



Policy Brief

DEMOGRAPHIC CHANGES OF NEPAL:

Trends and Policy Implications

The size and age structure of populations, coupled with strategic investments, can have profound implications for the course of a country's economic and social development. Nepal's demographic transition presents unique opportunities and challenges for its development.

INTRODUCTION

Nepal's demographic experience is remarkable in many ways. In the span of a few decades, Nepal has achieved significant declines in mortality rates, fertility rates, and population growth rates (Table 1). Most significant, Nepal's demographic transition has taken place at low levels of economic development. These changes, which represent important development achievements for Nepal in their own right, also present unique challenges.

Fertility and mortality changes predictably lead to ageing populations with a time lag. Ageing increases old-age dependency burdens that are best addressed by investments that will increase the productivity of the workforce. It is important to recognise that the implications of ageing are sensitive to social arrangements regarding old-age security as well as institutional mechanisms that allow the working generation to invest in their own future.

Regularities in patterns and trends of fertility and mortality decline seen in historical and contemporary populations have formed the basis of demographic transition theories. Demographers and economists studying recent Asian transitions proposed the notion that transitions that include a rapid fertility decline create a window of opportunity for breakthroughs in economic development. This is referred to as the demographic dividend.

The potential for realizing economic benefits from a low dependency ratio is typically time-bound and calls for strategic and appropriate investments. This potential is created when large birth cohorts enter prime earning years while those who are dependent on

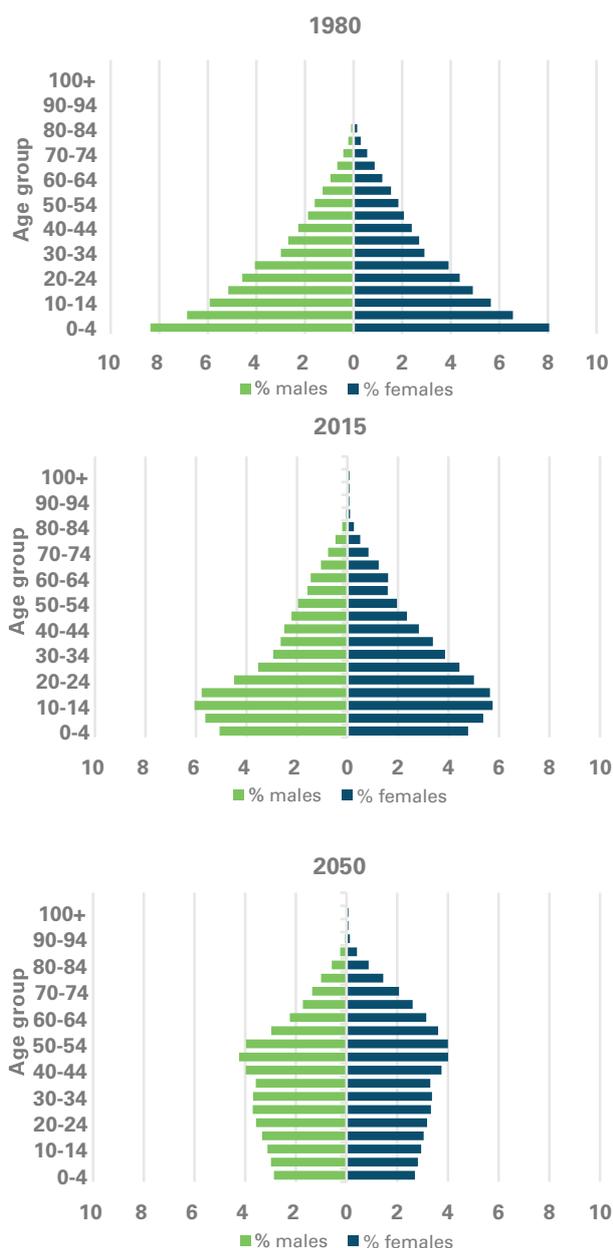
them, both young and old, are proportionately small in number relative to the working-age population. This low dependency ratio presents a moment of opportunity for investing in the future. With the right investments, this demographic window of opportunity can transform economic prospects for individuals and societies. Strategic and well-timed investments in health, nutrition, water, sanitation and hygiene, education, child protection, and social protection can translate the potential of a favourable age structure to promote human capital and to increase savings so that the benefits gained can be invested in the future. Our analysis views Nepal's demographic transition through a historical and contemporary comparative perspective, and identifies a rapidly ageing society and a limited demographic window of opportunity as key challenges that the country must prepare for in order to achieve its development goals. By comparing with other countries and projecting future trends, we hope to inform policy to address these challenges for the future.

Table 1. Nepal's demographic transition

| Period | Total fertility rate | Crude death rate | Life expectancy at birth |
|-----------|----------------------|------------------|--------------------------|
| 1980-1985 | 5.62 | 16.9 | 48.34 |
| 1990-1995 | 4.97 | 11.6 | 56.44 |
| 2000-2005 | 3.64 | 7.8 | 64.06 |
| 2010-2015 | 2.32 | 6.5 | 69.01 |

Source: *World Population Prospects: The 2015 Revision*

Figure 1. Nepal age pyramids for 1980, 2015, and 2050



RATIONALE

In September 2016, the UNICEF Nepal Country Office, in collaboration with the Nepal Planning Commission, Government of Nepal, commissioned the Population Council to conduct a rigorous study on demographic changes in the country. This study aims to validate preliminary analyses conducted internally by the UNICEF Nepal Country Office in 2015 and to generate up-to-date and methodologically sound estimates of critical aspects of change in Nepal's population processes, the speed of ageing of Nepalese society, and the estimation of the length of Nepal's demographic window of opportunity to reap a demographic dividend. In doing so, this study aims to increase demand for analysis of demographic data as part of the development discourse in Nepal as well as in broader civil society.

RESULTS

Over the last three decades, Nepal has experienced very rapid demographic changes, particularly in fertility and mortality decline, as well as reductions in population growth. This has led to significant changes in the population age structure (Figure 1). Although these changes undoubtedly will make significant contributions to the achievement of Nepal's development goals, they also present unique challenges that will manifest themselves in several ways, as described below.

TRANSITION FROM AGEING TO AGED SOCIETY

One commonly used international standard for measuring the speed at which a society ages, utilized by Oizumi (2013) and others, is the estimation of the duration of time it takes for a population to transition from an "ageing" to an "aged" society based on when the proportion of the population aged 65 years and older transitions from accounting for 7 percent of the total population (ageing society) to 14 percent of the total population (aged society). The timing of Nepal's transition from an ageing to an aged society under this operationalisation is shown in Figure 2. Based on the most up-to-date projections, Nepal will transition to an "ageing society" in 2028, just 11 years from now, and into an "aged society" by 2054, making the transition from "ageing" to "aged" in just 26 years.

When compared to a number of countries in Asia, Nepal has a similar expected length of transition from ageing to aged, projected to take 26 years. This length of transition is very similar to the transition made by Japan from 1970 to 1994 (24 years). Many of the East Asian and some Southeast Asian countries that have comparable projected lengths of this ageing transition are already in their transition periods (Table 2). They are, however, making their transitions at significantly more advanced stages in their development.

As the population of Nepal is expected to age rapidly, the number of elderly adults to be supported by working-age adults will also continue to increase over time. This figure can be presented in the form of a "potential support ratio," which is the ratio of individuals aged 15–64 per one person aged 65 years and older in the population. Simply put, this is the number of working-age adults required to support one elderly person. Figure 3 shows the potential support ratio for Nepal between 1980 and 2100. In 1980, when the population was relatively young, there were 16.8 working-age adults supporting one elderly person. By 2015, this figure declined to 11.6 working-age adults supporting one elderly person, a reduction of 33 percent

Figure 2. Nepal population aged 65 and older, 1950–2100

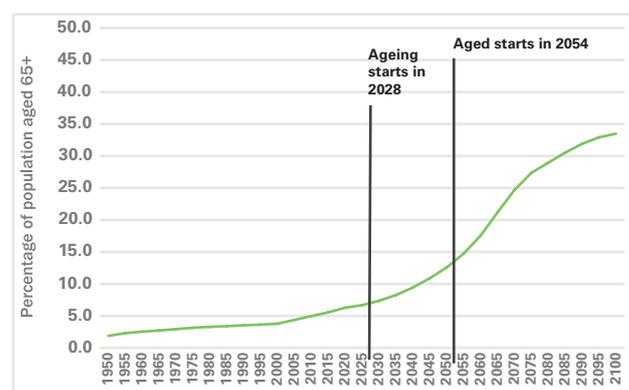


Table 2. Transition from ageing to aged society, country comparison

| | Year | | |
|-------------|------|------|--------|
| | 7% | 14% | Length |
| Vietnam | 2016 | 2034 | 18 |
| South Korea | 1999 | 2017 | 18 |
| Singapore | 1998 | 2018 | 20 |
| Thailand | 2002 | 2022 | 20 |
| China | 2002 | 2024 | 22 |
| Taiwan | 1994 | 2017 | 23 |
| Japan | 1970 | 1994 | 24 |
| Malaysia | 2020 | 2044 | 24 |
| Indonesia | 2027 | 2053 | 26 |
| Nepal | 2028 | 2054 | 26 |
| Hong Kong | 1983 | 2012 | 29 |
| Philippines | 2031 | 2071 | 40 |

in 35 years. This ratio is projected to decline at even faster rates. By 2050, Nepal is projected to have only 5.6 working-age adults supporting one elderly person, half of today's ratio in just another 33 years. Most strikingly, this ratio is projected to decline to 3.8 and 1.6 by 2060 and 2100, respectively, a third and a tenth of the ratio today in just 43 years and 83 years, respectively.

DEMOGRAPHIC WINDOW OF OPPORTUNITY

Although Nepal is projected to age at a rapid rate, projections of the country's population age structure also suggest that it will remain a relatively young country for a number of years to come. As a country progresses through the demographic transition, shifts in the age structure cause the working-age population to increase relative to the dependent children and elderly populations. This results in the potential for a demographic dividend, which is the accelerated economic growth that may result from this favourable demographic scenario. More important, as demographic changes are dynamic, the time period within which a country can reap a demographic dividend is finite. With fewer births each year, dependency ratios change as a country's dependent population (aged 14 and younger and 65 and older) declines in relation to the working-age population (aged 15–64). When a country has fewer people to support, there is a window of opportunity for rapid economic growth if the needs of young people are prioritized. For Nepal, population estimates suggest that this window of opportunity is limited.

For a precise determination of the length of Nepal's demographic window, we take into account population growth rates for the total population, working-age population, and dependent population. The figures for the growth rates for these subgroups are presented for 1975 to 2075 in Figure 4. The demographic window of opportunity for the demographic dividend occurs when the growth rate of the working-age population (aged 15–64) is greater than the total population growth rate. As Figure 4 shows, Nepal's demographic window began in 1992 when the growth rate of the working-age population first exceeded the overall total population growth rate. It is predicted to end in 2047 when the growth of the working-age population will for the first time since 1992 sink below the total population growth rate. Thus, for a period of 55 years, Nepal's working-age group will grow faster than its dependent population. It is

Figure 3. Nepal potential support ratio: 1980–2100

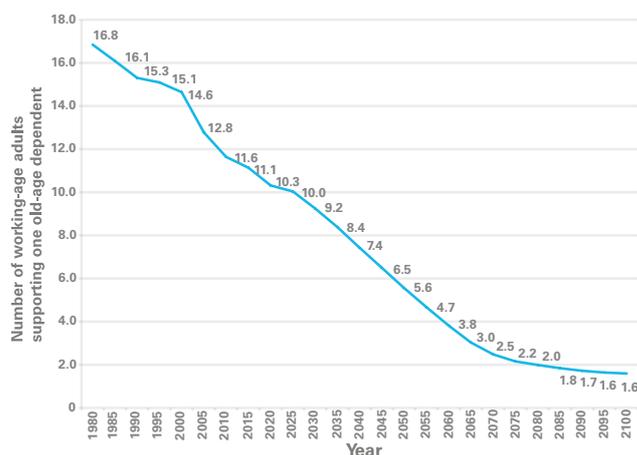
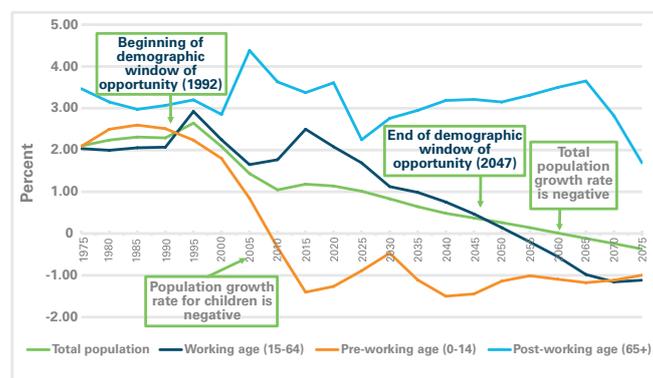


Figure 4. Demographic window of opportunity



important to note that according to these calculations, Nepal has already spent 25 years where the working-age group has grown faster than dependants and this pattern will continue for 30 more years. In other words, Nepal has already passed 45 percent of its window of opportunity to reap this dividend.

The length of Nepal's window of opportunity is not very different from that experienced by some of its East Asian neighbours. A comparison of the length of the demographic window for Nepal and other Asian countries is shown in Figure 5; Nepal's window, at 55 years, is similar to that of Indonesia, Malaysia, and Taiwan, all of which have either already experienced or are experiencing their window of opportunity. Unlike Nepal, however, these countries are experiencing these changes at more advanced stages of their development.

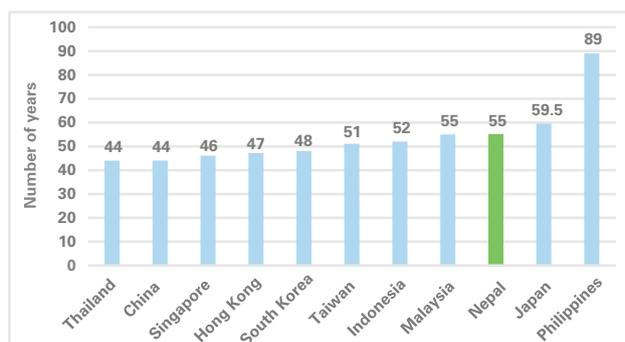
“Improving the education system, raising the status of women, and reducing child mortality are policy measures that are desirable in their own right. Indeed, most governments already pursue these socially desirable objectives independent of their potential role in lowering the rate of childbearing. The demographic benefits strengthen the rationale for intensifying these social policies.”

—John Bongaarts in *Science* (1994)

POLICY IMPLICATIONS

While demography is not destiny, population trends offer a useful lens through which to view policy options. Nepal has experienced rapid declines in birth and death rates over the past three decades, creating a favourably low burden of dependants on the workforce and the possibility of benefiting from a demographic dividend

Figure 5. Length of window of opportunity comparison



during a time-bound window. Timely investments now to strengthen the workforce of the future can reap the benefits of a demographic dividend. The experiences of high-growth economies in East Asia suggest that investing in the early years of life and in opportunities for women in a timely manner are critical.

As more children survive, parents have fewer children and are motivated to invest in their health and education. These investments ensure the productivity of the future workforce. A more productive workforce that can save for the future can also reduce the dependency burdens by making the dependent (elderly) more self-sufficient.

INVESTING IN EARLY-CHILDHOOD DEVELOPMENT

Fortunately, evidence exists that suggests that there are promising uncharted territories (in terms of cost-effective investments) that can allow us to explore strategies for raising more productive future generations. In terms of the timing of investment in life, no period will be more cost-effective than childhood. Nepal has relevant experience—a Child Grant was introduced in 2009/10 to support better nutrition for children under five years of age. Early evidence on the program shows that it has led to substantial increases in birth registration among the beneficiary population and that households use the grant for food, clothing, and other basic needs.

DEMOGRAPHIC DIVIDEND AS EDUCATION DIVIDEND

A growing body of global evidence indicates that economic achievements are linked to educational attainment not just later in life but also during early childhood. Now, more than ever, investments in education are critical for economic growth as they are essential for ensuring faster uptake of technology.

URGENT AND TIME-SENSITIVE POLICY

Finally, it is important to highlight the urgency and time sensitivity of these investments. The window of opportunity is short in Nepal in a manner that is similar to the historical experience of Japan.

- Nepal's window of opportunity will close as it rapidly progresses through the process of ageing. While these trends are inevitable, in present-day Nepal we can learn from the experience of ageing societies struggling with the maintenance of social security systems to plan for a strategy to ensure old-age support that recognises the critical role of investing in children today.
- Today's children and future generations will need to support a substantially greater number of elderly dependants than today's adults do.
- To attain these gains, it is essential for Nepal to invest in children now. First, the time left to reap the

benefits of the demographic window of opportunity is finite. In 2017, Nepal is close to the halfway mark of a window of demographic opportunity that opened in 1992 and will close by 2047. In the absence of appropriate investments, the window will start to close in another 30 years.

- Nepal's transition has progressed in terms of fertility and mortality even while the economy is at a relatively low stage of development. Nepal began the demographic transition while age at marriage and first birth remained low, which presents a new kind of opportunity. There is room for investments in policies to lengthen the demographic window of opportunity through later age at marriage and later births.

REFERENCES

Bongaarts, John. 1994. "Population policy options in the developing world," *Science* 263(5148): 771–776.

Oizumi, K. 2013. *Ageing in Asia: When the Structure of Prosperity Changes*. Tokyo, Japan: Oriental Life Insurance Cultural Development Center. http://www.olis.or.jp/pdf/Aging_in_Asia.pdf.

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