

## **Future Implication's of India's Population Growth**

*Sumati Kulkarni & Sulbha Parasuraman*

### **1. Introduction**

In early fifties, socioeconomic implications of population growth were a matter of concern largely in the context of the argument that rapid population growth is an obstacle to development. Indications of adverse implications of rapid population growth indirectly provided justification for investment in planning. Over the years, it has been increasingly recognised that the relationship between population growth and development is much more complex. Ever since the Burcharest Conference in 1994, it has been forcefully argued and accepted that rapid population growth itself is in many ways the result of lack of development. In course of time, many other dimensions have been added to this relationship which was one viewed to be unidirectional. After the ICPD Conference at Cairo, the population issue is placed in a much larger context of sustainable development. Over the years concept of development itself has undergone a change. In the context of people-centered development, many dimensions like gender equity, women's empowerment, environmental degradation, upliftment of the weaker sections and human resource development have assumed considerable significance. In view of these changes, one wonders how far it will be meaningful to discuss only economic implications of population growth; per se it is not the root cause of many adverse conditions; it certainly aggravates the magnitude of the adversity. From this point of view it is essential to look into the implications of population growth in India for certain sectors especially relevant to human resource development.

Some of these implications may not appear to be serious at present but they have the potential of becoming a major bottleneck in the process of future economic development. This is all the more true in the context of New Economic Reforms. In the Approach Paper to the Ninth five-year Plan, the Planning Commission has reiterated that participatory planning process is an essential pre-condition for ensuring equity as well as accelerating the rate of growth of economy. Participatory for ensuring equity as well as accelerating the rate of growth of economy. Participatory planning process itself, however, is not likely to be successful in the absence of adequate human resource

development. A serious concern has been voiced often as to whether a large section of our population is equipped to participate in the type of development process envisaged by the new era of privatisation and globalisation or whether they will be marginalised by the market forces. It is largely against the backdrop of this concern that some preliminary need-based estimates of the requirements of future population are presented in this paper.

Though it is true that growing numbers due to population growth are likely to increase the burden in each sector, it will not be correct to discuss such quantitative implications in isolation. There are dimensions other than growing population, which also have complicated the task. Discussion in the following sections, therefore is not confined to only the impact in terms of increasing numbers. Other crucial aspects are also briefly discussed.

## **2. Prospects of Population Growth in India**

As per the estimates made by the Technical Group on Population Projections constituted by the Planning Commission, India, India's population will reach the figure of 1263.5 million by the year 2016. This estimate is based on the following assumptions regarding fertility and mortality:

1. Net Reproductive Rate of 1 will be reached by the year 2026 which implies achievement of Total Fertility Rate = 2.1 by the year 2026.
2. Life Expectancy at Birth for males and females will increase upto 66.9 and 68.8 respectively by the period 2011 - 16.

### **Implications for Growth of National Income & Per Capita Income**

The effect of rapid population growth on economic conditions of common man in India can be seen from the fact that during the period 1950-51 to 1955-96-index number of Net National Product at 1980-81 prices increased from 100 to 585 while that for per capita NNP increased from 100 to only 228. It implies that even after controlling the effect of inflation, half of the economic growth achieved is nullified due to rapid population growth.

As per scenario for macro parameters given in the Approach Paper to the Ninth Five Year Plan 1997-2002 (Planning Commission, Govt. of India, 1996, p. 31), national income is envisaged to increase at 5.9 percent, 6.2 percent and 6.5 percent per annum during the 8th Plan, 9th Plan and post plan period respectively. At these rates national income will increase from Rs. 236738 crores (at 1980-81 prices) in 1995-96 to Rs. 817866 crores in 2015-16. Since total population of India will reach the size 1263.5 million in the year 2015-16, per capita income in that year will be Rs. 6428 at 1980-81 prices or 23285 at 1995-96 prices i.e., 2.5 times the 1995-96 per capita income. It implies that even at the rates envisaged in the 9th Plan, India's per capita income will be around \$ 647 at 1995-96 prices which is close to Sri Lanka's present level of per capita income. Even to reach the present level of per capita income of Indonesia, which is also a poor country (\$980 in 1995 at current prices) India will have to achieve 8.6 percent growth rate of national income. This is obviously due to rapid population growth in India.

### **Food Requirements**

As per the development perspective given in the 8th Plan (Planning Commission, Govt. of India, 1992) per capita food consumption is expected to increase from 182 kg. per annum (498 gm. per day) in 1991-92 to 225 kg. per annum (616 gm. per day) in 2006-7. At the same rate of increase, it is expected to reach 261.5 kg. (716 gm. per day) in 2016. By these norms total food requirements are expected to increase from 180 million tonnes in 1996-97 to 330 million tonnes in 2016-17. To meet food requirements of this order, food production needs to increase at the rate of 3 percent per annum. Since the actual growth rate of food-grains production during 1980-81 to 1994-95 has been around 3 percent, the above scenario appears to be well within reach. However, considering the fact that during the last five years the rate of growth of food production was as low as 1.6 percent (Govt. of India, Economic Survey, 1997-97) reaching the target is not as easy as it is believed to be. It will certainly require for more rigorous efforts in view of the fluctuations in growth rate of production, to which Indian agriculture is still subject to, in spite of more than four decades of planned development and success of green revolution.

In this context, it needs to be noted that India's urban population is going to increase from the present 256.8 million to 428.9 million in 2016. Constraints on the availability of land for cultivation imposed by the near-doubling of urban population as well as by other environmental factors like growing salinity, soil-erosion and desertification are also going to make the task on the food front more challenging in the coming years. Changing cropping pattern is another dimension, which also needs to be considered in this context.

Lastly, achieving the target of required food production does not automatically ensure the availability of food to all. Finally, the ability to purchase food is the crucial factor in this context. The whole issue therefore boils down to the task of eradication of poverty and creation of employment opportunities

## **Housing Requirements**

As per earlier projections, India will require construction of 118 million additional housing units in rural areas and 105 million units in urban areas during the period 1996 to 2016 to take care of additional population as well as existing backlog and replacement needs (Srinivasan, Kulkarni & Parasuaman, 1990). These estimates had used the earlier population projections based on 1981 census population and had assumed that the household size will remain constant at 4.7.

Using the latest population projections of Technical Group, it can be estimated that just to take care of additional population during 1996-2016, nearly 34 million rural housing units will be required in rural areas and about 36 million, housing units will be required in urban areas. It needs to be noted that the actual needs will be much larger because the above estimate does not include the housing needs to take care of existing backlog and replacement of dilapidated housing units.

## **Education**

Universalisation of elementary education has not been achieved so far as indicated by the present gross enrollment ratios for primary and middle level education i.e., in 1995-96, 114.6 and 93.3 for boys and girls respectively at primary level and 54.9 and 67.6 for boys and girls respectively at middle level. It may be noted that these are gross ratios. In fact, recent NFHS data indicate that the percentage of boys and girls from the relevant age groups attending the school is not even as high as shown by these ratios. Hence the task is much more difficult than is indicated by the estimates given below.

If the target is to reach by 2016 the enrollment rates of 100 percent for both boys and girls at primary level and 100 percent for boys and 95 percent for girls at middle level, the projected total student population in 2016 will be as given below:

	2016 (million)	
	Boys	Girls
Primary	59.8	56.6
Middle	34.2	30.9
Total	94.0	87.5

Total 181.5 Million students

It will be essential to provide educational facilities for 181.5 million students at elementary level. It indicates only a marginal increase from the present student population of 173.2 million elementary level students. This is largely the result of population dynamics, which has resulted in a decline of school-age population from 188.8 million in 1996 to 183 million in 2016 i.e. by about 3 percent. We should use this opportunity to improve the quality of education. There are many schools without proper buildings or even blackboards. In many villages there are one-teacher-schools where all the classes are managed by one teacher. Present teacher-pupil ratio is around 64:1 for primary and 37:1 for middle level. In other development countries like Malaysia and Indonesia it is around 27-32:1 at primary level and 20-23:1 at middle level.

As per available statistics about 3 to 4% of GNP of India is spent on education. Out of this nearly one third constitutes the share of expenditure on elementary education (Shiva Reddy, 1996). If the same situation continues upto 2016, India will be spending about Rs. 8178.66 crores for 181.5 millions students at elementary level which works out to be Rs 451 per student. Cost per student at elementary level in 1983-84 was between Rs. 215 & Rs. 285. It implies that in spite of increase in GNP as envisaged in the 8th Plan and in spite of quite moderate increase in the number of students, cost per student will not even double in 33 years i.e., from 1983-84 to 2016-17. It has been observed that nearly ninety percent of total expenditure on primary education in India is spent on salaries of teachers (J.B.G. Tilak, 1996). This is all the more so about countries, which incur education expenditure mainly for duplicating the low quality facilities for the increasing student population without paying adequate attention to improvement of other infrastructure facilities: It is expected that the percentage of expenditure on non-teacher items should increase for achieving the qualitative improvement.

Need for increase in the expenditure on elementary education for qualitative improvement is not such an easy proposition because at the same time we cannot afford to neglect higher education especially the professional education, which is going to be crucial in the context of privatisation and globalisation. In this respect we will not have the benefit of moderate increase in the numbers as in the case of elementary school-age group. The population of the age group 15-24 will increase from 172.7 million in 1996 to 219.5 million in 2016 i.e., by 47 million or by 27%. For this age group not only will the number be substantially increasing but the enrollment rate will also have to increase at a faster rate. In addition the cost per student will also have to increase substantially to take care of the requirements of new technology and demands made on labour market by the new strategy of development.

## Health

Investment in Health is an equally important component of human resource development efforts in any country. Besides, like education it is also likely to play a crucial role in our population control efforts.

Some indicators of health manpower and infrastructure given below pinpoint the need for considerable efforts to improve the situation in India.

Countries	Population Physician	per	Population	per	Population	per
			Nurse		Hospital Bed	
India (1993)	2459		3323		1371	
Korea	951		454		300	
China	1063		1490		612	

If we aim to achieve present Korea level even after about two decades, the number of physicians, nurses and beds required in 2016 will be 1328647, 2783134 and 4211910 respectively. It implies that we will require 3.5 times the present number of doctors, nearly ten times the number of nurses and about 6 times present number of hospital beds.

In fact the real issues in the health sector are much beyond these simple numbers. Uneven geographical distribution of doctors, nurses and hospitals, their excessive

concentration in few metropolitan cities and migration of our trained health manpower to other countries are the manpower planning issues, which need serious attention.

At present India spends about 3.5 percent of GDP on health. The corresponding percentages for China, Korea and Indonesia are 3.8, 5.4 and 1.5 respectively. At present about 18 percent of rural population and 15 percent of urban population has no access to safe drinking water. Nearly 50 percent of urban population has no sanitation facilities (Economic Survey, 1996-97). Nearly doubling of urban population by 2016 and its increasing concentration in few cities are likely to pose serious problems, unless handled effectively.

It is not just a matter of increasing the government expenditure. Available evidence in India clearly shows that inspite of the network of rural health centers established by government; utilisation of health facilities is quite low in rural India. Ultimately it is a matter of improving the quality of care as well as generating demand for health services. At the same time, surveys have shown that even in rural areas many people prefer to go to private practitioners. With the present emphasis on privatisation, the issue again boils down to the ability to pay for services. Health status is also related to nutritional status, which again depends largely on the income levels.

Implications of population growth of future employment scenario therefore need to be discussed.

## **Poverty**

According to the Official Methodology, 16.82 percent of India's population was below poverty line in 1993-94 which was far below the figure according to Expert Group Methodology (35.97 percent) (CMIE, Monthly, Review of Indian Economy, Feb., 1997). If the target of complete eradication of poverty is to be achieved by 2016, then it will be essential to lift about 139.4 million people above poverty line during the period 1993-94 to 2015-16. Out of these 139.4 million, 20 million poor are the result of population growth while the remaining 119.4 million are the existing backlog. More alarming is the scenario, as per Expert Group Estimates. If we use poverty ratios of Expert Group, the total number of people who need upliftment above poverty line (342.8 million) is nearly 2.5 times the estimates arrived at by using official poverty ratios. Of these nearly 50 million are the result of population growth, over and above the existing backlog of 292 million. It needs to be seen whether the forces generated by New Economic Policy helps to eradicate poverty or they worsen the situation by marginalising the poor.

## **Future Employment Scenario**

Population in the age group 15-59, which is considered to be the economically productive age group, is likely to increase by 281 million during the period 1996 to 2016. Men and women in the age-group 15-24 are generally considered to be new entrants to the labour force. During the period 1996-2016, about 47 million persons will be added to the age-group of new entrants to the labour force.

Crude estimates arrived at by applying overall labour force participation rates observed in 43rd round of NSS, to the projected rural and urban population of India suggest that labour force will increase by 62 million in rural areas and 55 million in urban areas during the period of the text two decades. It implies the need for creation of about 6 million jobs per annum on an average in the next two decades, if the present participation rates remain constant. The overall participation rate may decline to some extent due to spread of education but it is also likely to increase due to higher propensity to participate among women.

The eighth plan envisaged the generation of 8 to 9 million jobs in the first half of the plan and 9 to 10 million jobs in the second half of the plan (Planning Commission, 1996 p. 7-8). It implies creation of about, 18-20 million jobs in 5 years i.e., 4 million jobs per year. The eighth plan envisaged average growth of 2.6 to 2.8 percent in employment. Between 1987-88 and 1993-94, annual growth in employment was 2.33 percent falling short of the anticipated growth in the first half of the Eight Plan. Also there are indications that unemployment rate of male workers increased from 5.54 percent in 1987-88 to 5.91 percent in 1993-94. In this situation our ability to create additional jobs required due to population growth depends finally on the success of the New Economic Policy adopted by us.

Apart from providing jobs to growing number of working age-group population, India also has the responsibility of supporting growing number of aged population. In the next two decades population aged 60+ will increase from 62 million to 113 million i.e., by about 2.5 million every year.

## **3. Concluding Remarks**

In short, growth of population certainly is going to make our task of human resource development difficult but over the years if the conditions worsen, it is not the

population factors alone which will be responsible but other dimensions discussed in this paper also will have a role to play.

## References

1. Government of India, (1997): Economic Survey, 1997, New Delhi.
2. Planning Commission, Govt. of India (1996): Approach Paper to the Ninth Five-Year Plan (1997-2.002), 1997.
3. Planning Commission, Govt. of India (1992): Eighth Five-Year Plan (1992-97), New Delhi.
4. Office of the Registrar General, India (1996): Report of the Technical Group on Population Projections, New Delhi.
5. Shiva Reddy B., (1996): Financing of Education & Health in India in Educational Planning & Administration, edited by Devendra Thakur & D.N. Thakur, Deep & Deep Publications, New Delhi.
6. Srinivasan, K., Sumati Kulkarni & S. Parasuraman (1990): Impact of Alternative Growth Trends of Population of Selected Social and Economic Sectors in India, Economic & Political Weekly, Sept. 10, Vol. XXIII, No. 37, p. 1913 to 1975, New Delhi.
7. Tilak J.B.G. (1996): External and Internal Resource Mobilisation for Education for All in Educational Planning & Administration, edited by Devendra Thakur & D.N. Thakur, Deep & Deep Publications, New Delhi.
8. World Bank (1997): World Development Indicators: 1997, Washington D.C.