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India

**Challenges for education from the two-tier demographic
transition and education policy responses**

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Contents

- 1. Demographic ID Card India**
- 2. How demographic trends shape socio-economic development prospects**
- 3. Changes in education demand and the demographic transition**
- 4. Education policy options and debates**

1. Demographic ID Card – India

Figure 1: Changes in age pyramids (1950, 2017, 2050)

The three age pyramids illustrate past trends and projected changes in the population size and age structure of India between 1950 and 2050.

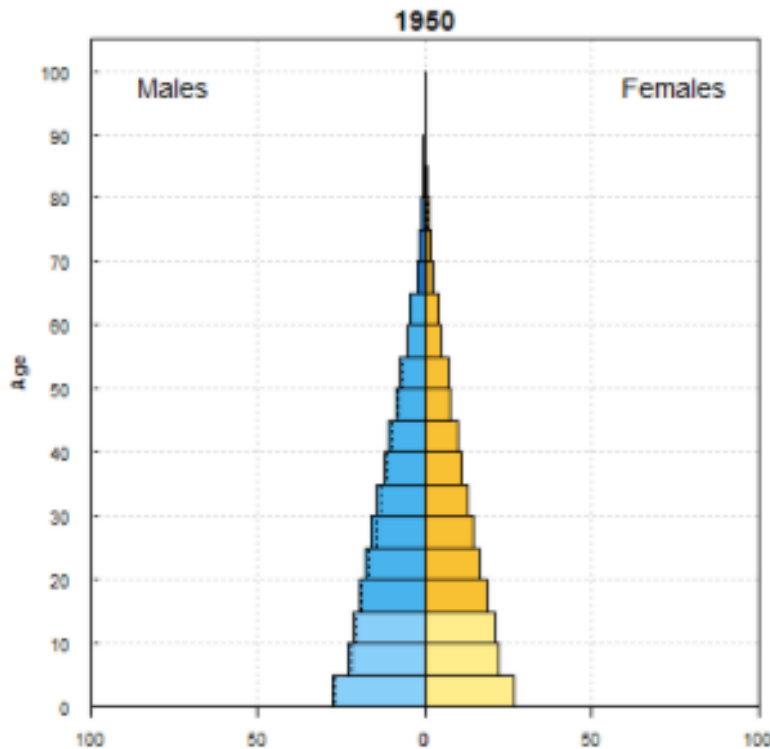


Figure 1.1: The broad based, slim pyramid of 1950 denotes a still relatively small and youthful population. The working-age population between 15 and 65 years supports small numbers and proportions of elderly.

Figure 1.2 below: As the 2017 pyramid shows, population more than doubled between 1950 and 2017. The pyramid's low round shape denotes a youthful population and large, still increasing working-age population. At the pyramid's base the age group 0-5 years is shrinking, indicating declining fertility rates and the prospect of falling child dependency ratios in future.

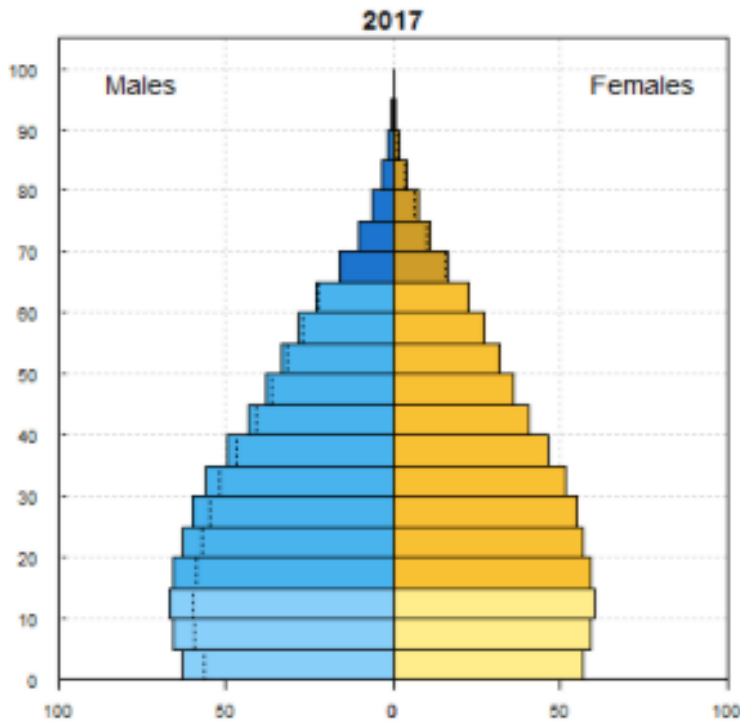
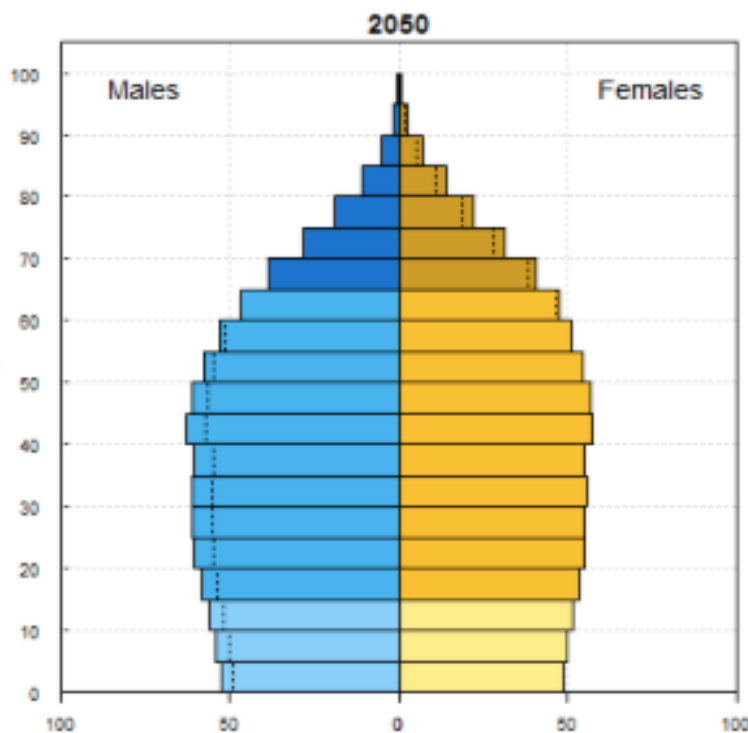


Figure 1.3: The third population pyramid covers projections for 2050. Total population size declines slightly. The bell-shape of the pyramid denotes a population that is aging slowly with increased numbers of very old people at the top. The working-age population (15-65) is still very large. Child and youth population sizes are large albeit declining. This population pyramid reflects favorable demographic conditions that present opportunities for India’s future socio-economic development.

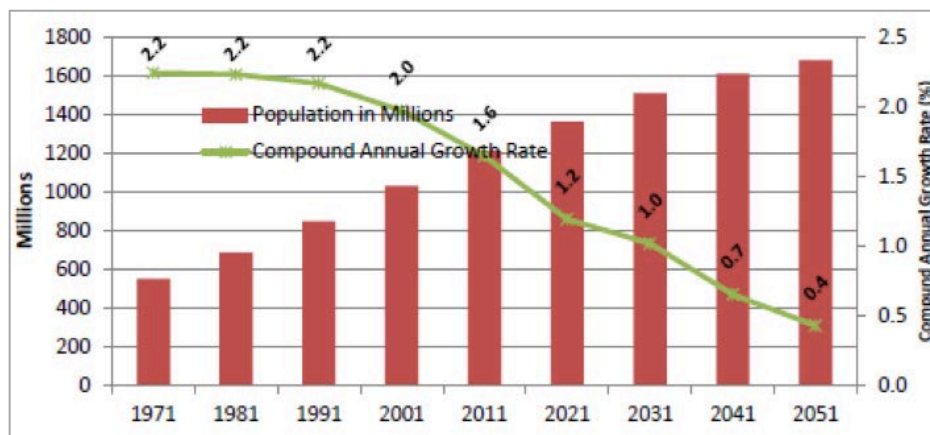


Source: United Nations Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision.

Figure 2: Population size and growth

The bar chart shows the strong increase in population size in India over the past half century and projected population growth until 2051. Annual population growth rates will continue to fall steeply.

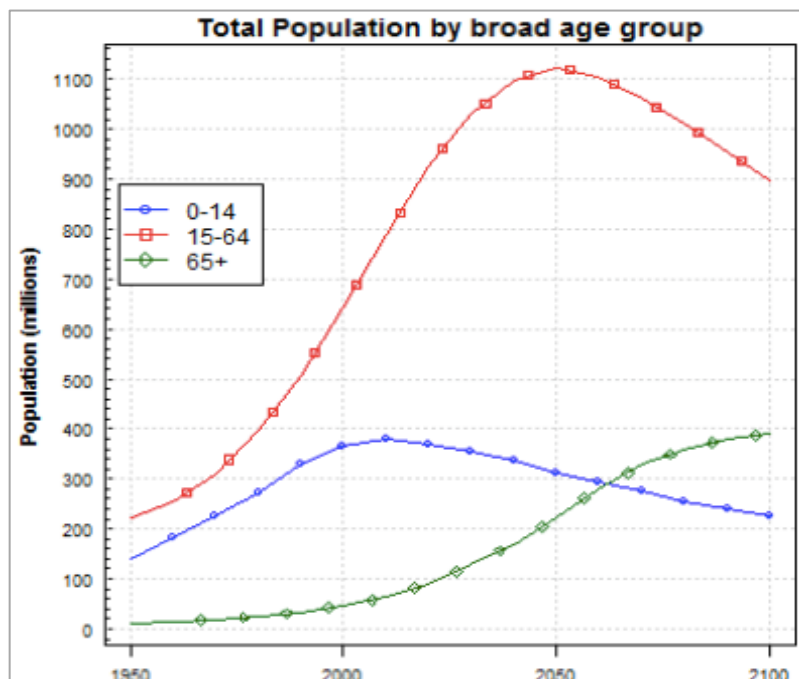
Figure 2: Total population and annual growth rate



Source: Census of India until 2011 and projections of population by S. Irudaya Rajan and Sunita (2017), CDS, Kerala, for 2021 to 2051.

Figure 3: Population structure by age group (1950-2100)

Figure 3 shows past and projected population growth in India by broad age categories. The working age population is still growing, projected to peak around 2050. Child and youth population is decreasing since 2010, implying lower child dependency ratios. The old age population group over 65 years is increasing relatively slowly. After 2050 child dependency ratios will become lower than old age dependency ratios. Overall this graph denotes very favourable demographics in the long term.



Source: United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision.

2. How demographic trends shape socio-economic development prospects

India on the threshold to reap the demographic dividend. Classified as a lower middle-income country, India displays favourable population dynamics denoted by the concept of “demographic dividend”. A transitory window of opportunity is opening as India’s working age population is strongly growing, expanding the human resource base that contributes to the country’s economic growth. This development is the result of curbing strong population growth rates in recent decades: between the 1990s and 2015 total fertility rates (TFR) fell from well over 4 to 2.3. The share of economically dependent children has been declining, and translating into smaller families and increasing disposable incomes. At the same time the share of elderly in the population (aged 65 and above) remained small (see *Figure 1: 2017*), keeping public spending and private investments for health care and social welfare in check. Consequently, increasing amounts of public and private resources have become available for alternate uses, fuelling socio-economic development through savings and investments.

A two-tier demographic transition. Demographic trends depict a high within-country variance, as demonstrated by a comparison of TFR in rural and urban areas, by socio-economic, ethnic and religious groups, and across States. India overall has not entered the demographic transition yet; but across States population growth rates are declining at a different pace. About half of the Indian States are already experiencing a demographic transition with a decrease in fertility rates close to, or having reached, below-replacement level (TFR of 2.1), particularly in Southern States and a few Western and Eastern States. Northern States (Bihar, Madhya, Rajasthan, Uttar Pradesh) to the contrary continue to witness high fertility rates.

Declining dependency ratio driven by smaller child population. Rapidly declining child dependency ratios coupled with relatively small old age dependency ratios contribute to reducing family size. Dependency ratios decreased from 80% in 1991 to about 66% in 2011 and are expected to further decline to 58 per cent by 2041. A smaller family size is associated with higher per capita incomes, opportunities for increased savings and private investments, including education. Again the variance remains high across States, the Northern States displaying much higher ratios than Southern States. For example, the dependency ratio in the northern State of Bihar in 2011 was over 90 per cent while it was less than 52% in the southern State of Tamil Nadu.

Rapid urbanization during the 2000s. Compared to other countries in Asia urbanization remains low in India but is on the increase. Less than 28% of the total population lived in cities in 2001 and just over 31% one decade later. A reclassification of large rural villages as “urban” areas in the 2011 Census invites caution with regard to data comparison over time though. Across States urbanization varies considerably, whereby pattern and trends have not changed much in recent decades. Six more developed States account for some 50% of urban population and continue to witness rapid urbanization. During the decade 2000/11 to 2010/11 the increase in the urban population (91 million, including seasonal migration) was greater for the first time than the increase in the rural population (90 million).

A highly stratified society. A particular feature of India is the high heterogeneity of its large population with pronounced dichotomies in terms of caste, class, religion and gender. The share of disadvantaged population groups including Scheduled Castes (SCs) and Scheduled Tribes (STs) increased slightly, standing at 17% and 9% respectively in 2011, proportions varying substantially across States. SCs, STs and Muslims are recognized as educationally, socially and economically

disadvantaged. The child sex ratio is skewed in favour of males, female infanticide being still being practiced, and even worsening, in some States. While Southern States and particular population groups including SC, ST and Muslim communities display favourable sex ratios Northern and Western States lag behind.

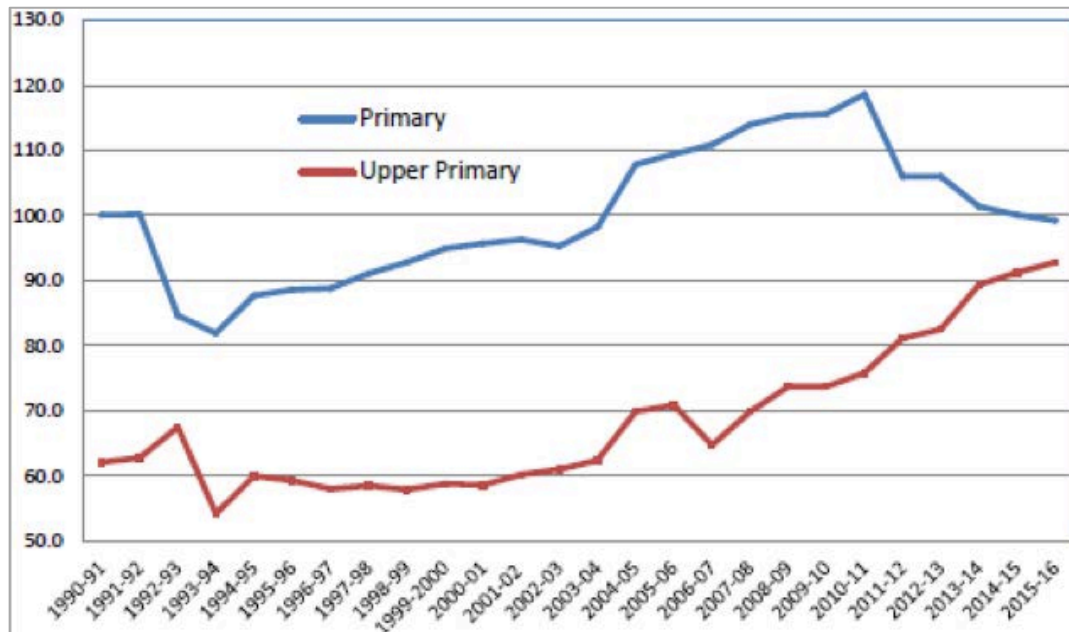
Challenges to absorb and train an increasing working age population. The share of the working age group in India's 1.3 billion population reached 62% in 2011, up from about 56% in 1991. It is expected to reach some 63% by 2041. The youth population (aged 15-24) to be absorbed into the labour marked numbers 232 million in 2011 (up from 73 million in 1961). To realize the "demographic dividend" requires this increased labour supply to be employed productively. Among the conditions to be put in place are the creation of sufficient numbers of adequate jobs and increasing human capital through education and training. In India particular challenges for job creation concern a very small formal employment sector, catering for less than 10% of the work force. The manufacturing base that in most countries absorbs large numbers of low and semi-skilled workers is very small as well (about 11% of employment). This limits the transition of these categories of workers from low productivity jobs in agriculture, where over 50% of employment still is (2010), into higher productivity sectors. Female employment has remained persistently low, on the decline even in rural as well as urban areas. The existing employment structure and importance of the informal sector have implications for social demand for education and training, and frame Government's policies and plans to increase India's human capital base.

3. Changes in education demand and the demographic transition

Policies and demography combine to drive education demand. The last two decades witnessed a significant expansion of education demand as a result of both demography and policy changes. The Indian Education for All Movement, known as Sarva Shiksha Abhiyan (SSA), builds upon earlier policy packages to universalize basic education (notably the District Primary Education Programme DPEP) and has been operational since 2001. It focuses on groups lagging behind in access and participation, including girls, children belonging to SC, ST, Muslim communities and urban deprived children. The Right of Children to Free and Compulsory Education (RTE) Act of 2009 casts a legal obligation on the Union and State governments to achieve universal elementary education. The Act mandates that every child has a right to eight years of full time elementary education of satisfactory quality. In the same year, the Government launched an ambitious Programme "National Mission for Secondary Education", the Rashtriya Madhyamik Shiksha Abhiyan (RMSA), to universalize secondary education (grades 9 and 10). Targets include an increase in enrolment to 75% by 2017 and universal completion of grade 10 by 2020. The RMSA emphasises measures to remove existent disparities in access and participation and introduces a new focus on vocational and employment-oriented courses at secondary level.

Steep progress in access to elementary education since 2000. Under the SSA norms and standards for elementary education service provision were renovated. Changed norms for school establishment led to a massive expansion of the school network: primary schools (grades 1-5) became available within 1 km of every village, and upper primary schools (grades 6-8) within 3 km. The increase in enrolment in elementary education that followed during the period 2000-2001 to 2013-2014 was due mainly to a strong increase of girls' enrolment by 14.0 million, compared to 4.6 million for boys. About half of the girls joining came from ST and SC. In primary education (grades 1-5), GER is above 100 in almost all States.

Figure 4: Gross Enrolment Ratio at primary and upper primary level (1990-1991 to 2015-2016)



Source: Selected educational statistics, MHRD and DISE (NUEPA) New Delhi.

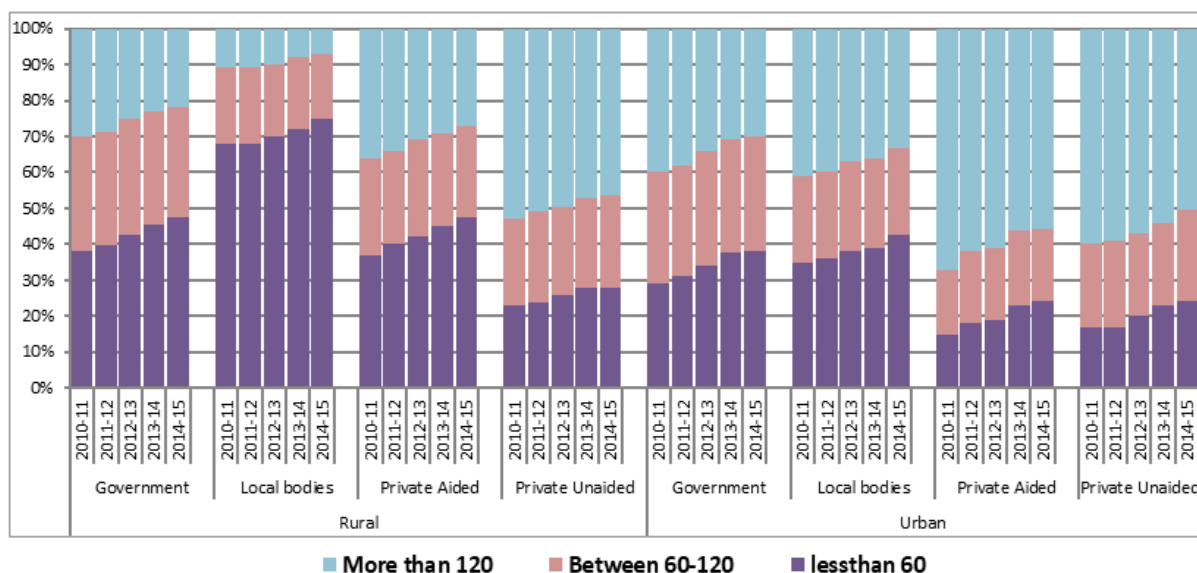
Insufficient learning achievements. However, whilst voluntarist policies succeeded in catching up with a large backlog of children, quality of teaching and learning at elementary level remains low. The third cycle of National Achievement Surveys (2009-2013) for grades 3, 5, 8 conducted by NCERT under the SSA shows low learning achievements in core curriculum subjects in public elementary schools, in particular across the Northern states. Dropout rates in primary and upper primary (grades 6-8) remain high: about 40% of grade 1 pupils do not complete grade 8.

Challenges for secondary education expansion. Low completion rates in elementary education are putting at risk the attainment of the RMSA targets to universalize secondary education (grades 9 and 10) by 2020. About 50% of pupils that start in grade 1 do not enter secondary education, NER is little over 40%. Socio-economic background remains a strong determinant for access to, and completion of, secondary education: only 11% of children in the lowest household expenditure quintile reach secondary education whilst almost all of those in the richest quintile complete grade 10. Norms for the establishment and location of government secondary schools within a 5 km distance of villages facilitate access. Increase in secondary enrolments concerns primarily children from low-income households, rural and suburban and slum areas, ST, SC. This changes the composition of the learners in secondary public schools.

The decline of school size. The SSA, and its predecessor policy packages, were devised at a time when demand for basic education was still driven by high birth rates and an increasing school age population. This trend has been reversed and student numbers are projected to decline before 2020 in almost all States. Shrinking enrolment in elementary education over the past decade is the most visible manifestation of demographic changes. Between 2010-2011 and 2014-2015 average enrolments in schools providing primary (grades 1-5) declined from 160 to 156 students. The same trend was observed in upper primary and is projected for secondary schools before, or by 2025 across States. The small school phenomenon (enrolment below 60) affects both government and private schools. It is more pronounced though for government schools that are losing students to an

expanding private sector, increasing the small school phenomenon. Concerned are primarily schools offering one level of education only (i.e. primary only or upper primary only rather than combined). In rural areas, the proportion of small government primary schools has increased from 38% in 2010-2011 to 48% in 2014-2015.

Figure 5: Primary school size changes



Source: DISE (NUEPA), school data, calculated by the author, Angula Reddy, NUEPA, New Delhi.

4. Education policy options and debates

The risk of creating overcapacity in the long run. Implications of the decline in child population for the operation of elementary and secondary schools are not discussed currently in national policy documents. The XII Five Year Plan 2012-2017 (Chapter 21: Education) leaves aside the issue of decreasing enrolment projections from 2020, raising per pupil costs and low cost-efficiency in operating a larger network of small size public schools. Under the XII Plan the SSA flagship programme continues to warrant significant investments “to finish the job” of universal access and participation in elementary education – with an overriding new focus placed on improving learning outcomes. The MHRD New Education Policy (NEP) 2016 is aligned with the XII Plan, detailing its education provisions. In conclusion, national plans continue the supply-oriented approach of earlier plans: they are based on “peak capacity” around 2020. The likely effect is to create overcapacity with liabilities that may be hard to sustain in the long run.

At the level of individual States though some “rationalization” measures are taken in order to adjust to early signals of the demographic transition. A consolidation of primary schools through school mergers (primary and upper primary schools, or extending upper primary with secondary), rotation of teachers and organization of transport are among the measures taken by States and Districts to realize economies of scale and reinvest public spending into quality improvements and the expansion of secondary.

Changing constituencies at secondary level. RSMA measures to increase access to secondary education aim at increasing levels of education among a large backlog of students from marginalized groups. These comprise large new constituencies that will change the social composition of pupils in

government secondary schools. Curriculum contents, delivery methods, class organization and teacher training need to be adapted to take into account the characteristics of these new groups of learners, many of whom join with less cultural capital and parental support. Existing plans and programmes (RMSA, XII Five Year Plan, New Education Policy 2016) aiming to modernize secondary education are silent about this particular issue that, if unaddressed, will mitigate investments in public secondary and impact on demand for private schools. Demand from better off families for private schools may further raise, in particular in the (socially more segregated) unaided school sector.

Making secondary education more job-relevant. India has the largest and youngest workforce in the world; over the next 20 years the Indian labour force is projected to increase by 32%. The age group 15 to 29 years represents close to one third of the population. Large cohorts of youth are entering employment every year; half of them have not completed secondary education. Underemployment in the rural and informal sector, and high unemployment rates among youth, is also seen as a potential threat for social stability. Combined with other human resource constraints, this situation questions India's ambition to take advantage of the "demographic window of opportunity" over the coming 25 years.

The XII Five-Year Plan 2012-2017 (Chapter 22) refers to demographic change as key determinant for future labour market, youth employment and skills development policies. The MHRD New Education Policy 2016, National Skills Development Policy 2015, and National Youth Policy 2014 are aligned with the central Government plan. One policy priority is on skills development and vocational training at secondary level. Schools are called upon to become "outlets" for vocational education of young people. Vocational secondary and post-secondary courses are to be developed, based on national occupation standards. Under the RMSA pre-vocational courses are to be introduced at secondary education level (grades 9 and 10); these include, among others, an English language stream and IT skills. The objective is to increase the ability of youth to access employment and income opportunities. As the labour market structure is evolving slowly, training for employability in the large informal sector and entrepreneurship becomes an objective for schooling at secondary.

National Skills Development Policy 2015 an instrument to reap the demographic dividend. Whilst education plans largely continue input-oriented "business as usual" the Government's new skills development agenda is framed as the key HRD policy to take advantage of favourable demographics until 2040. The policy implemented under the Ministry of Skills Development and Entrepreneurship (MSDE) in cooperation with public and private agencies, includes a target of 25% of secondary schools from grade 9 offering vocational training classes. Whilst recent employment surveys and assessments of government-subsidized skills development programmes suggest numerous implementation challenges it remains that the demographic changes are at the core of policy debates around youth employment, skilling and job-relevant secondary education in India.