

Demographic Dividend or Demographic Disaster? An Indian Case

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Case Synopsis

India is the second largest populated country of the world and is expected to be the most populated country by 2024. Indian demography is currently in transition. Population is growing but the rate at which populations grows is declining. Life expectancy is increasing, but population is ageing. Economy is growing, but jobs are not being created much. Youths are getting more educated and healthier. But are caught in lack of skills and lifestyle diseases. It is at this dichotomous state of India, the case analyses the predicted transitions in Indian demography and their impacts. This offers readers to appraise the current efforts of the government in utilising the demographic dividend, and also invites them develop a model to avoid demographic disaster in India.

Profile of the Indian Demography and its Transition

Indian population exhibits unique features. It is known that India is the second most populated country of the world and is providing shelter to more than 17 percent of the global population. India's population, currently, stands at 1.38 billion and the UN World Population Prospects predicts that by 2024 India will overtake China's current population of 1.44 billion. An analysis of the various trends over the period of time, as presented in Table-1, provides a holistic view on the structure and composition of the Indian demography. Since 1991, the rate of growth of population was declining. Indian population was growing at the annual rate of 2.1 percent in 1991. While the same has declined to 1.9 percent in 2001 and subsequently, to 1.2 percent in 2019. This implies that addition to child population in the successive years is declining and will continue to decline in the decades to follow as well.



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Table-1. Growth of population in India

Year	Population (in million)	Decadal Change (%)	Annual Growth Rate	Sex Ratio (population)
1951	361	–	–	946
1961	439	21.6	1.9	941
1971	548	24.8	2.15	930
1981	683	24.7	2.32	934
1991	846	23.9	2.17	927
2001	1,029	21.5	1.9	933
2011	1,210	17.7	1.6	940
2019	1,369	13	1.2	

Source: UN World Population Prospects (2019)

It is noteworthy that sex composition of the population is undergoing a change. The number of female population to the total population was 946 in 1951, and it has fallen to 940 according 2011 census. An analysis of sex ratio based on the new births shows that only 896 girls are born to every 1000 boys during 2015-17. While it was 901 in 2005-07.

One of the visible transformations in Indian demography is improved literacy. Literacy rate has risen from a mere 16 percent in 1951 to 74 percent as per Census 2011. Though both male and female literacy has increased, there exists a very wide gender gap. The future challenge is to take the literacy to the last mile since 24 percent of the total population and 35 percent of the female population are illiterates.

Table-2. Literacy rate (%)

Census year	Total (%)	Male (%)	Female (%)
1951	16.67	24.95	9.45
1961	24.02	34.44	12.95
1971	29.45	39.45	18.69
1981	36.23	46.89	24.82
1991	42.84	52.74	32.17
2001	64.83	75.26	53.67
2011	74.04	82.14	65.46

Source: GOI Population Census

The age composition is passing through changes. This is evident from Table-3. With the constant decline in the population growth rate, the proportion of future generation belonging to the age group of 0-14 has a massive decline from 41 percent to 27 percent of the total population. The

adult population and old age population are on the rise. This is the reminiscence of China's population trends in the 90's.

Table-3. Age composition of population

Year	Age Group (years)		
	0-14	15-60	above 60
1961	41	53.3	5.7
1971	41.4	53.4	5.2
1981	39.7	54.1	6.2
1991	36.5	57.1	6.4
2001	35.6	58.2	6.3
2011	29.5	62.5	8
2016*	27	64.7	8.3

Sources: GOI Population Census & * NITI Ayog

India is overcrowded with population and the density is rising faster (Table-4). The population per square kilometre of land area in India is one of the highest in the world and it is 460 in 2019 against 160 in 1955. It is also noteworthy that the fertility rate has fallen from 5.9 to 2.4 during 1955 and 2019. It reflects that the number of children per woman has declined. In a significant development, the median age of Indian population has increased during the same period from 20 years to 27 years.

Table-4. Median age, fertility and density of population

Year	Median Age	Fertility Rate	Density (P/Km ²)
1955	20.8	5.9	138
1960	20.3	5.9	151
1965	20.8	5.9	167
1970	19.4	5.72	186
1975	19.8	5.41	209
1980	20.2	4.97	234
1985	20.6	4.68	263
1990	21.1	4.27	293
1995	21.8	3.83	323
2000	22.7	3.48	354
2005	23.8	3.14	385
2010	25.1	2.8	414
2015	26.7	2.44	440
2019	27	2.41	460

Source: UN World Population Prospects 2019

Dichotomy

The demographic shift in India is reached after the huge segment of adult and youth population joins the total population. Over the decades, population of working age group (15 years to 60 years) has constantly increased. The adult population has risen from 53 percent of the total population in 1961 to 64 percent in 2016. Further, more than half of the population is belonged to millennial generation. Millennials are those born between 1980 and 2000, and they are in the age group of 18 to 38 years. The adults and the millennials are the backbone of the growth of the economy. The current growth of Indian economy is attributed to the generation of millennials.

The rising youth population is a boost factor to the Indian consumption and production segments. Over the last two decades, in India, housing and construction sectors, apparel and footwear industry, fashion and boutique industry, food chain industry, travel and tourism industry, electronic and communication sector have grown very rapidly. This has to be credited to the younger generation of the country. It has been observed that as the adult population grows and that population is economically better off than the earlier generation, and spends more towards consumption. It was witnessed in the past that the high aggregate demand emerging from the youth contributes in sustaining the domestic market to a larger extent against global volatilities such as 2008 financial crisis.

Former President, Dr.A.P.J Abdul Kalam reposed faith on youth. He did laydown the vision for growth of the country considering the potential of the youth that are becoming more educated. According to population census data, 86 percent of youth are literates in 2011 as against 36 percent in 1961. They are more creative, innovative and technology savvy. The service sector driven by technologies is spearheading the economic growth of India in the last two and a half decades. The service sector is predominantly occupied by the youth and this sector contributes nearly 58 percent to the GDP.

Youths are innovative and entrepreneurial. They come up with new ideas, new products, and new concept of running the business. According to a KPMG report (Sharma, 2019) the number of start-ups in India grew from 7,000 to 50,000 during the decade between 2008 and 2018. As per the Report, these start-ups spur the innovation in sectors, especially information technology, artificial intelligence, augmented reality/virtual reality, internet of things, finance, food tech, health tech, and aggrotech, among others. They are largely driven by the youths. These are not just product start-ups but ventures that are effectively leveraging technology to push scale (Sharma, 2018).

According to World Population Review (2018), the median age was 47.3 years in Japan, 47.1 years in Germany, 41.8 years in South Korea, 40.8 years in United Kingdom, 38.1 years in United States and 37.4 years in China. While, India appears to be young with median age at 27.9 years. Moreover, a considerable total (25%) of the world wide increase of the working age population of 15-64 years till 2040 is projected to occur in India (Naik and Bobade, 2016). Amidst such demographic benefits, the concern raises on the gradual ageing of Indian population. Already many countries in the world are caught in the problem of ageing population as mentioned above, and are struggling economically and socially.

Table-5. Predicted trends in Indian demography from 2020 to 2050

Year	Population	Yearly % change	Migrants (net)	Median Age	Fertility Rate	Density (P/Km ²)	Urban Population	Share of world population
2020	1,38,31,97,753	1.11%	-4,90,000	28.2	2.3	465	34.00%	17.74%
2025	1,45,18,29,004	0.97%	-4,00,000	29.8	2.19	488	36.20%	17.74%
2030	1,51,29,85,207	0.83%	-4,00,000	31.4	2.1	509	38.50%	17.69%
2035	1,56,45,70,223	0.67%	-4,00,000	33	2.02	526	41.10%	17.59%
2040	1,60,53,55,574	0.52%	-4,00,000	34.5	1.95	540	43.70%	17.43%
2045	1,63,64,96,308	0.38%	-4,00,000	36.1	1.9	550	46.40%	17.22%
2050	1,65,89,78,162	0.27%	-4,00,000	37.5	1.86	558	49.10%	16.98%

Source: UN World Population Prospects 2019

The median age of population has increased from 20 years in 1955 to 27 years in 2019, according to UN World Population Prospects (2019). It also predicts that by 2050 the median age of population in India will rise further to 38 years. With ever falling population growth (Table-5) towards 2050, India will have very small proportion of youth population much similar to China or European countries are currently in.

The ageing population in India is much faster than previously predicted and may have nearly 20 per cent population of 60 years and above by 2050. The Government of India, in August 2018, stated in the Parliament that India will have 34 crore people above 60 years of age by 2050 that would be more than the total population of the US. India stares at a situation where a large number of population will be dependent including old age, widowed and highly dependent women. United Nations Population Fund (2017) in its India Ageing Report also predicts that the share of population over the age of 60 could increase from 8 per cent in 2015 to 19 per cent in 2050. It is also expected that, during 2000-2050, the overall population of India will grow by 56 per cent, while the 60-plus population will increase by a whopping 326 per cent and 700 per cent in 80-plus age group.

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The situation calls for further debate on - how does the business and economy get affected with ageing population?, and what are the strategic models/measures the business houses and the government would enable them to nullify the adverse effects of ageing population?

It is also predicted that by 2050 half of the total population of India will be living in urban areas. This implies that during the next three decades 20 percent of the total population will migrate from rural to urban. Such an urbanisation of Indian economy is expected to create structural problems. India being primarily an agrarian economy, will this transformation create distress in rural India? Will it create food and agrarian crisis? Rural to urban migration of youths may also lead to structural imbalances in urban areas. From that perspective, emerging issues are: will there be creation of jobs proportionate to migration? The urban India currently has challenges in the provision of basic infrastructure including housing, drinking water, health and education, sanitation, security against crime etc. Will the urban bodies equip themselves with the potential to harness the demographic dividend which migrates in such a large scale?

Table- 6. Health indicators of Indian demography

Period	Birth Rate (per 1000)	Death Rate (per 1000)	Net Change	Total Fertility Rate	Infant Mortality Rate (per 1000 live births)	Life Expectancy (years)
1950–1955	43.3	25.5	17.7	5.9	165	36.6
1955–1960	42.1	22.7	19.4	5.9	153.1	39.7
1960–1965	40.4	19.8	20.6	5.82	140.1	42.7
1965–1970	39.2	17.2	22	5.69	128.5	46
1970–1975	37.5	15	22.5	5.26	118	49.4
1975–1980	36.3	13	23.3	4.89	106.4	52.5
1980–1985	34.5	11.8	22.7	4.47	95	54.9
1985–1990	32.5	10.9	21.5	4.11	85.1	56.7
1990–1995	30	10.2	19.8	3.72	76.4	59.1
1995–2000	27.2	9.4	17.8	3.31	68.9	61.5
2000–2005	25.3	8.4	16.9	3.14	60.7	63.5
2005–2010	22.9	7.9	15	2.8	52.9	65.6
2010–2015	20.4	7.4	14	2.48	40.4*	67.6
2016*	20.4	6.4	14	2.2	34	67.9

Sources: UN World Population Prospects 2019 & * NITI Ayog

The trends and data again represent dichotomy relating to the health status of the Indian demography. Table-6 presents the trends in the performance of major health indicators. From the data it could be inferred that India has very healthy demography as the death rate, birth rate, infant mortality rate and fertility rate have declined drastically and the longevity of the people has also increased in a healthy rate. However, in line with various reports and surveys, Indian youth population in urban centres is falling prey to the lifestyle diseases such as diabetes, high cholesterol, hyper tension etc and they raise uncertainty over the ability of the country to grab the demographic advantages. A study by Harvard T.H.Chan School of Public Health (2018) reports that 6.1 percent adult women and 6.5 percent men are affected by diabetes. It also says that 20 percent middle aged women and 24.5 percent men are suspected to be suffering from hyper tension. Another report infers that the number of diabetic population is expected to increase from the 69.2 million in 2015 to 98 million in 2030. The Human Development Report of UNDP (2018) also shows the poor health status of India. It is noteworthy that the adult mortality in India is still high. It was reported that the adult mortality rate among men was 212 (per 1000 men) and 139 among women (per 1000 women).

The reader may compare the health status of Indian labour force with the western world and bring forth the implications of poor health in India.

Another emerging critical challenge with demographic shift is generating employment. With ever increasing rate of dependents and rising cost of living over the years, the youth population ought to earn. The current trend in the labour market is such that the supply of labour force is much higher than the demand for it. The scenario leads to under employment and disguised employment of the youth resources. The increasing supply in the labour market also leads to job insecurity in both the organised sector and unorganised sector. Regular and continuous forms of employment have been replaced with non-permanent job contracts that involve a specific project or activity for a defined period of time. In this scenario, employees not only lack employment related benefits but also the capacity to plan own life (Naik and Bobade, 2016).

Indian youths are currently facing the worst unemployment scenario in the past 45 years. Abraham (2019) refers to an unpublished NSSO report, that states that the current unemployment is as high as 6.1 percent of the working population. Unemployment for rural male youth (aged 15-29) went from 5 per cent in 2011-12 to 17.4 per cent in 2017-18. For rural women in the same age group, joblessness went from 4.8 per cent in 2011-12 to 13.6 per cent in 2017-18.

A report by the Centre for Monitoring Indian Economy (CMIE) (2017) stated that during the year

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2 million jobs were created, but 12 million joined the workforce. This leaves 10 million youths unemployed a year. Due to technological evolution and automation in all the sectors of the economy as part of cost cut and mass production, India is heading for structural unemployment in the years to follow. The World Bank Report (2016) has also warned India that 69 percent jobs are facing threat from automation and technological advancements. It is at this backdrop lot of noise on unemployment is being heard. Some of the recent most representative instances are presented in Table-7.

Table-7. Select cases of employment efforts in India during 20-18-19.

Recruiting Authority	Job Profile	No. of Vacancies	No. of Applications	Profile of Applicants
Indian Railways	Engine drivers, technicians, carpenters, track inspection crews etc.	90,000	25 million	-
Indian Railways	Helpers, porters, cleaners, gatemen, track maintainers and assistant switchmen	63,000	19 million	-
Govt. of Madhya Pradesh	Peons	738	2.81 lakh	Engineers, law graduates & MBAs among others
Govt. of Rajasthan	Peons in Assembly Secretariat	18	12,453 were shortlisted & interviewed	129 engineers, 23 lawyers, a CA, & 393 Post Graduates
Odisha University of Agriculture & Technology	Data entry	3	1,000 were interviewed	B.Tech, MCA & law graduates among applicants

The different cases of recruitment efforts as presented in Table- 7 are the potent symbols of India's employment conundrum. Washington Post (Jan 6, 2019) fears that by 2021, the number of people in India between the ages of 15 and 34 is expected to reach 480 million. They have higher levels of literacy and are staying in school longer than any previous generation of Indians. The youth surge represents an opportunity for this country of 1.3 billion, economists say, but only if such young people can find productive work. However, youth with higher education are at high risk of unemployment (Table-8).

Table - 8. Unemployment according to educational qualification

Educational classification	Unemployed
Not literate	2.3%
Primary	3.3%
Middle/Secondary/Higher Secondary	3.7%
Graduate & above	23.8%

Source: Statement by the GOI in Parliament

This apart, Table-9 reflects the poor quality of Indian human capital. The mean year of schooling in India is only 5.8 years as against 12 years in China. It is a serious matter of concern that 27.5 percent youths are not found anywhere, either in employment, education or training. This raises the question whether India's demographic dividend is gradually eroding with time. Though the government supports with policies and programs to improve human qualities, Table - 9 shows that they are inadequate in meeting the growing challenges.

Table-9. Performance of human capital indicators in India

Indicators	Performance
Mean years of education	5.8 years
Youth not in employment, education & training	27.5 years
Public spending on education	3.8% of GDP
Public spending on social security	1% of GDP
Working age population covered under pension program	7.4%

Source: Global Human Capital Report, 2017

Though literacy rate is increasing among youth, the quality of education and the employability of such educated youths are questioned. A research paper by Naik and Bobade (2016) says that the present education system does not prepare them for employment as it is far from meeting market demands. Dev S. et al. (2011, 2012) raise concerns over technical education. According to them, there is inadequacy in the operating of employment exchange, primarily due to the insignificant attention paid to trends in market and sharing knowledge. Also working of Industrial Training Institutes has been repeatedly questioned as they have been delivering training that has no market value. As a result, young people in India confront situation that is not rendering the desired support. The current scenario provides neither reasonably priced opportunities to acquire and/or upgrade skills nor sufficient knowledge on apt employment opportunities. In the absence of such support and any sort of social security, young people, in desperation, settle for exploitative employment conditions (World Bank, 2010).

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An inference made by the experts (O' Higgins and Niall, 2010) based on an extensive study unfolds the realities of the demographic dividend of India. Their report says that only 10 percent of the Indian workforce is in the organized sector; just 2.5 percent of the country's operating population has any professional training, compared to the average of 60 to 70 percent in developed countries. Another study (Naik and Bobade, 2016) reveals that of the 11 million students graduating from different faculties each year, only 20 percent get jobs in line with their skill sets. And though women include 49 percent of India's population, they form solely 21 percent of the workforce. Desjardins and Rubenson (2011) also owed to the skill mismatch and technological changes for the growing concerns of unemployment and erosion of demographic dividend.

Mehrotra, et al. (2013) have estimated the skill gap in the Indian economy. From the study, the sector-wise data suggests that 40 per cent of the agricultural workforce, 20 per cent of the manufacturing workforce, 33 per cent of the non-manufacturing workforce, and 12 per cent of the services workforce were illiterate, and that by adding the numbers of the below primary level education earners, one would notice extremely low levels of education among workers in all the sectors. The study also shows that of all those who have been vocationally trained in the age group of 15-59 years in the workforce, 75 per cent belong to the services sector. The percentages of those who have been vocationally trained in agriculture, manufacturing, and services are 5 per cent, 27 per cent, and 17.2 per cent, respectively.

It is due to lack of appropriate education and skills, the factory and labour productivity in India is one of the lowest in comparison with other major countries. The data presented in Table-10 and Table-11 provide evidences to the same.

Table-10. Total Factory Productivity (TFP) Growth Rate

Country	Growth Rate (%)
South Korea	5.70%
Turkey	2%
Japan	3.10%
India	0.0 - 1.0%

Source: International Labour Organisation (ILO)

Table-11. Labour Productivity in major countries (in U.S \$) per annum

Country	2017	2021 (Projected)
United States	\$110,800.3	NA
European Union	\$81,878.22	NA
Brazil	\$25,026.67	NA
China	\$13,083.58	\$16,697.73
India	\$5,043.59	\$6,413.85

Source: International Labour Organisation (ILO)

It is also feared that non-employment, under employment or forced employment will push the youth to the brink of poverty. Poverty leaves its mark on youth development in India along with the negative impact on their health and nourishment affecting the productivity of the youth (Dreze et al.2011). Rising social unrest such as violence, trade in and consumption of drug and illicit liquor, human trafficking, and robbery could be attributed to joblessness (Bell and Blanchflower, 2009; Urdal, 2006).

These trends prompt us to debate whether the large Indian population is dividend or disaster.

Way out

The Indian manufacturing and service sectors are passing through structural transition. Technological upgradation, mechanisation, robotics and application of artificial intelligence are taking place at rapid phase. This raise concerns over possible addition to the existing high unemployment. It is pertinent to device strategic way out if you wish to have dividend from the demography. The reader is suggested to recommend the measures which could be adopted by the stakeholders (the government, firms, people, and institutions /organisations) to avert the predicted disaster of technological shift and reap the dividend from the demography.

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