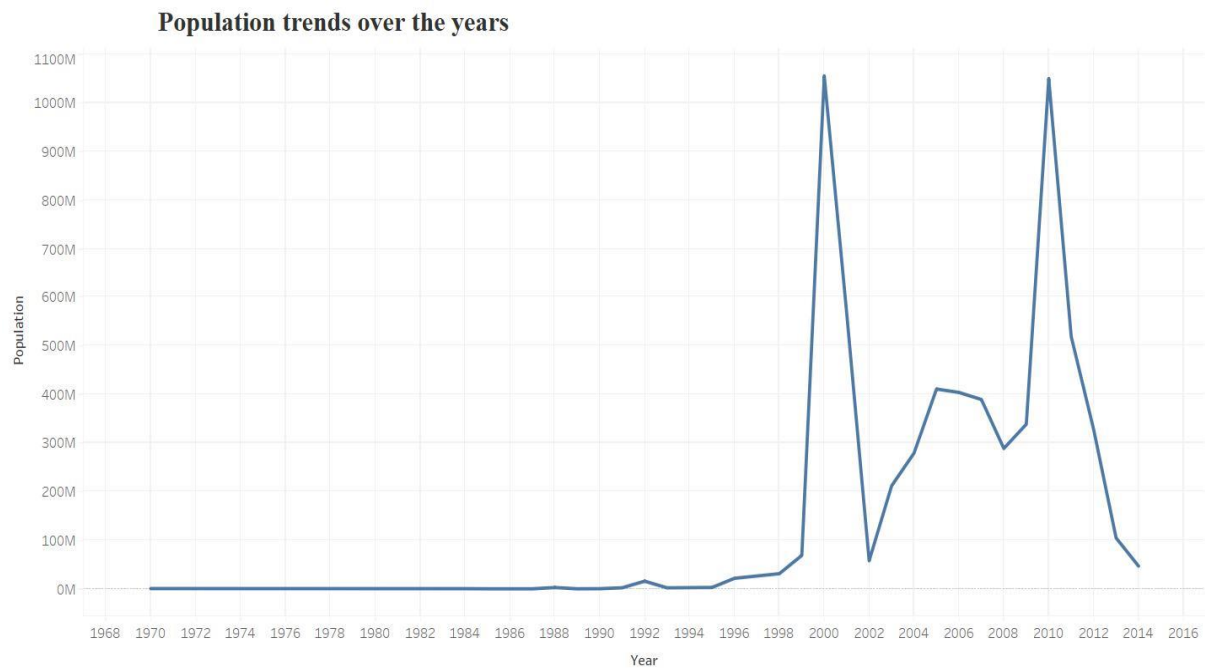
2.1 EMPATHY MAP



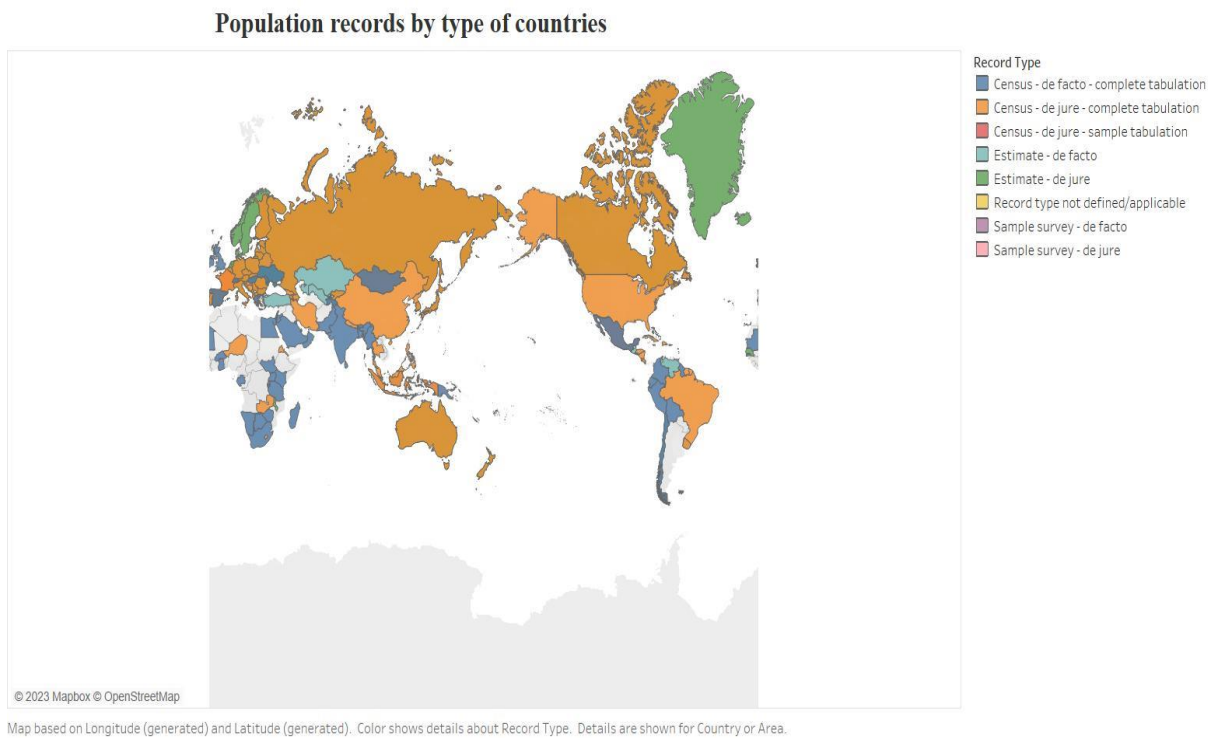
2.2 IDEATION AND BRAINSTORMING MAP



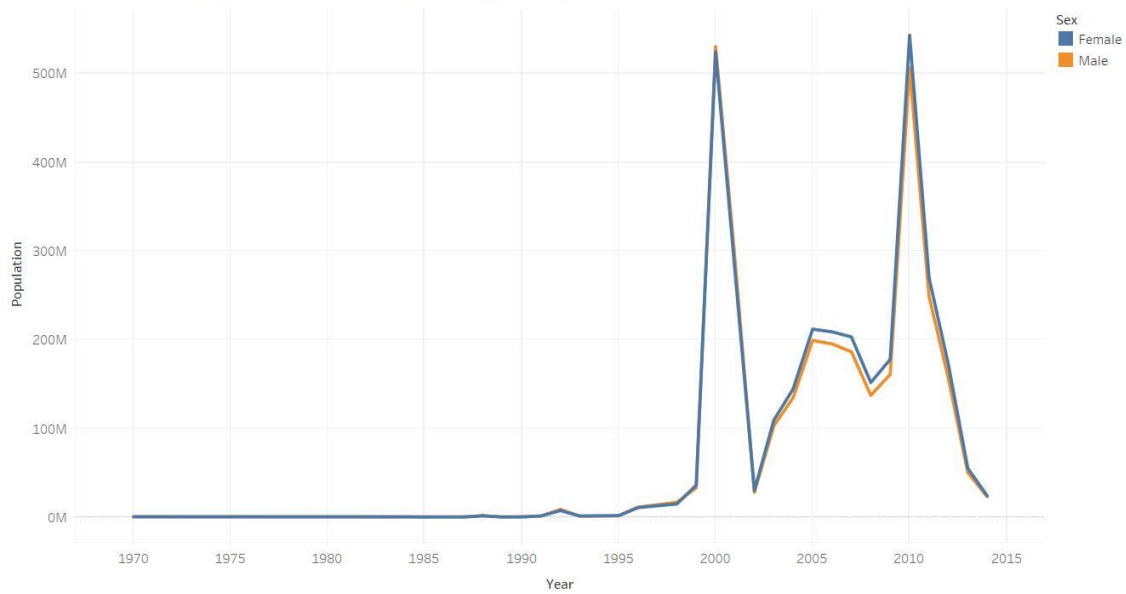
3. RESULT



The trend of sum of Population for Year.

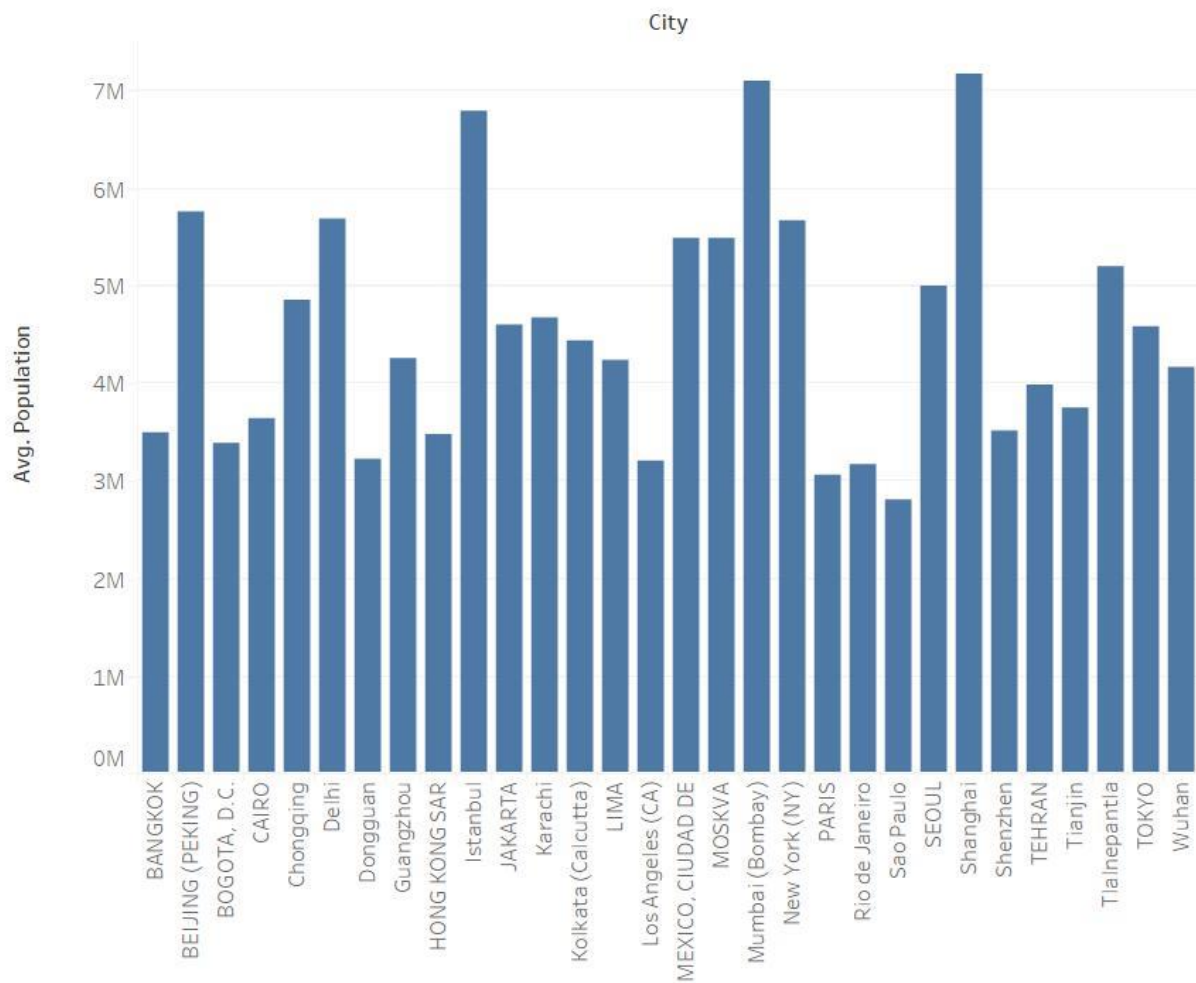


Population trends over the years by sex



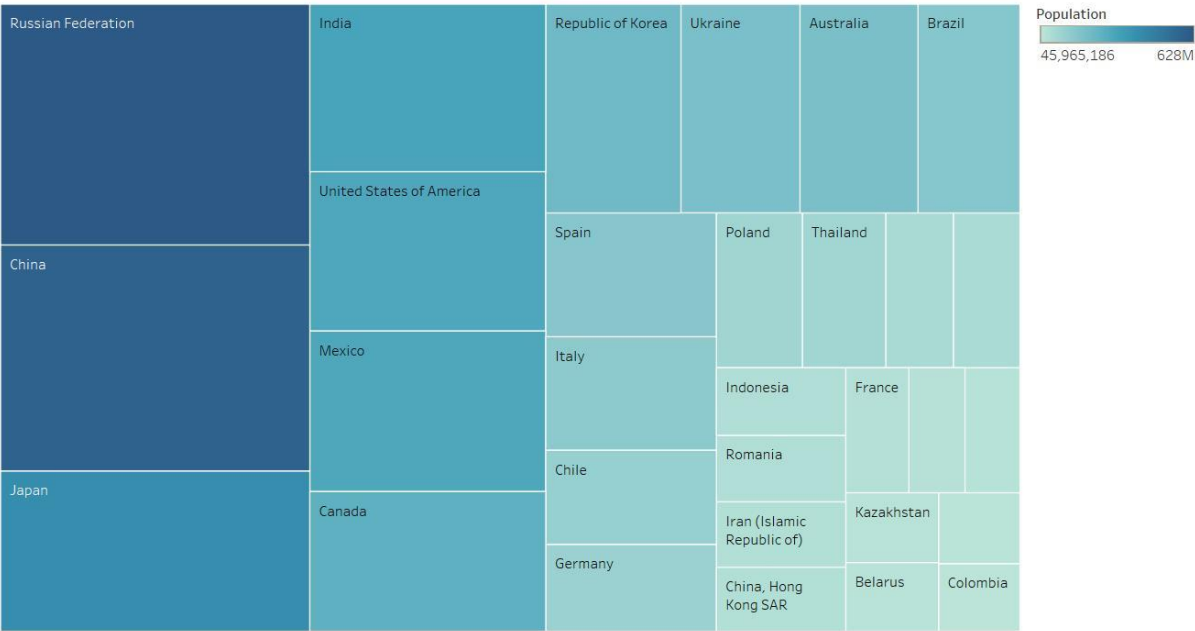
The trend of sum of Population for Year. Color shows details about Sex.

Cities with highest average populations



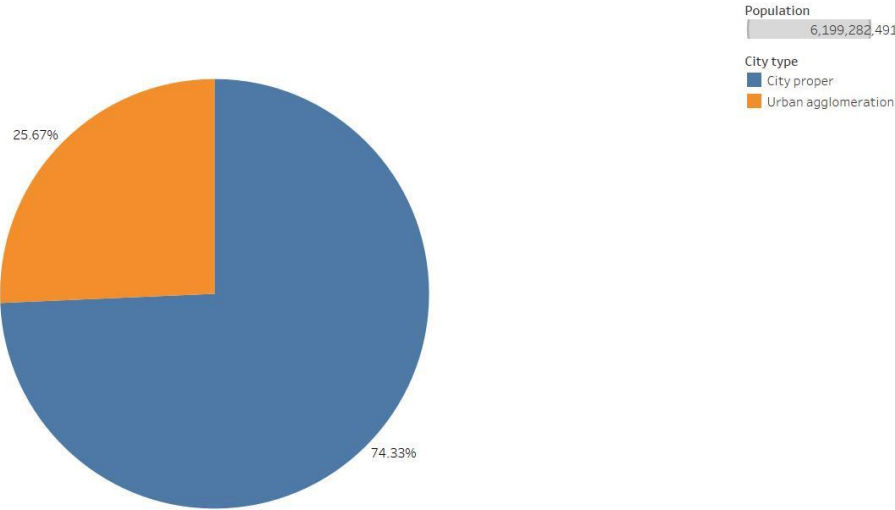
Average of Population for each City. The view is filtered on City, which keeps 30 of 4,213 members.

Countries with highest average population



Country or Area. Color shows sum of Population. Size shows sum of Population. The marks are labeled by Country or Area. The view is filtered on Country or Area, which keeps 30 of 163 members.

Population by city type



City type (color) and sum of Population (size).

This timeline shows the population of cities by years

| City | Country or Area | | | | | | | | Year |
|-----------------|-----------------|---------|-------|--------|-------|-------|----------|----------|-----------|
| | Australia | Belgium | China | France | India | Japan | New Ze.. | Pakistan | Russian.. |
| Abakan | | | | | | | | | ... |
| Abbotabad | | | | | | | | 1998 | |
| Abiko | | | | | ... | | | | |
| Abohar | | | | 2001 | | | | | |
| Achalpur | | | | 2001 | | | | | |
| Acheng | | | 2000 | | | | | | |
| Achinsk | | | | | | | | | ... |
| Adelaide | ... | | | | | | | | |
| Adilabad | | | | 2001 | | | | | |
| Adityapur | | | | 2001 | | | | | |
| Adoni | | | | 2001 | | | | | |
| Agartala | | | | 2001 | | | | | |
| Ageo | | | | | ... | | | | |
| Agra | | | | 2001 | | | | | |
| Ahmedabad | | | | 2001 | | | | | |
| Ahmednagar | | | | 2001 | | | | | |
| Aix-en-Provence | | | ... | | | | | | |
| Aizawl | | | | 2001 | | | | | |
| Aizuwakamatsu | | | | | ... | | | | |
| Ajmer | | | | 2001 | | | | | |
| Akashi | | | | | ... | | | | |

4. ADVANTAGES

- Understanding patterns of population growth and decline: By analyzing population distribution, researchers can identify areas where populations are increasing or decreasing, which can help inform policy decisions related to housing, infrastructure, and services.
- Identifying disparities and inequalities: Population distribution data can reveal areas of concentrated poverty or wealth, as well as disparities between different ethnic or racial groups. This information can inform efforts to address systemic inequalities.
- Planning for future needs: By understanding population trends, policymakers and planners can make more informed decisions about how to allocate resources and plan for future needs in areas such as housing, transportation, and healthcare.
- Identifying areas at risk for natural disasters: Population distribution data can also be used to identify areas at risk for natural disasters, such as floods or hurricanes, and to plan for emergency response and recovery efforts.
- Identifying potential for economic growth: Understanding population distribution can also help identify areas with potential for economic growth and development, which can inform investment decisions and efforts to promote job creation and economic opportunities.

DISADVANTAGE

- Lack of environmental regulations in some developing countries also allows developed countries to import resources such as precious metals at lower prices.
- Local businesses must compete with multinational corporations that produce cheaper goods at lower costs, which puts them at a disadvantage.
- The reliability of projections decreases over time, and projections tend to be less reliable in periods of rapid change. Projections for areas with small populations tend to be less reliable than those for areas with large populations.
- Projections of the number of adult are usually more reliable than those for children because they are based on people who are already living in Scotland. Migration tends to fluctuate more than fertility or mortality.

5. APPLICATION

Demographic population analysis is needed in all stages of the planning process for both new and revised plans. Population analysis is needed to identify problems and community needs, establish goals and objectives, assess alternative courses of action, allocate resources for plan implementation, and evaluate the ability of the plan to achieve goals and objectives.

An example of how demographic analysis can be used in the planning process is presented in the below table. In the example, a health planner is asked to design a plan to expand primary health care within the district. The planner may use the following demographic analysis and information to develop the plan.

| Demographic Population Analysis in the Planning Process: Health Care Example | |
|---|--|
| Planning Process | Demographic Analysis |
| Identify problems and needs | <ul style="list-style-type: none">• Study trends in mortality rates and causes of death among different segments of the population• Study trends in fertility to plan for maternal and child health care• Project total population size by age-sex structure since it provides insights on the different health needs among different age groups |
| Goals and objectives | <p>Collect information to establish objectives</p> <ul style="list-style-type: none">• Population size• Population composition• Geographic distribution• Population projections |
| Generating alternative strategies | <p>Collect information on the size, location and composition of the target population to develop alternative strategies to achieve stated goals and objectives.</p> |

| | |
|---------------------------------------|--|
| Select and implement a plan of action | <p>Collect demographic data to determine:</p> <ul style="list-style-type: none"> • Demand for services • Resource needs including the number of facilities, staff, medicine, and money • Locations for new facilities |
| Monitoring and evaluation | <p>Use of demographic indicators to measure the achievement of the objectives. This could include</p> <ul style="list-style-type: none"> • Infant mortality rates • Age specific fertility rates • Age specific death rates • Morbidity statistics |

6. FUTURE SCOPE

- Within population and demography, the programs that have the highest benefit-cost ratios are:
- Achieving universal access to sexual and reproductive health (SRH) services by 2030, and eliminating unmet need for modern contraception by 2040.
- Reduction of barriers to migration within low- and middle-income countries, as well as between low- and middle-income countries and high-income countries. Priorities with probably high, but difficult to quantify, benefit-cost ratios include:
- Elimination of age-based eligibility criteria for retirement, and the development of public pension systems that are based on expected years of remaining life given fixed characteristics.
- Selected interventions, dependent on particular contexts, that make more efficient and more equitable inevitable urbanization by achieving balance between functions for which there are considerable economies of scale such as transportation and communication networks and functions for which decentralization is likely to lead to the best responses to heterogeneous local conditions and preferences. Policies with relatively low benefit-cost ratios include,
- Beyond these generalities, however, the main policy implication is that future growth strategies will need to differ from the strategies of the past

in their emphasis, if not their main outlines. In particular, reliance on domestic markets and resources will need to substitute at the margin for reliance on foreign markets, foreign finance, and foreign investment.

- Maintenance and expansion of public pension eligibility at “relatively young old ages”.
- Family policies aimed at increasing low fertility in high-income countries (with the exception of the expansion of early childhood education and high-quality day care) It is also important to highlight that “population quality”, including human capital such as health and education, is an important further aspect of population dynamics that is essential for addressing the challenges of future population changes and for realizing the benefits of population dynamics for social, economic and environmental development.
- Population quality therefore needs to be seen as an inherent component of population dynamics, and in some areas like for instance policies addressing population aging population quality related policies are primary policies.