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DEMOGRAPHIC DIVIDEND OF INDIA – ROAD TO FUTURE ECONOMIC SUPER POWER BY 2050 – A NATIONAL STRATEGIC MANAGEMENT PERSPECTIVE

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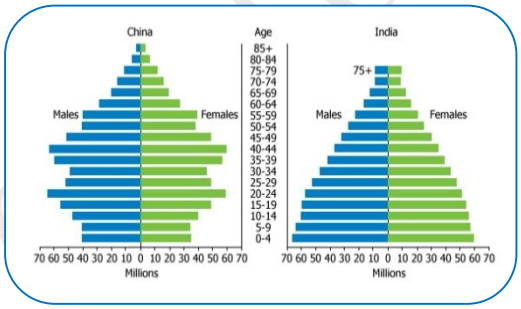
ABSTRACT :



India in its latest census 2011 has shown the demographic dividend as the sign of economic growth in the true sense. Globalisation will be benefited from the population dividend by 2020 and onward. No wonder demography has gone beyond the headcounts; study of the population in every census in India raises issues of National and International concern. Especially, India is at the alarming stage of demographic developmental studies as per the statistical anticipation of having the worlds' largest population by 2036. Censuses in India have defined the population growth as – 1891 – 1921, as Stagnant Population, 1921 – 1951, as Steady Growth, 1951 – 1981, as Rapid Growth, 1981 – 2011 High Growth with signs of Slowing down, 2011 – onward, as Controlled Growth which has been used as parameters of measuring many social sciences studies. Current census of 2011 clearly defines the Indian Population as the emerging Super Power in Manpower of the world by 2020 because of the largest segment of the young population, which is of course a transit advantage for the country. Like other censuses this current census 2011 has highlighted the issues like (CSR) declining Child Sex Ratio, higher level of (TFR) Total Fertility Rate, Increased Literacy Rate etc. as controllable measures for the nation. The most significant is the issue of accommodating people in the country by 2101 onward in the country. Will India plan to shift people possibly to the satellite 'Moon' by 2111 AD or will negotiate and buy the land mass from the countries who have surplus to dispose as a good will gesture to the human civilization or will encourage the population to migrate as global citizens to take up different nationalities in different countries.

KEYWORDS : *Population Growth, Census 2011, Demographic Dividend, Literacy Rate, Decadal Growth Rate, Economic Growth.*

1.THE MEANING & DEFINITION – DEMOGRAPHY

Study of demography is increasingly assuming more importance not only in India but all over the world.Primarily, ever-growing population in developing countries is straining social, economic and even political system of nations. The importance of population studies is increasing. There is realization that population explosion is hindering economic development.Significance of population studies was realized even in earlier period.Demography today can neither be ignored by the planners nor policy maker, nor administrators nor by academicians and politicians. Demography is the study of changes which take place in population including its size, distribution and organization. It has been derived from the Latin word "demos"

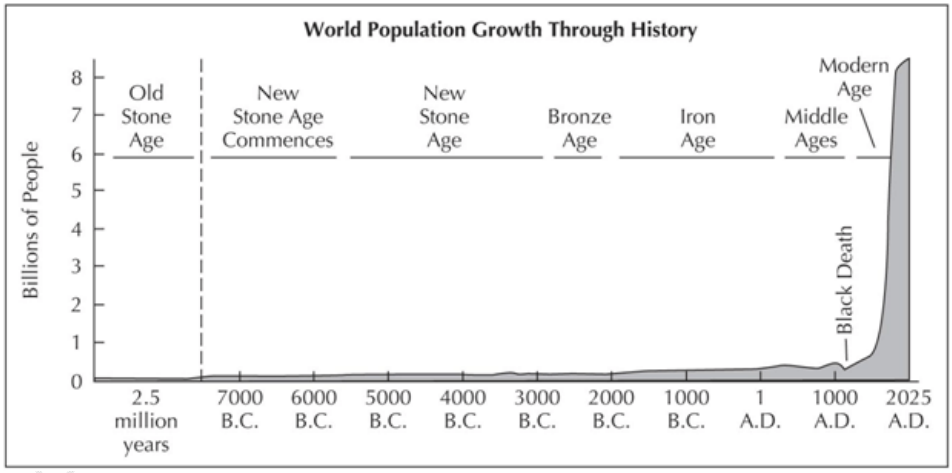
meaning people. Hence, it is the science of people. As regards definition of this term, it has been defined in various ways by different authors.According to UNO under demography we study all determinants and consequences of population. Thus, demography deals with study of the components of population varieties and chance.

TABLE -1
GROWTH OF POPULATION IN INDIA – 1901-2011

Year	Total Population (in Millions)	Increase or Decrease (in Millions)	Percentage Increase or Decrease	Growth Rate
1901	236	--	--	--
1911	252	+ 16	5.7	--
1921	251	-1	-0.3	0.19
1931	279	+28	11.0	--
1941	319	+40	14.2	--
1951	361	+42	13.3	1.22
1961	439	+78	21.5	--
1971	548	+109	24.8	--
1981	683	+135	24.7	2.14
1991	844	+161	23.5	--
2001	1027	+183	21.3	1.09
2011	1210	+181	17.64	1.08

Source: Census of India, Registrar General of India, GOI, New Delhi, 2011

World population growth through time



For most of human existence, population levels were low and growth rates were zero. Only with the Industrial Revolution that created the modern age did growth rates begin to rise.

Source: Stutz, F.P. & Warf, B., 2012, 6th edition, the World Economy, (geography, business, developments), Pearson, USA.

1.1 Population Size of 2011 Census- India

The provisional Population count released within four weeks of completing the Census, India's total population in 2011 was 1.21 billion, up from 1.03 billion in 2001, thus adding 181 million people in one decade. However, the 2001 – 2011 decadal growth rates of 17.6%, compared to 21.5 recorded during 1991-

2001, suggests slowing down of the growth. Interestingly, the enumerated population size was larger than most projections, including that of the Registrar General's office that projected the 2011 population to be 1.19 billion. India is now expected to become the most populous country of the world by 2030 overtaking China sooner than earlier expected. India's population size is expected to stabilize at 1.81 billion around 2041.

1.2 Population Distribution & Rate of Growth – States & UTs

Uttar Pradesh, the state with 199.6 million people is India's most populous state accounting for 16.5% of country's population. Bihar (103.8) and Maharashtra (112.4) are other two states with more than 100 million people. Other large states are West Bengal with 91, Andhra Pradesh with 85, Madhya Pradesh with 73, and Tamil Nadu with 72 million people. Nearly 42.4% of Indians now live in formerly undivided Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan; a portion that has increased from 40% in 1991. Conversely, the proportion of Indians living in four Southern States of Kerala, Tamil Nadu, Karnataka and Andhra Pradesh has decreased from 22.5% in 1991 to 20.8% in 2011, causing concerns about their representation in parliamentary democracy. (*Bose, 2011*)

Out of the major states of India, Bihar with 25.1% growth rate during 2001-2011 is the fastest growing state. Decadal growth rates have exceeded 20% in the entire core North India States – Bihar, Uttar Pradesh, Rajasthan, Madhya Pradesh (including Jharkhand and Chhattisgarh). Kerala's growth during 2001-2011 of 4.9% is indicative of the state reaching stationary population in the next 10-20 years. Growth rate around 11-13% is reported by Punjab, Andhra Pradesh, and West Bengal and around 15-16% by Karnataka, Maharashtra and Tamil Nadu. Southern States are harbinger of population stabilization.

2. CHANGING DEMOGRAPHIC PROFILE OF INDIA – AGE STRUCTURE AND AGING

Nearly 18 percent of the World Population living in India has been experiencing slow but steady demographic transition since the second half of the last century. In recent years, however, the fertility transition in India has accelerated resulting in rapid changes in the age structure of the population. This change creates unique opportunities along with significant challenges both for the economy and society. The age structure change is expected to create demographic dividend and ageing is also likely to vary significantly across states in India. The provisional population result from 2011 census provides some useful information on the pace of demographic change taking place in the country. Although provisional data do not provide age composition of the population, the available population totals and proportion of children population in the age group of 0-6 years help us to understand the emerging demographic change and the plausible age structure transition in the country. What follows is an analysis of the available data from the 2011 census to understand the emerging age structure changes in India. The proportion of the population in the age group of 0-6 declined from 16 percent to 13 percent over period 2001-2011, growth rate being negative for the first time. One of the important dimensions of demographic change in India is the extreme inter- state variation. Of the total 20 major states, nearly 11 have achieved replacement level fertility while other 4 are around replacement level. (*James & Satyanarayana, 2011*) On the contrary, there are around six major states far away from replacement level fertility. The fertility variation in the country is astounding. The Total Fertility Rate (TFR) varies from 1.7 children per woman in Tamil Nadu to 3.9 children per woman in Bihar in the year 2008 (Sample Registration System data 2009). The 2011 census result also provides information on the proportion of population in the 0-6 age group in each state. The variation clearly indicates that the age structure of the Indian population will vastly be different across states. The proportion of population in the 0-6 age group is a good measure of demographic and age structure change of a state. Those states having less than 12 percent of their population in the age group 0-6, fall among the below replacement level fertility states. These states will have an age distribution with a considerable bulge in the adult age group of 15-59. States having around 13-15 percent of their population in the age group 0-6 are moving towards an age structure transition. On the contrary, those states with more than 15 percent of the population in the 0-6 age group are in the early stages of demographic change and will have an age

distribution typically of a triangle shape indicating higher percentage of child population in relation to adult population. Undoubtedly, India's age structure is undergoing rapid changes. It will have definite implications for the economy and society. The age structure transition typically has two phases. In the first phase of the transition, there will be a bulge in the working age group popularly known as the demographic dividend stage. The demographic divided is a shorter duration in the history of any nation. The span of the dividend varies according to the pace of the fertility transition. The second phase of the age structure transition occurs with the aging of the population. The proportion of elderly is likely to go up at this stage.

3. DEMOGRAPHIC DIVIDEND

Demographic dividend refers to a change in the age distribution of population from child ages to adult ages. It leads to larger proportion of population in the working age group compared to younger and old age groups. Apparently, given the diversity in the fertility transition in India, the demographic dividend is likely to continue as it shifts from one state to another based on the pace of demographic changes in the respective states. It is generally argued that the demographic change in India is opening up new economic opportunities. There is generally high optimism both based on the experience of many other countries and from India that demographic changes will take the country to newer economic heights. Along with high optimism, there are also larger concerns on the ability of the nation to take full advantage of the demographic dividend. It is often argued that demographic dividend might turn in to a nightmare given the composition of Indian population in terms of educational level and skill levels. It is argued that large segments of adult population in the country are literate and do not have the capacity to contribute substantially to the modern economy. Perhaps, demographic dividend needs to be understood more critically and in a proper perspective. Many of the good empirical studies estimating the impact of the age structure changes on the economic progress have indicated very high impact of age structure change and positive demographic dividend in the country. In other words, these studies bring out clearly that those states moving faster in demographic and age structure change are also experiencing rapid economic growth. The best examples come from southern and western states in India where the demographic changes are also leading to sustained economic changes both in the aggregate economy and in the lives of people. Census 2011 results shows, that there has been significant inflow of migration to many southern states in India. Tamil Nadu, Karnataka and Andhra Pradesh are attracting huge inflow of migrants from other states. In these states, the enumerated population has been far higher than the projected population. Perhaps, it points towards a replacement migration taking place into these states. The replacement migration refers to migration occurring as a result of age structure changes. With the demographic and age structure changes, there will be scarcity of labour particularly in the unskilled sector. This labour has to be replaced from other places with abundance of labour due to lack of any significant demographic changes. In the context of the western countries, the replacement migration mainly came from poor developing countries. On the contrary, India is able to take care of the replacement migration from within due to large diversity in the nature of demographic transition. The replacement migration in to Kerala is well known and many studies have pointed out large inflow of such migrants from other parts of the country. Thus it is clear that the demographic changes create demographic opportunities and dividend and the concern that India may not be able to experience demographic dividend is perhaps not empirically validated. There is also ample evidence to suggest that demographic changes enhance economic changes. Micro level evidence also suggests that age structure changes lead to substantial investment in children both in terms of education and health. Thus the demographic dividend emanates from rapid changes in fertility which has several positive impacts both at Macro and household level.

4. AGEING AND DEMOGRAPHIC CHANGE

The demographic dividend is of a shorter duration for any country and eventually the nation will move into an ageing population. Although not immediate, change in the age structure from young to old are also accompanied by several social changes with considerable implications on any nation. The size of the

Indian elderly (60 years and above) is expected to triple in the next four decades from 92 million to 316 million, constituting around 20 percent of the population by the middle of the century. There is no significant empirical evidence to suggest that larger proportion of elderly population would impede the economic progress of a nation. At the same time, there are many social changes expected as a result of ageing population in any nation. The major challenge would be on the care for the elderly. Demographic and economic changes are often accompanied by enhanced migration of people in search of better and quality employment. As a result of this adult migration, the elderly are often left behind. The living arrangement pattern of the elderly are expected to undergo rapid changes during the period. Such changes are already visible in states like Kerala with early demographic transition. Even though the proportion of elderly at the national level has been low, the ministry of social justice and empowerment (MOSJE), Government of India deserves recognition for its foresight in drafting a National Policy on Older Persons (NPOP) as early as in 1999, when less than 7 percent of the population was aged 60 and above. The policy vision statement is well articulated and action strategies cover important aspects of financial security, health, shelter, education, welfare and protection of life and property. The major lacuna of NPOP, however, has been lack clear prioritization (increasing old-older proportion, ferminization and ruralisation along with inter–State variations). Although many important aspects of ageing policy are mentioned in the NPOP, it is unclear what the specific goals are, what steps are envisaged towards achieving these goals, and how it fits in to a realistic implementation schedule given the emerging demographic scenario in the country and the current institutional arrangements.(*James &Sathyanarayana, 2011*) India is soon to follow the foot-steps of China and is likely to surpass Chinese population to become the country with the largest population in the world between 2025 and 2030. China through policy action has been pushing forward healthy sustainable development of undertakings for its ageing population. The government has attached importance to publicizing and popularizing laws, regulations and policies concerning senior citizens. It has set up an inter-agency / inter-ministerial committee on ageing to monitor and implement policies and programmes for older people. As socio-economic processes associated with ageing are complex, the country needs to plan and gear up well in advance to face the challenge. Sudden intervention may not be appropriate and may not provide significant dividend. Many countries have realized the importance of preparing for the ageing in advance through several policy and programmatic intervention. Perhaps, India too, needs to follow the footsteps of these nations at the earliest to minimize the ill effects of a larger social change. In a nutshell, demographic and age structure changes are inevitable and generally contribute positively to the nation. The demographic changes are also accompanied by considerable social and economic changes. In the future, the success of a nation will critically depend upon its ability to address such sweeping demographic changes effectively through policies and programmes. India is on the course of rapid demographic changes. Hence preparedness in advance might provide dividends in the future.

Population Difference 2001- 2011 Census

	2001	2011	Change
Population (in Mn)	1028	1192	+15.9%
Male (in Mn)	532	617	+16.0%
Female (in Mn)	496	575	+15.9%
18+ yrs (in Mn)	599	772	+28.8%
Sex Ratio	933	932	-1 unit
Population Density	313	363	+50
0-14 (%)	35.4	29.1	-6.3 pts
15-59 (%)	57.7	62.6	+4.9 pts
60+ (%)	6.9	8.3	+1.4 pts
Dependency Ratio	734	596	-138

Source: Census of India 2011, Registrar General, GOI, New Delhi

5. LITERACY : THE PRIME CONCERN OF THE CENSUS 2011

India has witnessed remarkable progress in spread of literacy. Compared to barely 18 percent of India's population recorded as literate in the first census after independence, according to the 2011 census, that proportion has gone up to 74 percent. The achievement among males has been from 27 to 82 percent in the 60 years. From less than one in 10 women counted as literate in 1951, today two out of three women are enumerated as literate. Nationally, the gender gap in spread of literacy began to narrow first in 1991 and the pace has accelerated. However, there are larger state variations in the gender gap with Rajasthan reporting nearly 28 percentage point gap and other core North Indian States like Bihar, Uttar Pradesh, Madhya Pradesh, Chhattisgarh and Jharkhand reporting a gap between male and female literacy rate of more than 20 percentage points. Compared to 2001, in 2011 male literacy rate increased by 6 percentage points but female literacy increased by nearly 12 percentage points, which is viewed as a remarkable achievement. Some have attributed it to the success of SarvaSikshaAbhiyan, India's flagship programme launched in 2001-02 to universalize elementary education. Male literacy exceeds 75% throughout the country and exceeds 90% in Kerala and some of the smaller states. The achievement in female literacy in Bihar is noteworthy; from 33% in 2001, it has gone up to 53% or by 20 percentage points. The states causing concern as far as female literacy is concerned are Rajasthan and Andhra Pradesh- both have reported 8 percentage point increase during 2001-2011 and both have less than 60% female literacy.

Literacy must be viewed in the context of its immense potential for bringing about transformation in the quality of Human life. Its impact on bringing about a paradigm shift in the direction a society progresses can never be overestimated – be it economic, social and political. Development in educational attainment means increase in literacy level. According to the definition in the census, any person aged seven and above who can read and write with understanding in any language is literate. According to Millennium Development Goals of United Nations, universal primary education must be achieved by the year 2015. Eleventh five year plan has also targeted to increase the literacy rate of children of seven years of age and above to 85% by reducing the gender gap in literacy to 10 percent by 2011-12. (Maulick, 2011) It should be clearly noted that educational development and literacy rate improvement are key factors influencing the demographic variables like fertility, mortality, migration etc. Education promotes quality of life, particularly with regards to life expectancy, infant mortality, learning and nutritional levels. The pace and progress of literacy rates as revealed by decennial census is very slow in India. In the span of fifty years i.e., from 1951 (18.33) to 2001 (64.83), there has been only marginal increase of 46.5 percent in literacy rate. Between 1951 to 2001, female literacy shows a mere 44.7 percent increase which is five times for the whole point. According to the census 2011, out of 74.04 percent of literacy rate, the corresponding figures for male and female are 82.14 and 65.46 percent respectively which means four out of five males and two out every three females of the age seven and above are literate in the country.

Literacy Rate Trend in India 1951 - 2011

Census Year	Persons	Decadal Increase	Males	Females	Gender Gap
1951	18.33	--	27.16	8.86	18.30
1961	28.3	9.97	40.40	15.35	25.05
1971	34.45	6.15	45.96	21.97	23.99
1981	43.57	9.12	56.38	29.76	26.62
1991	52.21	8.64	64.13	39.29	24.84
2001	64.83	12.64	75.26	53.67	21.59
2011	74.04	9.21	82.14	65.46	16.68

Source: Registrar General of Census, GOI, New Delhi, 2011

A significant mile stone of Census 2011 is that the total number of illiterates has come down from 30.4 crores in 2001 to 27.2 crores showing a decline of 3.1 crore. Out of total 21.7 crores literates, female (11.0 Crores) outnumber males (10.7 Crores). Another striking feature is that, out of total decrease of 3.1 crore of illiterates, the females (1.7 crores) top male (1.4 crores) in the list. This trend of rising female literacy will have far reaching consequences which may lead to development of the society. When we portray the literary picture of India we find that the ordering of the states are almost same as it was in 2001 as Kerala still continues to top the list with 93.91 percent literacy rate where as Bihar remains at the bottom of the ladder with 63.82 percent. Although Bihar has performed well in 2011 census compared to literacy rate in 2001 (47.00%) still it lies in the lowest rank. States like Punjab (76.68%), Haryana (76.64%), Madhya Pradesh (70.63%), Andhra Pradesh (75.60%), Karnataka (67.66%) and Tamil Nadu (80.33%) and UTs like Andaman & Nicobar Islands (86.27%), Chandigarh (86.43%) were downgraded from their previous rank where as Tripura (87.75%), Sikkim (82.20%), Manipur (79.85%), Nagaland (80.11%) and UTs like Dadra & Nagar Haveli (77.65%), NCT of Delhi (86.34%) and Lakshadweep (92.28%) have shown higher rankings than before. India's literacy rate has shot up during the past decade and now, except Bihar, all other states lie above the national average.

In spite of these massive efforts by the government, we are still lagging behind the world literacy rate of 84 percent. Many states have shown rising trend but even then major group of states lie in the average rank i.e., just above national level of 64.8 percent and below 80 percent. Bihar is still lying below the national average. But the stride towards a completely literate India has become surer and more confident. It I also clear that the individual and the community need to play active roles as stake holders in this process and their role need to be recognized and built upon for realizing the objective of a fully literate India.

6. CHILD POPULATION DECREASE IN INDIA

The 2011 census was the first one in many decades which counted less absolute number of children in the age group of 0-6 years. Compared to 2001 census count of 164 million children, there were 159 million children in 2011, or there were 5 million fewer children in India. This is evident in the share of children in the total population, which declined from 16 percent in 2001 to 13.1 percent in 2011. Among the major states, the only exceptions were Bihar and Jammu & Kashmir, which reported some absolute increase in their child population. In Kerala and Tamil Nadu, children aged 0-6 constitutes less than 10 percent of the population but in Rajasthan, Jammu & Kashmir, Uttar Pradesh, Madhya Pradesh and Bihar, children's share in the total population is almost 18 percent. The decline in child population reflects decline in fertility; total fertility rate in India has come down from an average of 3.1 children born per woman in 2001 to 2.7in 2009. For population experts, the provisional findings from the 2011 Census have few surprises. Yet, compared to most projections of the population size, the count was higher and the time when and size at which population would stabilize had to be revised. Also, it implied that India will overtake China by 2030 rather than a decade or so later. Yet, there is no escape from this even though planners, policy makers and programme managers express panic from time to time and attribute India's social and economic problems to its size and growth rate. The family-size preferences of young people now entering the child bearing ages even in North India states are significantly lower than the preferences reported by their parents at the same stage in life. Therefore, good quality uninterrupted family planning and reproductive health services are provided; there is no reason to believe that their preferences and aspirations will not be translated into actual practice. The further decline in child sex ratio, in spite of 15 years of ban on sex determination test, makes us somber with realization that social legislation serves a purpose only up to a point of that fear of punishment does not always act as a deterrent. (Visaria, 2011) It is time we understand and address the cultural and social factors that undervalue girls. Bringing about behavioural change is a tough but a necessary assignment.However, the data showed that at the national level there were 945 girls to 1000 boys, five points short of generally accepted child sex ratio of 950 girls per 1000 boys.

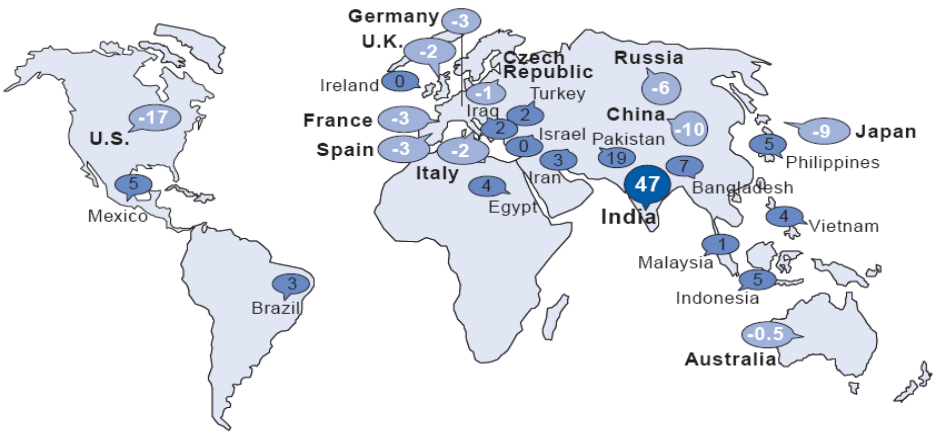
Acknowledging daughters as more supportive and caring, the societal perception of sons as old age support persists. It may well be argued that these social changes are taking place in several parts of India

which also have access to technology to indulge sex-selective abortions. And still there are parts in the country – south, south-eastern and north-eastern – which have better CSRs. Clearly technology operations in consonance with other existing norms and not in contextual isolation independent of socio-culturally entrenched values regarding the relative worth of girls' vis-à-vis boys, men and women. A set of issues concern the overall well-being and enhancement of women's position in the society not only as a full citizen, but as an individual in their own right which include access to education and livelihood and public health facilities including reproductive care. Legal provisions are not the answers, they do provide recourse.

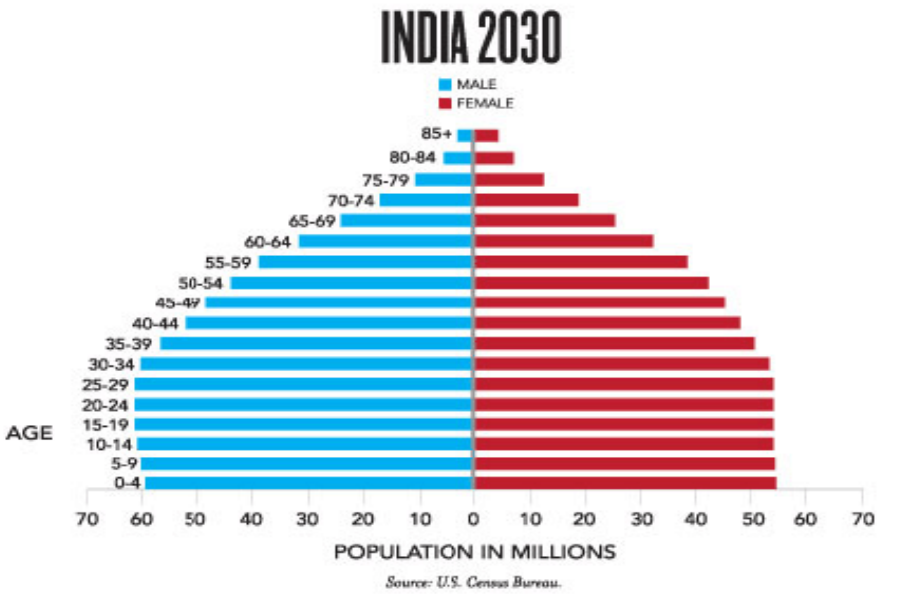
7. THE ECONOMIC & BUSINESS STRATEGIC NEED FOR INDIA IN MANAGING DEMOGRAPHIC DIVIDEND

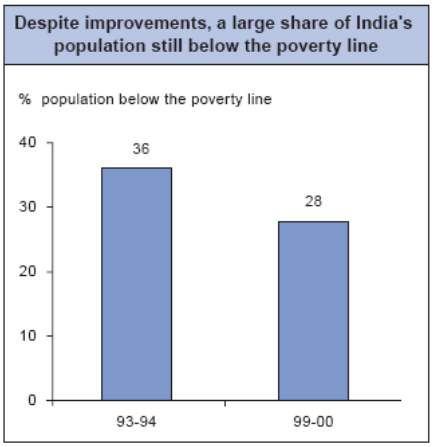
Indian economy gained fresh momentum in 1991 through national policy of Liberalization and 'Open Economy'. The GDP growth rate climbed almost 50% up i.e. 6% in the 1990s against the tepid 4% for the first forty years since independence. In 2012 the current unemployment is anywhere between 19 and 37 million. The GDP has reached a flat 5-6%. The large chunks of unemployment are educated youth. A need for the strong and accelerated economic growth is now more acute than ever. With reference to limited investment ability of the nation, low Foreign Direct Investment (FDI) and relatively low level of exports compared to the size of the economy, a solution that leverages the wide availability of human capital, rather than limited financial capital, it is more likely to succeed. Human capital in the form of demographic dividend is the strategic advantage of India for global investment to enhance per-capita income. While developed nations faces shortage of working–age people, India struggles with burgeoning population of educated youth. The requirement for skilled manpower in the developed world markets is increasing in line with economic growth; the availability of skilled people simply isn't keeping pace. In the professional field IT services, medicine, and education, the problems are already beginning to be felt. Potential labour shortages and avenues of supply of manpower in 2020 as provided in the figures below.

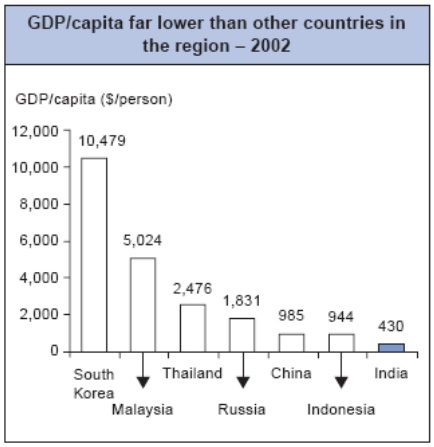
POTENTIAL SURPLUS POPULATION IN WORKING AGE GROUP – 2020 (MN)



Note: Potential surplus is calculated keeping the ratio of working population (age group 15-59) to total population constant
Source: U.S. Census Bureau; BCG analysis







Source: National Sample Survey; World Economic indicators – IMF; BCG analysis

The shortages present a huge challenge as they can slow down economic growth of the developed world. Other adverse effects of effects of such a crisis in the developed world will be demand-supply imbalances caused by workforce shortages will increase wage rates, reducing the competitiveness of these countries. In the national economy of world pressure on the existing social security and pension systems will increase as a significantly larger percentage of working population. Many of these governments have initiated measures to manage the crisis and minimize its impact. These measures will only reduce workforce shortages, not eliminate them. The outcome of these measures is still uncertain. The solutions for this crisis are left with only limited options depend on the demographic dividend of India's population. India's macroeconomic policy needs to have super strong strategies to manage outflow of India's talented manpower to the developed world. Figuratively to a tune of more than 5 Crore Indian manpower will be services in the business establishments of the developed world. Even after adjusting for government actions of the developed world, as estimated that the net workforce shortage in developed countries will range between 32 and 39 million by 2020.among such countries, the USA, Japan, Spain, Canada and UK are expected to face largest shortages.

RECOGNITION OF WORKFORCE-SHORTAGE PROBLEM

"...spurred by the retirement of more than 61 million workers in the next 30 years, workforce will be short of almost 5 million workers by 2011 and almost 36 million workers by 2031..."
- Ed Potter, President, US Employment Policy Foundation
The American Workplace Report 2001: Building America's Workforce for the 21st Century

"Germany would have to bring in 1.2 million immigrants annually if Europe's biggest economy and world's third largest economy hopes to avoid a crippling long-term labour shortage due to the ageing of its own work force."
- German Institute of Economic Research, 2001

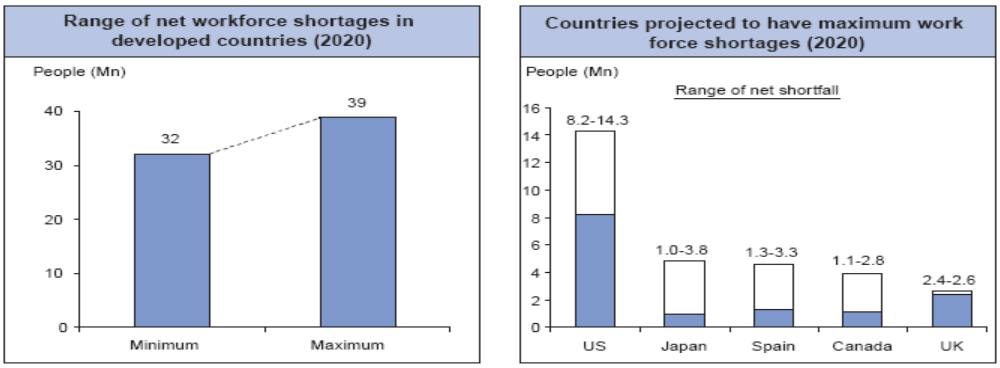
"By 2003 the U.K. will lack 300,000 skilled IT workers, causing a significant cost to businesses' productivity. This skills gap is forcing up the average salary of a skilled IT Manager to over £70,000 - a cost that many small and medium-sized businesses struggle to justify"
- European commission research, 2000

"...ageing of society is the biggest problem facing Japan.....Japan would need 600,000 immigrants a year to make up for the shortfall in its workforce later this decade"
- The Guardian, U.K., Aug 2, 2001

Source: Literature search

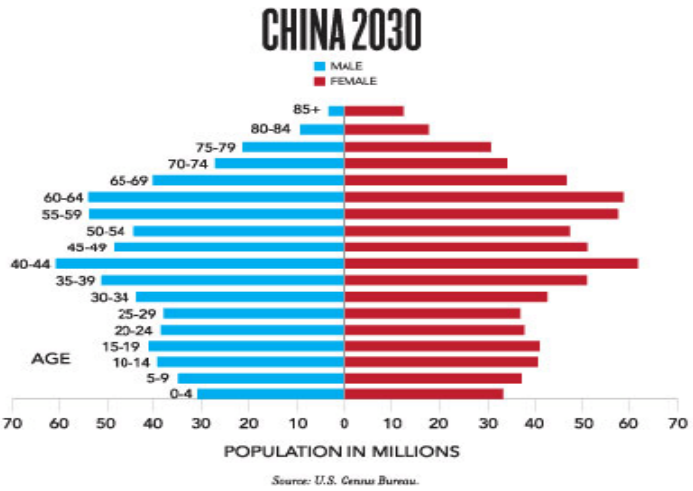
The crisis and challenges faced by other nations presents an opportunity for India. India can provide a host of services to such countries with its large population of educated youth. At present professional services to the world provided remotely from India – IT services, IT enabled services, tele-medicines, e-learning, customers serviced in India (Import of Customers) – special service tourism (health care, education services), leisure tourism etc. The Potentiality of revenue from this opportunity is huge. By 2020 A.D. India can hope to generate USD 139-365 billion of additional revenue from these opportunities, pushing the GDP growth by an additional 0.6 - 1.5 percent. The effects of direct and indirect employment generation can be in the range of 20 – 72 million by 2020. Remote services alone will contribute USD 133 – 315 billion in revenue to the Indian economy by 2020. The opportunities from importing customers in to India, has the potential of generating USD 6 – 50 billion of revenue and creating between 10 and 48 million jobs by 2020 from direct and indirect employment. From the economic perspective the fundamentals for this business are strongly in India's favour. In the area of tourism India has an insignificant share of global tourists' arrivals. There is a large untapped potentiality waiting to be harnessed by India. Adequate destination and services marketing will provide India a leading role globally. Not only does India have the largest pool of manpower, it also had the highest quality of people according to international agencies.

WORKFORCE SHORTAGES IN DEVELOPED COUNTRIES



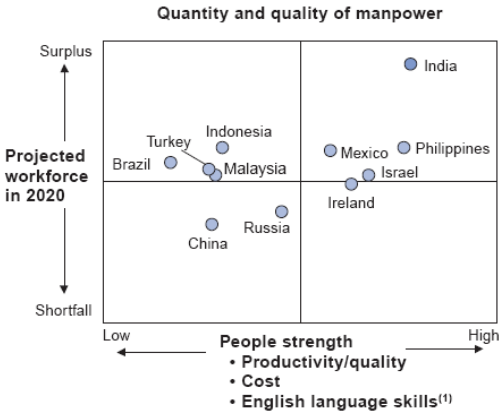
Source: United Nations; US Census Bureau; OECD; BCG analysis

India in the last five years have experienced the growth of minimum wage of labour forces, price hike in the commodities especially agricultural products, profit generation in framing and imbalance in the national economy, these are indicators of a developing economy. The national drawback is its very low income population especially the B.P.L. (Below Poverty Line). The management principle that advocates eradicating BPL, the economy needs to generate profit for the BPL. Enhancement in the minimum wage and skills learning will bring up the national economy in the growing trend. India is awaiting for a brighter employment opportunity from 2020 and onward. National strategic management, national policy planning and national economic planning needs to gear up with adequate strategic planning and action plans to cope up with the situation. The golden opportunity lies in the fate of India to grab the advantage of demographic dividend and turn a developed economy by 2050. Such an opportunity is not even available to China. China in fact will be hiring 10 million workforces out of the country to manage its business.



At the current industrialization growth rate China will need 18 - 20 million workforces from other countries by 2030. Strategic management action plans are required at Macro and Micro level in India to equal its per-capita income with the leading developed countries by 2050. Economic and demographic estimations can confirm pessimistically India to equal the per-capita income of USA by 2070. This estimation requires the stagnant money power to role in the market economy in India. Black money deposits in Indian accounts outside India and the domestic sector and households' investment in gold and ornaments should be eliminated from the stagnant money power and both needs to roll market economy.National uprising and awareness against corruption, black money, manipulations and confined power and politics control are some of the social indicators of future economic changes. India awaits a golden economic future from 2020 and onwards.

INDIA'S COMPETITIVE ADVANTAGE VIS-A-VIS OTHER NATIONS

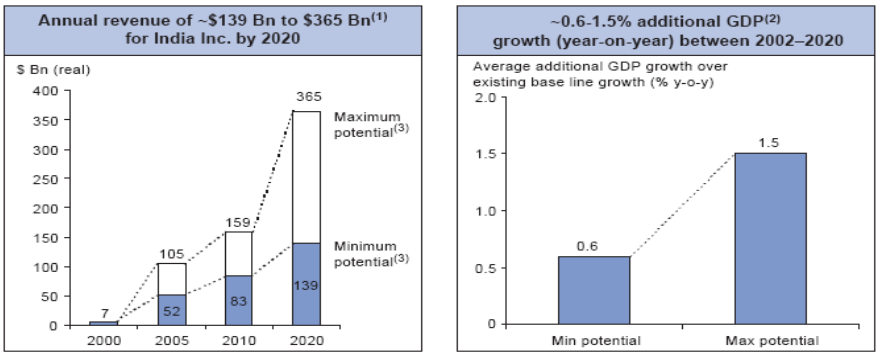


(1) Over 50% of shortages expected from English-speaking countries
Note: Pakistan, Bangladesh and Vietnam have not been represented for lack of reliable data on productivity and cost of service employees
Source: World Competitiveness Yearbook 2001; Britannica Yearbook; Literature search; BCG analysis

8. CENSUS FURTHER YEARS TO GO – ECONOMIC AND BUSINESS CENSUS

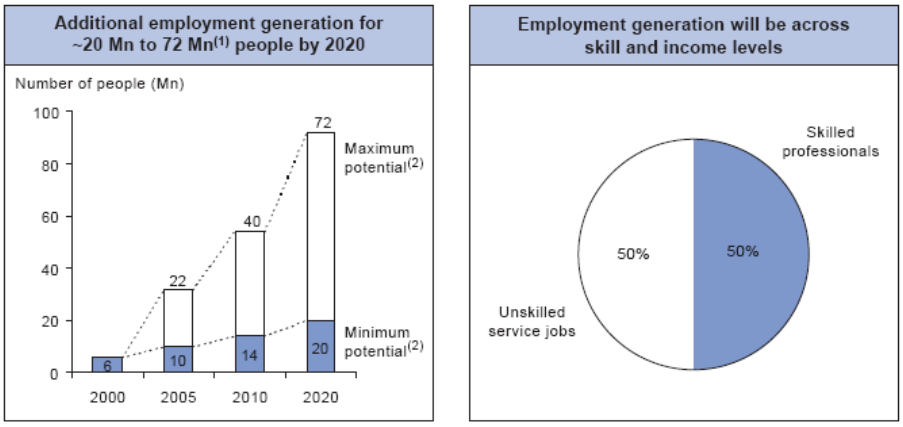
The Indian census has not been a mere statistical operation and the data collected is not only properly scrutinized at different levels but also presented with cross classification of various parameters for interpretation and analysis in an interesting manner. It may be seen from the history of Indian Census that how the changes have taken place from one census to other depending upon the need of the time, country and also demand of the data users and development of the technology. The Indian census is well recognized for the data it reveals. Problems relating to political, social and cultural reasons also make it challenging. In spite of all these difficulties, the Census of India is being conducted since 1871 uninterruptedly. With a largely young population, problems associated with ageing of population may not appear urgency for the country. Nevertheless, the problem needs to be tackled with advance planning. While the going is still good, India needs to look into the future and plan how it will take care of its elderly in the years to come. But for the next half a century India has to redefine and redesign its census for the policy makers for strategic management of grabbing this golden advantage of demographic dividend. Census in future should be economic and business census for the benefit of the country and the countrymen. As developing country national statistics should have the adequate advantage of the use by the intellectual masses and the think tank for devising different innovative strategies for the nation's benefits. With growing challenges India has to be more concerned for the growth and devise more technical macro data for the use of its strategic nation management more frequently instead of once in every 10 years that needs little extra technical data management only. The role of the national census backed with national sample surveys will be more crucial in the countries business and economic development.

IDENTIFIED OPPORTUNITIES – REVENUE AND IMPACT ON GDP GROWTH



(1) 87% from remote services, 13% revenues from special services and leisure tourism in the optimistic scenario
(2) Base line GDP growth till 2020 assumed as 5.5% (average growth between 1990-2000)
(3) Range based on potential scenarios of world in 2020 and action taken by India to capture the opportunity – discussed subsequently
Note: Estimates do not include potential shortages in China, Russia, Mexico and smaller developing countries. These countries will be sources of supply
Source: NASSCOM; CII; WTTC; CMIE; Literature search; BCG analysis

IDENTIFIED OPPORTUNITIES – EMPLOYMENT GENERATION



(1) 67% jobs from special services and leisure tourism, 33% from remote services in the optimistic scenario
(2) Range based on potential scenarios of world in 2020 and action taken by India to capture the opportunity – discussed subsequently
Note: Estimates do not include potential shortages in China, Russia, Mexico and smaller developing countries. These countries will be sources of supply
Source: NASSCOM; CMIE; WTTC; Literature search; BCG analysis

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