Jandhyala B. G. Tilak *Editor*

Universal Secondary Education in India

Issues, Challenges and Prospects

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With a Foreword by P. R. Panchamukhi

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Foreword

In a country like India where knowledge and learning have been accorded a high philosophical status and a high social status, entire education has to be viewed as a 'process of great continuity' rather than an event of discreteness. However, formal education with specified stages immediately breaks this natural continuity and this therefore calls for conscious efforts to re-establish it in the interest of the entire educational sector. It is in this background that one can appreciate initiatives at regular intervals taken in India to develop a holistic view of education with keenness to strengthen its parts and efficiently establish their internal linkages. Some of the economists of education of the developed world of the past advocated even legitimisation of the segmented view of education when contemplating strategies of educational development for countries of different levels of economic development. They recommended that underdeveloped countries should focus their attention on the development of primary education, developing countries on secondary education and developed countries on higher education. However, when we recognise that the 'option effect' operates well even in less developed and developing countries, implying that completers of a particular stage of education would find options to move to the next stage wide open, this segmented view turns out to be irrelevant. Unfortunately, the economic factors also seem to strengthen the stage-specific segmented view as certain economic opportunities seem linked to specific stages of education. The present volume of insightful articles edited by Prof. Jandhyala B. G. Tilak presents one such attempt at taking a segmented view focussing on primarily secondary education in India, though the editor recognises at the same time the inter-linkages between the three levels, the interdependence on each other and the need to have a holistic approach in educational planning.

One feels that such a focus is quite warranted at the present juncture in India because for many decades after the independence policymakers and analysts had been focussing on primary education and elementary education so much so that other stages appeared receiving less than their due attention. In fact in order to achieve universal elementary education, resources should be diverted, they argued, from higher education in particular to elementary education since there were no hopes of getting much bigger allocation to the entire educational sector. In this

frenzy, there was practically nobody who could look at the woes of secondary education. Now of course, this type of indifference cannot continue, thanks to the relatively better outcomes at the elementary education level due to all the passion and legitimate advocacy. The option effect seems to be quite powerful, this needs to be sustained, and transition rates from primary/elementary to secondary education need to be raised further. Unfortunately, the hurdles in this process are innumerable, such as: poor learning culture of the families, illiteracy of parents of children, gender and caste, rural background, commercialisation of education at all levels particularly in secondary schools, weak government schools and growing influence of private sector ethos in secondary education with interest in profit chasing and false notions of institutional and student achievements, less attractive curriculum, highly regimented functioning of schools distancing children from the households and the surroundings, alien medium of instruction in schools making learning very difficult particularly for Scheduled Castes, Scheduled Tribes and rural children, inadequate fund flow to secondary schools, inadequate patronage for secondary education from the state and union governments, location of schools (visualised in the 'neighbourhood schools' by the Kothari Commission), highly discouraging teaching methods and examination system, ill equipped teachers who are not able to make learning activity an enjoyable activity for children, inadequate number of competent teachers, poor involvement of parents in the process of schooling of their children, high fees not affordable for poor households, very prohibitive restrictions of the government with regard to the appointments of teachers and other staff and functioning of schools, absence of economically feasible secondary education and if needed its termination options without unduly heavy economic costs for children and their families (the point which had received attention in past, as in the case of basic education reform of Mahatma Gandhi at the level of primary education and multi-purpose schooling and in case of vocationalisation *a la* Mudaliyar Committee at the middle and secondary levels) and absence of fine-tuning of schooling calendar with the agricultural seasons. In recent years, there are also signs of foreign players in secondary education making it increasingly removed from indigenous and national ethos and culture. Political factors have further added to this process alienating secondary education from the indigenous ethos. All such hurdles are so formidable that mild doses of initiatives may not bear fruits and significant and big pushes are required. Apart from the diagnosis of the problems as above, what are required are the well thought-out strategies of implementation. A thorough examination of these and many other relevant issues needs to be undertaken to provide a sound analytical basis for understanding the challenges involved, formulation of strategies and initiatives for their implementation. Obviously, some of these problems are likely to be manageable and some are not at all manoeuvrable. This really poses a further big challenge to policymaking.

I am very pleased to note that the present volume edited by Prof. Jandhyala B. G. Tilak that includes studies conducted by a number of scholars with insightful analyses may serve really as a trigger, inspiring further work in the field. Professor Tilak has been considered in the academic and policy circles as a person with educational research as his life's mission. He has authored and edited not only a

large number of research works of outstanding standards in the field of several aspects of all the stages of Indian education, but also has been instrumental in editing and revisioning the thought processes and policies relating to Indian education. His scholarly introduction and meaningful organisation of the studies included in this volume bear testimony to this observation. Some of the articles with strong conceptual insights like the one relating to the role of power in school choices, some with very meaningful applications of econometric techniques to the understanding of some of the hurdles in secondary education, etc., show to what high standards the present volume belongs. It is undoubtedly a must-read volume for serious researchers and policymakers in the field of secondary education in India in particular and developing countries in general.

Those interested in reforming education would expect many more analytical initiatives on many more unexplored aspects of secondary education in India by the research scholars with the leadership of the doyen of educational research in India—Prof. Tilak. The Springer Publications deserve all accolades as they have indeed provided an extremely useful reading material as a valuable addition to the literature on educational research.

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Jandhyala B. G. Tilak

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Editor and Contributors

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Universal Secondary Education in India: An Introductory Overview of Issues, Challenges and Prospects

Jandhyala B. G. Tilak

Education as a powerful instrument of social transformation has been widely recognised for a long period all over the world. Ever since India gained Independence in 1947, making education available to all has been a priority for the government. Over the last several decades, there has been considerable expansion of education. But the growth has been uneven across levels of education. Though education is to be seen as a continuum, the need for looking at each level of education has, hence, become obvious in policy making and planning education. Immediately after Independence, the Government of India set up a committee under the chairmanship of Dr. A. L. Swami Mudaliar in 1952 (Government of India 1952–1953), to examine the problems relating to secondary education, but secondary education has not received enough attention; the policy attention got focussed on elementary education and also on higher education. Though in the recent years, the government has taken up a few initiatives on promoting secondary education, bias of the researchers also has been against secondary education and in favour of elementary and higher education and it is slowly changing.

Given the Constitutional Directive, during the post-Independence period, and more particularly since the mid-1990s, with the launching of the District Primary Education Project in India, the Education For All (EFA), and the Millennium Development Goals (MDGs) programmes at global level, the education agenda in India focussed predominantly on improving access to primary education and later elementary education. Even though the progress in universalisation of elementary education has been impressive, quite a few major challenges remain. While elementary education and, to some extent, higher education has received some priority in India, relatively secondary education has been subject to severe neglect. It was assumed that secondary education has no particular role in the development of a developing,

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poor agrarian country. This has been the case in many countries and it is only recently the thinking is slowly changing.

With the rapid growth in elementary education, partly attributable to some of the moves mentioned above, including the nation-wide mid-day meals programme, the Right to Education (RTE), and the Sarva Shiksha Abhiyan (SSA), in recent years the need to shift attention to secondary education has begun to be felt. Most children enrolled in elementary education expect to continue on with secondary education. It is also being realised, only recently, that secondary education plays a crucial role in the development of the society—in raising economic growth, improving income distribution, reducing poverty, and improving human development. While primary education imparts the three basic Rs, rarely does it provide skills necessary for employment—self-employment or otherwise, ensure some wages and economic livelihood (Tilak 2013). Moreover, most of the literacy and primary education programmes are also found to be not imparting literacy that is sustainable, to ensure that children do not relapse into illiteracy. Secondly, primary or even elementary education rarely serves as a terminal level of education. Thirdly, even if primary education imparts some valuable attributes in terms of attitudes and skills, and is able to raise people from below the poverty line to above the poverty line, it is possible that this could be *just above* the poverty line, but not much above; and, as such, the danger of their relapsing into below the poverty line at any time could be high, which the skills and attributes acquired at primary level may not be able to prevent. In the knowledge economy, a person with mere eight years of schooling is as disadvantaged as an illiterate person. After all, it is secondary education that consolidates the gains received from elementary education as it provides much needed education and training and equips the youth with skills, aptitudes and values for a productive life, which are essential for the youth to enter the next phase. By imparting necessary skills, post-elementary education can keep people above the poverty line without the danger of falling back into poverty trap—educational poverty and/or income poverty. It provides skills required for an increasingly technology driven labour market and production systems; and it is secondary (and more importantly higher education) that helps in innovating technology and in sustaining growth. Development effects of education take effect fully at the secondary level. It is secondary education that can ensure a higher quality of life, by increasing the social, occupational and economic levels of the households. Serving as a critical preparatory phase for youth to enter either the labour market or higher education, secondary education is being increasingly recognised, thus, as a critical element in achieving the goals of human development, social progress, political stability and economic growth (Tilak 2007). As a recognition of all this, secondary education also became a part of social development goals (SDGs), formulated by the United Nations Development Programme (UNDP).

Active participation of the youth in social, political, and economic spheres at the national level and in the global knowledge economy requires at least good quality secondary education. So, the natural next step to universalize elementary education is universalisation of secondary schooling among the country's youth, so that the basic learning capabilities that they are likely to achieve at the elementary level are cultivated further at the post-elementary level, contributing to the growth of their

cognitive knowledge, abstract and critical thinking, and practical skills. In short, there is an increased awareness and even general consensus that Education For All in a country like India will not be complete even with the achievement of universalisation of elementary education, and that it needs to cover secondary education. Secondary education is important for economic growth and development (World Bank 2009).

While the RTE was being formulated and during the following period, there was a huge demand from academia and civil society that RTE should cover the whole school education, including secondary education. There is also a big demographic pressure building up, which will turn into a big problem, unless specific strategies are formulated to turn it into a dividend by providing quality secondary education and training to our youth. Thirdly, it is also being realised that goals relating to good quality elementary education and strong higher education cannot be met without strong, well spread quality secondary education. In response to some of these concerns, the Central Advisory Board on Secondary Education (2005) has suggested that secondary education should be made universal, though not necessarily made compulsory. Provisioning of secondary education should be based on a rights-based approach, like elementary education, and the access to it needs to be provided in a comprehensive way. Universal access, as the CABE defined is access in a comprehensible manner that is physical, social, cultural and economic. Slowly acknowledging all this, the Government of India has launched a few years ago the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) on the lines of SSA, with the objective of universalising secondary education. The RMSA sought to put in place the necessary infrastructure, procedures, norms etc., to remove gender and socio-economic barriers and promised '*universal access to secondary level education by 2017, i.e. by the end of 12th Five Year Plan and achieving universal retention by 2020*'. The target, as suggested by the CABE includes universal enrolment in secondary education, full retention of children in schools until they complete the secondary level, and attainment of mastery in all kinds of learning tasks by more than 60% learners. Despite significant economic growth and wide spread achievements in education sector, the promise is yet to be realised. Apart from the RMSA, a few schemes have also been launched by the union and state governments to strengthen public provisioning of secondary education in India. The Government of India has initiated, among others, special programmes such as *Shaala Siddhi* and school leadership to improve quality of education and leadership at the school level.

It appears that the government is also planning to extend the RTE to secondary education, on the basis of recommendation of a sub-committee of the CABE (2015a). Recognising the linkages between elementary and secondary education, the Central Advisory Board of Education has also recommended integration of SSA and RMSA. Accordingly, very recently the government has launched in 2018 the *Samagra Shiksha Abhiyan*, which will probably replace Sarva Shiksha Abhiyan and RMSA. These initiatives are also reflective of the realisation by the State that for the development of the modern nation, universal, strong, equitable and quality secondary education is essential.

What are the implications of these new initiatives? If the RTE is to be extended to cover secondary education, will secondary education necessarily have the key

features of the RTE, which are free, compulsory, universalism, quality and most importantly education as a right. If not, what is the meaning of extension of the RTE to secondary education? Will it cover upper/senior secondary education?

The new SSA—the Samagra Shiksha Abhiyan—is proposed to cover elementary education, secondary education, vocational education and teacher education, which have been presently working in isolation from each other, and to bring them into an integrated framework, partly recognising the close links between them. While a holistic integrated approach to school education is desirable, in fact, not just school education, the entire education sector from primary to higher, including adult and continuing education, has to be seen as a continuum, and accordingly, educational policy makers and planners have to adopt an integrated holistic approach to education sector as a whole, recognising the inter-linkages between the several levels of education and their inter-dependence on each other, there are several issues that need to be carefully analysed, understood and planned at each level of education. After all, some do require level-specific policy interventions. Does *Samagra Shiksha Abhiya*n base on such an understanding? Does the Abhiyan mean only in terms of funding—funding school education as a whole, rather than by level/type of school education, or does it mean a truly integrated approach to the school education system, making every school a composite/comprehensive school from Grade I (if not Pre-primary) to Grade X (or XII), with common teachers, common infrastructure, and common policies and approaches. Does it involve breaking of hierarchy in school system, and a move towards a common school system? One would expect such features to figure in the new model. The Dr Kasturirangan Committee that prepared the *Draft National Education Policy 2019* (MHRD 2019) also made a similar proposal, apart from going further in recommending universalisation of school education covering from pre-primary to higher secondary levels. The programme requires a huge amount of financial resources, millions of additional trained teachers, vast infrastructure in terms of buildings, laboratories, libraries, ICT facilities, etc., and above all, a strong political commitment. On all these aspects, we presently face unfortunately a huge deficit.

It is also important to note that unlike elementary education, the nature and purpose of secondary education are different. Quality of secondary education has to be broad: it has to focus not only on learning levels, but also prepare youth with good general and specific skills for employment and citizenship with human values. Also at the same time, it should prepare high quality students for higher education. Secondary education requires teachers; but typical pupil–teacher ratio may not serve as a good measure for planning, as we need subject teachers in large numbers at secondary level. Secondary education is also diverse, as it includes academic, as well as vocational and technical education/training streams, imparting knowledge, skills and universal human values all at the same time.

Today, there are 62 million students in secondary (including senior secondary) education in the country. The gross enrolment ratio at lower secondary level was 78.5% and at the senior secondary level it was 54.2% in 2016–17. These gross figures underline how far we are from universal secondary education. A more worrisome aspect is the high rate of drop-out in secondary education, with 35% of the

students enrolled in grade IX dropping out before completing grade X and another 38% before completing grade XII. The quality of secondary education, reflected in poor employability of secondary school graduates and/or their unsuitability for admission in higher education, is also a matter of serious concern. Secondary education is also associated with a high degree of inequalities—regional and inter-state, between different social groups and economic classes. In short, secondary education is associated with the familiar 'elusive triangle' of quantitative expansion, quality and equity in education. An important feature of secondary education scene in India is the existence of a high proportion of private schools—government supported private institutions and, more importantly, private unaided institutions as a proportion of all schools. The latter have increased in large numbers in the recent past, to surpass the total size of the other two types—government and government aided private schools. At the same time, it is increasingly being noted that the latter are associated with several maladies and unfair practices.

To sum up, secondary education in India faces serious glitches on several fronts. As per the gross enrolment ratios, there continues to be a large number of children who need to be brought into secondary schools. Secondly, with near universal enrolment, inequalities in elementary education may not be high; but the inequalities begin to take strong roots in secondary education; thirdly, more than half the secondary schools are in the private sector, with a major proportion of them being unaided or self-financing schools, depending exclusively on student fees, which may also be the cause of inequalities in education and, in turn, in society at large. Fourth, the school system as a whole, including secondary education, faces serious shortage of teachers. Partly to answer the problems of resource scarcity, the government is serious about public–private partnerships, privatisation and other similar measures, evidence on the effects of which is not encouraging. Lastly, education, including secondary education, is facing a serious shortage of funds. Given all this, what are the prospects for universalisation of secondary education?

In fact, quite a few more important questions arise in the minds of the academia as well as policy makers and planners in this context.

First, given the growth in elementary education experienced during the last few decades, and given the experience with the implementation of quite a few initiatives during the last couple of decades, including DPEP, EFA, SSA, RTE, mid-day meals and others, what are the prospects of achieving universal secondary education in the next few years? What are the pre-requisites and other essential points of policy action for achieving this laudable goal? Based on results of an econometric modelling exercise used to find out the factors impacting secondary completion rates, *P. Prudhvikar Reddy, D. Sree Rama Raju and V. Nagi Reddy* (in this volume) forecast that at the national level only 62% children in the age group of 14–15 years would be enrolled by 2020 and, given the trend, 100% net enrolment ratio (NER) would be achieved only by 2038; similarly, it would take 80 years beyond 2020 to achieve 100% net enrolment of children in the age group of 16–17 years. It was inferred that universalisation of secondary education even in states like Andhra Pradesh and Telangana was a distant dream. Apart from the enrolment, the learning levels in both the states and also in India are a major concern as well.

Second, the education system is expanding in terms of infrastructure, buildings, and other facilities; and enrolments are exploding. Thus even as there has been remarkable quantitative progress, questions persist on the quality of education and learning levels of the school children. While impressive improvement in the enrolment of children in primary, upper primary, secondary and higher secondary stages has been observed, learning levels are found to be continuously declining and that there are wide socio-economic differences not just in enrolment, but also more strikingly in levels of learning. The Annual Status of Education Reports (ASER) (Pratham Foundation, several years) every year highlight the huge learning deficit amongst children—how children of a particular age do not have the learning competencies that are required of them for that age. In this context, how does one ensure that in the effort to universalise secondary education, the quality of education is also adequately taken care of? What are the measures required to provide good quality education to secondary school students so that they gain skills, knowledge, values and attitudes that go beyond the narrowly defined learning outcomes?

Third, quality of education critically depends upon the availability of teachers in adequate numbers and of appropriate quality. But teacher shortage has become the bane at every level of education in India—primary, upper primary, secondary, higher secondary and higher education. Teacher–student ratios are increasing and have reached alarming levels in some institutions, if not in any State as a whole, on average. We also have a large number of untrained teachers, contractual teachers and even para teachers. The question is: if we have to universalise secondary education with quality, what are the ways in which the problems relating to the teacher shortage and teacher quality can be addressed.

Fourth, generally it is held that secondary education can be regarded potentially as a first meaningful terminal level of education. But, for it to be a meaningful terminal level of education that ensures access to good job market and decent wages, secondary education needs to be providing good knowledge, skills and attitudes. The Kothari Commission (Education Commission 1966) stated long ago that along with the academic stream, it is imperative to have skill orientation through vocational training and technical training programmes. Vocational and technical education/training has its own positive effects on economic growth (Tilak 1988b). But it has not been paid serious attention. Though the experience with vocational secondary education has not been satisfactory, the recently launched national skill development programme promises good prospects in employability of our youth. What then are the strategies required to produce secondary school graduates who can confidently enter labour market and, at the same time, be eligible for admission in higher education.

Finally, where do we get the money for universalisation of secondary education and what are the options available. Though money does not necessarily solve all the problems in education, it is critically important; rather, it forms an essential condition, but not a sufficient condition for development of education. While we have the target of spending 6% of the national income on education, as recommended by the Kothari Commission, we are currently spending just about 4%. Every level of education seems to be suffering from shortage of resources to fulfil the basic objectives of expansion, quality and equity. Given this background, how does one

ensure resource adequacy for universalisation of secondary education and also ensure that the allocated resources are efficiently spent?

There are quite a few suggestions being made for the development of education, some of which are articulated elaborately in the following chapters. First, while planning for universalising secondary education, focus should be laid on the serious glitches on several fronts, viz., bringing the large number of out of school children into secondary schools; dealing with issues of inequalities that have taken serious roots in secondary education; addressing issues of shortage of teachers, inadequacy of funds; and regulating the practices of private schools, and other such measures. There is an immense need to strengthen rather to rejuvenate government schools on a large scale, which requires huge investment of financial resources, quality teachers, infrastructure, etc. Strong political will and social commitment is needed to improve education status, quality improvement, reduction in inequality and improvement in governance. Governance reforms are critical for improving quality and for reducing inequalities. A sound policy design and strategies for effective implementation need to be developed.

Second, in order to eliminate or to reduce inequities emanating from the dual system of education that exists for different strata in the society, a common school system of education with neighbourhood school may be the best method. The Right to Education Act in its comprehensive spirit needs be extended to secondary education, so that secondary education is also provided free, compulsory and it is of equitable good quality. Instead of talking about universalisation of any one level of school education, it is better considering the universalisation of school education as a whole that includes higher secondary level also.

Third, there is a need to lay special emphasis on quality of education and learning levels of children in schools. In addition to providing good quality trained teachers, the curriculum needs to be redesigned in such a way that all children, irrespective of their social and economic background are able to cope up with the system, which will help in preventing dropping out or pushing out from school. A well-designed curriculum would also help to imparting good values, attitudes and knowledge, besides skills. At the secondary level of education, it is important that students are sensitised about dignity of labour, world of work and career options. There is a need for a proper mix of skill-oriented training and academic subjects in secondary education, and this mix should be compulsory for all. Options regarding vocational training programmes, skill development programme, have to be carefully designed.

Fourth, there is an enormous growth of private schools in the country and a large number of them are run on commercial principles. Many such profit-oriented, non-philanthropic private schools cause more and more inequalities in education and in society at large. These schools also impart values among children which may hinder the development of a humane society. There should be a tough regulation on the growth of such private schools in the country and their functioning. The Draft National Education Policy 2019 promises immediate closure of all such schools.

This volume consisting of about 20 articles by eminent scholars in the field drawn from all over the country, an outcome of the Seminar organised by the Council for Social Development on Universalisation of Secondary Education (14–15 July 2018),

will be a valuable addition to the scanty literature on secondary education in India, as it sheds light on some of the contemporary critical issues on universal secondary education that are hitherto neglected. Based on rich database, the contributors to this volume examine in depth some of the many critical issues in secondary education. Many chapters are rich in database and empirical details and some are rich in policy discussions. The contributors covered all India and also quite a few specific states in their state level studies. Some have also examined issues and evidence at district and sub-regional levels. The analyses provide not only valuable insights into the current status of secondary education, but they also point towards the needed strategies and approaches.

At the very outset, in the policy context, we have to realise, as *Sheela Reddy* describes, that education is one of the necessary conditions for advancing of life and freedom. As she rightly reminds, secondary education is a decisive stage in the educational hierarchy and an effective link between primary and secondary education. Moreover, it was noted how secondary education can act as a major instrument of social change and development and the rigour of secondary education can enable students to compete successfully in education and jobs, globally and nationally. Referring to some of the major challenges that secondary education faces in India, she stresses the need to discover new ways of 'knowing' so as to effectively participate by our youth in the domestic and global processes, and thereby ensure equitable economic and socio-cultural diversity; and the need to concentrate on the marginalised and vulnerable sections of society to promote access and equity and thereby to ensure the larger goal of social justice.

While secondary education is compulsory and free in some countries, a large proportion of children of eligible age group in India still remains deprived of quality secondary education with its far-reaching impact on society. With the help of secondary data, *Madhumita Bandyopadhyay* and *Sunita Chugh* have explained where does India stands in terms of providing quality secondary education and the challenges to be met in the coming years if the RTE Act is to be extended to secondary education of reasonable quality in a diverse and vast country like India. The prerequisites for universal secondary education include, as Bandyopadhyay and Chugh highlight, creation of elaborate physical infrastructure to provide universal access and enable universal participation and ensuring that all children complete elementary education. The country should prepare for the rigour of secondary education. Thirdly, a massive reorientation of secondary education is needed to meet the needs and aspirations of children of diverse backgrounds with different preparatory levels. Many of these children are also first generation learners. It is necessary to pay serious attention to quantitative and qualitative expansion of secondary education. Unfortunately, as of now, the gap is very wide between current availability and the requirements in all these aspects.

Based on valuable NSSO data from 2007 to 2014, *Manabi Majumdar* and *Sangram Mukherjee* show that the participation rate of children in education in India was high till 14 years of age after which it nose-dives, and more so for females than males. About 21% rural youth and 18% urban youth (age group 5–29) did not attend any educational institution. The mean age at first enrolment was similar

across different expenditure (monthly per capita consumption expenditure) quintiles but exits or drop-outs, which the authors like quite a few scholars prefer to refer to as 'push-out', happen much earlier in the case of lower strata compared to the upper income groups. Among the factors responsible for the push-out, apart 'lack of interest' a factor that needs to be probed in detail, and the financial stress families feel in sending their children to schools, the authors refer to the tendency on the part of the schools to fail students simply because the infrastructure was not adequate to cope with a large number of students. The authors argue that there are strong forces within the education system and its underlying 'vision' that tend to work against the egalitarian goal of secondary education for all.

What we observe at the national level with reference to many problems in secondary education, such as low overall enrolments, high enrolments in private schools, major infrastructural gaps in the provisioning of drinking water, functional toilets, proper boundary walls and gates, and facilities of library, computer laboratories, science practical laboratories, etc., shortage of subject teachers, somewhat irrational demand for English medium schools, etc., can be confirmed from field surveys as well. While doing so based on primary and secondary data in a relatively prosperous state of Maharashtra, *Anuradha De* and *Meera Samson* highlight many other issues, including serious governance issues, absence of inspection and monitoring mechanisms, the long distances children have to travel to reach schools in rural areas, non-availability of science and commerce streams of study in schools, and the pressure of private tuitions. Their school survey also showed that while most schools were highly functional, there was wide variation in quality among the several secondary schools. An important factor behind this variation is the multiplicity of bodies involved in the management of government and government-aided private schools. There has been a decline in the number of government and government-aided schools, and unaided self-financing schools are playing an increasingly greater role in the system. Even government-aided schools were seen to start unaided sections in their premises offering subjects which are in demand. The impact of these changes is that enrolment in government and government-aided private schools has been declining and those in private schools increasing. The changing public–private mix has adversely impacted several dimensions of education, and as *Achin Chakraborty* highlights, this has serious implications for the entire education system and the society at large. The lack of investment in public—government and government-aided—schools particularly hurts the prospects of students from disadvantaged backgrounds, as they get forced to make do with schools where quality of teaching and facilities are highly compromised.

The phenomenon of private schools is one of the most dominant aspects of Indian education as it developed over the last three decades. Private schools became an important source of inequality in education. There is massive expansion of private schools and there is heterogeneity and hierarchy as well in its expansion. With the increasing number of low-fee private schools, there is a change in the school choice too, based on the supply side. Further, there is change in the behaviour of the disadvantaged groups and the middle classes too. The shift of middle-class parents in their preference from government to private schools, including specifically low fee private

schools, has shrunk the space for school–community interactions, due to which there is no voice in government schools these days. Of the several factors that influence the school choice in favour of private schools is the paying ability of parents. Students belonging to richer families, urban areas and to the general social (caste) category and boys have greater access to private schools, and the access to private schools is limited for poor children, those from rural areas, Scheduled Castes/Tribes and girls. *Pradeep Choudhury* feels that it is important to examine the growth of the local private school market to understand the micro-phenomenon. He also opined that there is dearth of research on the schooling choices of disadvantaged groups and the people belonging to minorities. It is important to examine who is going to which type of school, and why.

Based on an ethnographic case study of a private school in Odisha, *Amrita Sastry* offers interesting insights into power dynamics that operate in private schools. The aspiring middle class sends their children to private schools because of the latter's quality connotation and their readiness to compromise even their basic needs to meet the educational needs of their children. However, as Sastry observes, education is now commodified as a package and the power dynamics operates in private schools based on the school culture. There is power dynamics in the culture of learning, which enables, isolates or even disables children's learning. Children are considered the lowest rung in terms of power/space and the teachers, the principal, the management, the parents, and others occupy high space in the power ladder. Indeed, the children are regarded as blank slates where people wielding power write their thoughts. Power dynamics also exists between teacher–students and students–students in private schools. We should realise the importance of diffusing the notion of power in the classroom and search for innovative student-centric classroom practices. Unfortunately, as *Manabi Majumdar* observes, our approach to developing the school system in the country is guided by choice-centric view, supply-centric perspective, and curriculum, pedagogy and evaluation centric approach. There is need to change all this.

Quite a few contributions in this book focus on analysing statistically the determinants of participation in secondary schooling. In three separate papers, *Deepak Kumar*, *Susmita Mitra* and *Nivedita Sarkar* analyse using different databases and different methods, determinants of participation or enrolment in and determinants of completion of secondary education in India. While individual, social and school related factors (e.g. distance to school) and many other factors are important in explaining the variations in enrolment rates and in drop-out rates among children, including gender, caste, religion, region (rural or urban), and family-related reasons, family background, parental education, disinterest in education, inability of students to cope up with the curriculum and examinations are important, the most important factor still emerges to be economic in nature, that relates to direct and indirect costs of secondary education (e.g. school fees, books, uniforms, and transportation costs), and opportunity costs of education, reflected in the need to work at home or in the labour market. While it may not be so hard for economically weaker sections of society or minority groups to send their children to primary schools, it becomes significantly harder to send them to secondary education because of direct

and opportunity costs. The consistency with which the correlation between economic status of the households and participation in secondary education, or drop-outs from secondary education, or being out of schools exists, is indeed very striking, similar to the pattern shown earlier by Tilak (2002) in case of literacy and other levels of education. Low economic conditions do not allow families to send their children to secondary/higher secondary education, and inability to become educated, in turn, affects their ability to improve their economic status and to be active partners in national development.

Despite increase in the gross enrolment ratio, the issues of social access and equity remain persistent. Social, gender and income disparities continue to be reflected in gaps in learning levels and drop-out of school. Wide regional variations are reflected in the structure of school education, management, infrastructure facilities, teacher deployment, quality, learning achievements, etc. While quite a few initiatives have been made towards improving secondary education in many states, the system is characterised by weak implementation of educational reforms, ineffective teacher training programmes and the low importance accorded to school leadership. According to Mythili, there were five major leadership factors in the Indian context, which affect the performance of the school system as a whole, namely vision building, goal setting, organisational or school improvement, commitment and goal achieving, and on all fronts there is need for improvement.

There have been significant changes in the labour market in the last two decades which created pressures for skill improvement in India. The question that arises in the present context is how our education system, especially secondary school system, will cope with this requirement. The relevance of linking the skill development with secondary schooling can be viewed in two ways: to reduce the labour search cost in the domestic and international labour markets; and skill development for self-employment and self-sufficiency for rural and urban youth in India, which promotes upward mobility for socially backward classes. Apart from vocational and technical education at school level, and training at post-secondary level institutions, little has been done on promoting skills among youth for a long period. In fact, as *Mona Sedwal* shows, even vocational education programme at secondary level has been elusive; it did not take off well. As per some recent statisitcs, only 5% of the Indian labour force in the age group of 20–24 has received vocational training. It is difficult to estimate skill shortages. But it is widely known that the skill gap—between demand and supply—is increasing over time. The government of India has launched a major programme of skill development with a target of imparting skill intensive training to 500 million by 2022. The training programmes should impart both 'general' and 'specific' skills (Becker 1975), while education imparts 'soft' and 'hard' skills in addition to knowledge. The costs of 'general' training need to be met by industry, training for 'specific' skills by firms, and costs of education by the state (Tilak 1994). As Sedwal argues, what is needed are innovative solutions for emerging demands, changing of funding mechanism from a supply to a demand-driven model, transfer of public resources on the basis of input or output criteria, a flexible education system, enabling basic education that provides the foundation

for learning, development of core capabilities, and core technical skills in secondary and tertiary education.

Secondary education is expected to provide general and specific skills. As *Bornali Bhandari, Charu Jain* and *Ajaya Sahu* argue secondary education should aim at laying the foundations for lifelong learning and human development, by offering foundational skills—general training, as well as subject- or skill-oriented skills (specific training) using more specialised teachers, so that secondary school graduates' employability in labour market and at the same time admissibility in higher education are ensured. In other words, as *Arup Mitra* in a short note describes, improving the quality of education and training and integrating the general education with vocational courses are instrumental in providing strong education that serves both purposes. Universalisation of secondary schooling and provision of skills to youth need to be integrated into one major programme, as there is a big common ground between them. While earlier evidence has not supported such a model of simultaneously providing in the same school academic and vocational education and training under the label of 'diversified school curriculum' (Tilak 1988a, 2003), the changing labour market conditions may as well make it efficient. But both vocational education and secondary general education face serious challenges in India and in many other developing countries, due to rising costs, and inequalities by caste, class and gender.

An important troubling issue in education relates to financing of secondary education. It is often well-acknowledged that public policies and provisioning for secondary education in India have been inadequate. As *Narender Thakur* argues, one of the three prominent challenges secondary education faces in the country is declining government expenditure for education in general and secondary education in particular, the other two challenges being increase in private (household) expenditure in education including secondary education in the poverty driven hierarchical society, and existing and growing social-economic inequalities and exclusions in the school education including especially in secondary education. As all these three are inter-related, expansion of public funding might need to address all the three simultaneously.

Much evidence exists that shows that public expenditure matters; it impacts enrolment and quality of education and that there is a significant positive correlation between public expenditure and several educational indicators (Tilak 1999), including the learning outcomes. As *Pravin Jha* and *Sikdar* tried to show, the poor state of secondary education in the country is closely related to the level and nature of funding of secondary education. Goa, Kerala and Himachal Pradesh have been consistently performing better than all other States with regard to per child expenditure on secondary education and they are doing good in physical outcomes as well, while Bihar, Jharkhand, Uttar Pradesh and Madhya Pradesh which finance secondary education at a much lower level have been relatively poor performers. Further, they observed that per student expenditure through the RMSA grants had declined considerably in several states over the last few years. The distribution of RMSA grants favoured the eight States of Rajasthan, Tamil Nadu, Andhra Pradesh, Karnataka, Telangana, Odisha, Madhya Pradesh and Maharashtra. The shares in grants depended

upon factors like population size, capacity to spend, timely submission of bills etc. Secondary education in including government and government-aided schools in Uttar Pradesh, as *Mohd. Muzammil* shows, critically depends upon grants-in-aid. This is true in case of most other states as well: government-aided private schools depend on government grants; and other sources of revenue for government aided schools (and also government schools) are non-existent (Tilak 2008). Jha and Sikdar favoured use of per student allocation in Kendriya Vidyalayas as a thumb rule marker of 'unit cost'. In 2015–16, per student government expenditure in these schools was approximately Rs. 32,000, while in many states, the corresponding figure is hardly about one third of this. This would considerably ease the financial stress in education. A similar suggestion was made by a Sub-Committee of the CABE (2015) that examined the pathways to improve the conditions of government schools in the country (see also Tilak 2017). As Pravin Jha argues, there is a need to think beyond the possibilities of resources mobilisation which give us political spaces that have not been explored barring the transition to the phase of goods and service tax (GST). He highlights that there is a need first to look for solutions to the challenges of resource mobilisation.

Lastly, the experience of many countries shows that while the design of the policies and their implementation is important, educational policies have been successful where they are backed by strong political will and social commitment, as *Rounaq Jahan* highlights in the concluding chapter of the book, based on her valuable experience in developing countries like Bangladesh. We have quite a bit of rich evidence from many countries that shows how political will and social commitment mattered in transforming and even in revolutionising their education systems, and how countries failed in their educational reforms due to lack of a strong politcal will (see Tilak 1991, 2001).

This anthology of 20 articles by eminent scholars in the field from all over the country, hopefully serves an important purpose of filling the knowledge gap in case of secondary education in the country, as there are very few studies on secondary education in India. It is hoped that the book will contribute to enhancing the level of public discourses on universal secondary education and at the same time help the policy makers with deep insights into the issues involved.

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Secondary Education in India: Growth and Inequalities

Status of Secondary Education in India: A Review of Status, Challenges and Policy Issues

Madhumita Bandyopadhyay and Sunita Chugh

1 Introduction

The increasing complexity of modern societies, knowledge and information-intensive social and work milieu makes it necessary to acquire more years of schooling even to perform minimal functions. The seven or eight years of basic schooling, imparting fundamental numeracy and literacy, is, increasingly, becoming inadequate. People now require a compulsory education that goes beyond basic numeracy and literacy and secondary education helps them acquire at least rudimentary abilities to critically think and learn. It is also argued that investment in secondary education yields considerable social and economic returns, making it crucial for national development (World Bank 2005, 2009; Tilak 2001, 2003; Mukhopadhyay 2002; Reddy 2007; Biswal 2011). Secondary education has proven to be providing more benefits in improving the health, gender equality and living conditions of human populations. It is also critical to breaking the inter-generational vicious cycle of poverty. It is argued that for achieving sustainable development, the youth needs to be provided a minimum of ten years of school education. In many nations like Australia, Japan, New Zealand, Korea, compulsory schooling extends to at least lower secondary education, covering ten or more years of schooling.

Most of the economic and employment growth over the past ten years in India has taken place in skilled services (information technology, financial services, telecommunications, tourism and retail) and skill-intensive manufacturing, all of which require, at a minimum, a secondary education certificate (World Bank 2009). Globalisation and the growth of knowledge-based economies, thus, give a sense of urgency

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to the heightened demand for secondary education. At the individual level, secondary education empowers and prepares youth for the labour market, pursuing higher education and personal development.

In this background, the Right to Education Act 2009 that provides eight years of compulsory education needs to be revisited. Time is now ripe to explore the possibility of extending the years of compulsory education and, by implication, extending the years of education provided as part of Right to Education, to ten years. The Kothari Commission's suggestion to have an undifferentiated curriculum till ten years of schooling may, in fact, hint at the desirability of ten years of compulsory schooling (GOI 1966). Making a minimum of ten years of schooling as compulsory and free has been on the agenda of international conventions and declarations for a long time. For example, the Convention on the Rights of the Child (CRC), adopted in 1989 (UNHR 1989), declared that States need to take appropriate measures to ensure that rights of all children under the age of 18 years should be protected—including the right to name and nationality, freedom of speech and thought, access to healthcare and education (Article 28) and freedom from exploitation, torture and abuse. While the Right to Education Act 2009 makes a provision for free and compulsory education for children of 6–14 years' age, the question that arises is whether a child of 14 years is mature enough to take a decision on whether to continue education or not? If education provided in the school does not interest him/her, he/she would like to leave and enter any kind of job. Should the State not protect the rights of child to education till he/she finishes secondary level of education, i.e. ten years of education, especially in this information and knowledge-intensive ambience?

The 11th Five year Plan (GOI 2008) proposed a roadmap to achieve universal secondary education and targeted increase of gross enrolment ratio (GER) from 52% in 2004–05 to 75% by 2011–12. Further, the 12th Five year Plan (GOI 2013) proposed achieving near universal enrolment in secondary education, with GER exceeding 90% by 2017 (12th Five Year Plan Pg. 72) and emphasised on imparting vocational and technical skills while recommending higher investments to provide secondary schools with equipments (such as workshops, machines and computer equipment) besides trained teachers/trainers having technical skills. The Central Advisory Board of Education (CABE) Committee Report highlighted that 'universal secondary education is a pre-condition for equitable social development, widening participation in India's democratic functioning, building an enlightened secular republic and for being globally competitive and proposed universalisation of secondary education by the year 2020' (GOI 2006, CABE :14). The CABE committee, in its 58th Meeting, felt that every child in the country-irrespective of gender, caste, class or community to which he/she belongs—must have the right to at least ten years of formal schooling. It decided to set up a CABE committee on 'Extension of the Right of Children to Free and Compulsory Education Act 2009 to pre-school education and secondary education'. Given this context, the paper makes an attempt to discuss the present status of secondary education in India and the feasibility and preparedness required to extend RTE 2009 to secondary education. The paper is based on the data collected from secondary sources. Considering the demands of a growing knowledge economy, the paper suggests that RTE needs to be extended but, at the same time, consolidation of

RTE at the elementary level needs to be seriously examined if we want that our children get the required skills and knowledge expected of secondary-level graduates. In doing so, the paper starts with a brief discussion on policy framework available for secondary education.

2 Policy Framework on Secondary Education

After Independence, it was strongly felt that the school system needs to be expanded at all levels to provide equal educational opportunity to all, irrespective of caste, religion and gender. Committees were appointed to examine the scope of expansion of secondary education. As early as 1948, the Tarachand committee recommended school education to be of 12 years comprising five years of education at the Junior Basic Stage, three years at the Senior Basic Stage or pre-secondary and four years at the secondary stage, with a single examination at the end of the secondary stage.

On the recommendation of CABE committee in 1951, the Secondary Education Commission (GOI 1953) was appointed in September 1952, with Dr. A. L. Mudaliar, as its chairman. To make the recommendations more democratic and mass-oriented, opinions of teachers and educational experts were taken into consideration, and for understanding the ground reality, members of the commission visited various parts of India. The commission looked into the shortcomings of secondary education and found education as bookish, mechanical, stereotyped, isolated from life, and examination-oriented. More so, subjects of agricultural-, technical- and commerce-related areas did not find a place in secondary education. It was not considered as a terminal stage of education, rather a preparatory stage for students for entry to the higher educational institutions. The commission also outlined the duration, curriculum framework and medium of instruction to be followed at the secondary level of education. It proposed a national system of education having 11 years of schooling, with five years of primary education, three years of upper primary/middle education and three years of higher secondary education. It also proposed diversification of courses, multi-purpose schools, agriculture education in secondary schools and opening of technical schools in close proximity to appropriate industries. Considering the basic tenets of Constitution, it proposed expansion in the existing system and recommended schools for differently abled children. Following the recommendations of this commission, national system of education of 11 years was implemented. A comprehensive review of education, covering all levels, was undertaken by the Education Commission in 1964 (GOI 1966), culminating in the National Policy on Education (NPE 1968). It advocated a 'common school system' (CSS) serving all sections of society living in a common neighbourhood. It proposed a uniform structure of education, known as National System of Education, entailing a $10 + 2 + 3$ structure, for the entire country. For school education, it stressed on $5 + 3 + 2 + 2$ structure of education consisting of five years of primary, three years of upper primary, two years of high school and two years of higher secondary education. While most of the States have accepted the $10 + 2$ pattern, there are many which have

not yet implemented it. A few States have attached the +2 stage to the tertiary level of education whereas some have made it a terminal stage of school education. In so far as curriculum was concerned, NPE 1968 (GOI 1968) proposed the introduction of undifferentiated curriculum till the secondary level of education, for both boys and girls. Besides, science and mathematics were made compulsory subjects up to high school stage for all children. The Policy recommended changes in the rigid structures of the system and proposed alternatives like multiple entry, part-time education and non-formal education. It suggested the establishment of Board of School Education in each State. To make the system more flexible and widespread, GOI (1968) also recommended school mapping exercise to be done. School mapping was suggested for achieving equity wherein schools would be established for unserved habitations and populations.

By mid-1980s, it was realised that the desired progress had not been achieved in the education sector and the need was felt to revitalise education. Hence, the National Policy on Education (NPE) (GOI 1986) was formulated and adopted in 1986 followed by another document known as 'Programme of Action' (POA) which focused on details of implementation of this policy (GOI 1992). NPE (1986) emphasised the cardinal principle of education being a unique investment in the present and for the future, necessitating all children to be given equal opportunity to receive quality education. It put a new thrust on secondary education, since it was visualised as a link between elementary and higher education and, thus, had forward and backward linkages. The policy recommended implementation of national system of education with a common educational structure of $10 + 2 + 3$. To bridge the rural–urban disparities, it proposed to expand and improve secondary schooling facilities in the rural areas and smaller towns. It proposed special initiatives for improving access and participation of backward social groups. Following this, CABE committee on secondary education 1994 also recommended establishment of schools in unserved areas, Navodaya Vidyalaya for talented children from rural areas, vocational stream at the senior secondary level, etc. After a gap of ten years, CABE committee on 'universalisation of secondary education' in 2005 (GOI 2006) was formulated, which prepared a blueprint for universalisation of secondary education with the realisation that for national development of country, more skilled workforce is required, the Committee proposed universal secondary education that included universal enrolment in the 9th and 10th grades, universal retention, achieving zero drop-out rate and universal performance at a pre-determined level. For expansion in the secondary school system, it suggested a multi-pronged strategy depending upon the specific context and situation. It proposed setting up of new schools in those locations that were devoid of the secondary schooling facility, arranging second shifts in thickly populated areas and upgrading existing elementary schools by adding extra classrooms and other facilities. However, the choice among these alternatives was situational and based on school mapping, at least at the district level and preferably at the block level. It again reiterated that while doing the exercise of school mapping, habitations with SC and ST population should not be discriminated against.

A brief review of the policy pronouncements makes it clear that since the 1950s, the emphasis has been on giving equal opportunity for education to all children.

Significance of secondary education, both for the growth of an individual and for the nation, has been considered important, but for entering secondary education, the student should have completed the elementary level of education. Hence, in the initial years, a greater emphasis was on the provision of elementary education. For this, a number of schematic and programmatic interventions such as Operation Black Board (OBB), Shiksha Karmi Project (SKP), Bihar Education Project (BEP), Mahila Samakhya (MS), Lok Jumbish Project (LJP), District Primary Education Programme (DPEP) and the Sarva Shiksha Abhiyan (SSA), the flagship centrally sponsored scheme in partnership with State Governments, were initiated. The basic aim of all these schemes and programmes was to improve access and participation at the elementary level. This was further strengthened with the enactment of the Right of Children to Free and Compulsory Education Act 2009 (GOI 2010) which provided a legal mandate to provide free and compulsory education to every child in the age group of 6–14 years. As a consequence of this, an increasing number of children enrolled and completed elementary education, creating a demand and need for expansion of secondary education. For this, in 2009, the Rashtriya Madhyamik Shiksha Abhiyan was launched, with a vision of making secondary education of good quality available, accessible and affordable to all young persons in the age group of 15–16 years. The objective of the scheme was to enhance access and improve quality of education at secondary stage while ensuring equity. The scheme envisaged enhancing the enrolment for Classes IX–X by providing a secondary school within a reasonable distance of every habitation, improving quality of education imparted at the secondary level through making all secondary schools conform to prescribed norms, and removal of gender, socio-economic and disability barriers. A renewed emphasis was also given by 58th CABE committee by proposing to review the feasibility of extension of RTE Act, 2009 (GOI 2010) to the secondary level of education. But before we look at the possibility of extension of RTE Act, 2009 (GOI 2010) to secondary education, we need to have a brief overview of the existing scenario and the challenges of secondary education.

3 Status of Secondary Education in India

India is one of those countries where, despite being a fundamental right, elementary Education is still out of reach for many children and universalisation of elementary education (UEE) is still an elusive goal, particularly in the rural areas of backward States (Govinda and Bandyopadhyay 2010). For the development of a strong system of secondary education, much depends on the progress in elementary education. Continuous efforts made for effective implementation of Sarva Shiksha Abhiyan (SSA), as well as enforcement of RTE Act, 2009, have had a significant impact on expansion of schooling facilities and that, in turn, has improved enrolment and participation of children at the elementary level. This progress is also reflected in the transition rate between Grades VIII and IX, which is around 92 percent at present (NIEPA 2015). Despite this high transition rate, secondary education has benefited

Table 1 Per 1000 distribution of persons (aged five years and above) by completed level of education

Level of education	Rural		Urban		Rural + urban	
	Male	Female	Male	Female	Male	Female
Not literate	198	376	90	190	165	320
Literate						
Without schooling	8	6	5	6	7	6
Up to primary	377	336	285	280	349	319
Upper primary	173	130	157	143	168	134
Secondary	118	80	150	133	128	96
Higher secondary	71	45	114	102	85	62
Diploma	11	5	30	14	17	8
Graduation	37	18	126	96	64	42
Post-graduation and above	8	4	43	35	18	14
All (incl. not reported)	1000	1000	1000	1000	1000	1000

Source 71st Round NSSO, GOI 2015b, New Delhi

only a small section of the population. According to the 71st National Sample Survey (GOI 2015b), 12.8 percent males and 9.6 percent females could complete secondary education. For higher secondary education, these percentages have further declined to 8.5 percent for males and 6.2 percent for females. Table 1 highlights this aspect.

The percentage share of people with secondary education has always been higher than those of people with higher secondary education; it has also been higher in case of males than in females, and in urban compared to rural areas. However, there has been a significant improvement in elementary education sector especially under the SSA that considerably reduced the number of 'out of school' children in the 6–14 years age group. This has already set the stage for an exponential demand for secondary education. The recent report (GOI 2015a) informs that, for rural areas, the percentage of children still to be brought within the ambit of school education is 11 and 13 for boys and girls, respectively, in the 6–10 years age group, which marks a significant decline from about 22 and 24% respectively, as recorded in the Census 2011. This might have resulted in increase in enrolment at the secondary level as well.

The improvement in enrolment in secondary schools has been observed much before RMSA was initiated. For example, the MHRD report states, 'while the growth of enrolment in the secondary school had increased at an annual rate of 2.83% during 1990s, it increased at 7.4% per annum between 2000 and 2003' (GoI, 2005–06, p.15). The increase in enrolment has accelerated more in recent years along with improvement in retention and transition from Grade VIII to IX. As the available data suggests, 32 million children (14.6 million boys and 17.4 million girls) were added in secondary/senior secondary schools between the years 2001–01 and 2013–14 (GOI 2015a). Enrolment of girls increased almost threefold compared to a near twofold

increase for boys, indicating that gender parity in enrolment in secondary education has improved since 2000.

Apart from establishing more schools, more concerns have been expressed by different scholars, practitioners and user groups regarding the qualitative expansion of secondary education. As Mukhopadhyay says, 'The greatest pressure in the coming years will be to redefine the role of secondary education consistent with the social and economic objectives of the country' (Mukhopadhyay 1999, 140). This concern is still valid in today's context.

3.1 Access to Secondary Schooling Facility

At the time of Independence, shortage of skilled labour was a major constraint in the achievement of government's development goals. To address this challenge, the State made efforts to improve the access and participation of children. In the earlier post-Independence decades, most of the expansion took place at the primary school level but, in recent years, a renewed emphasis has been accorded to secondary education, in response to high social demand and increased completion rate in elementary level of education. Referring once again to the Secondary Education Commission (1952–53), the report recommended using the optimum size of school and classroom as a criterion to open and run new secondary schools and also to upgrade existing upper primary schools to secondary schools. It proposed that in any class, a minimum of 30 and a maximum of 40 should be enrolled and that total enrolments in a secondary school should average 500, with a maximum of 750 students. However, in subsequent policy documents, this was replaced by distance-based norms to shape expanded access to secondary schooling. In the post-Independence period, the distance-related guidelines for planning secondary school location was determined under the All India Educational Surveys which periodically collected data on the basis of these norms. The Education Commission (1964–66) raised concerns about the uneconomic institutions at secondary level and recommended a working rule to establish a secondary school serving a radius of five to seven miles, with population coverage of 10,000 to 15,000. The Education Commission also emphasised proper planning of secondary school location. Small and uneconomic schools were to be avoided and measures to be taken for their consolidation. Since large class sizes were unavoidable, the Commission fixed an upper limit to the class size, i.e. maximum limit (45) in order to limit the difficulties of teaching large classes (Education Commission 1964–66; 432). Since 1953 till date, several policy documents recommended secondary educational institutes to be available within 5–8 km from the residence of the children, details for which are presented in Table 2.

Equal access to good quality secondary education appears to be a major concern while discussing the issue of improvement of secondary education in India (Biswal 2011; Mehta 2004; Tilak 2001). It has been mentioned earlier that the percentage of people who attained secondary and higher secondary education is much less in the rural area than in the urban area. The situation becomes more alarming if we

Table 2 Norms for establishment of school under different policies/programmes

Policy/programme	Distance norms	Revision recommended
Secondary Education Commission 1952–53	Five miles	30 students per teacher and 40 students per class
First AIES 1957	Five miles	Schools for habitation of 5000
Education Commission 1964–66	Five to seven miles	Upward revision of distance and population limits for new school
Third AISES (1973)	5 km	Undertake Education Commission's recommendation of five to seven miles
Fourth AISES	8 km (five miles)	
NPE (1986), POA (1992)	Planned expansion of secondary education facilities	Expanding access to secondary education by setting up new schools in the under-served areas and by extending and consolidating the existing facilities (POA, p. 44)
CABE (2005)	Distance norm rationalised	Revision of the distance norms in different situations and rationalising it
11th Five Year Plan	5 km	
RMSA 2009	5–8 km	12th five year plan (2012–17), reasonable distance of 5–8 km
12th Five Year plan		Provision of necessary infrastructure and resources in the secondary; and (b) provision of extra support for education of girls, rural children and students belonging to SC/ST, minority and other weaker sections of the society. The interventions, which were supported under RMSA, were (a) upgradation of upper primary schools to secondary school, (b) strengthening of existing secondary school, (c) Additional Classroom, (d) science laboratory with equipment, (e) library, (f) Computer room, (g) art, craft and culture room, (h) toilet blocks and water facility, (i) major repair, and (j) residential quarters for teachers

examine habitation level data provided by NSSO and NCERT. As data indicates, there are still many habitations which have not been provided with any secondary school in nearby areas. As per 8th All India Education Survey (AIES) (NCERT 2009), 88 percent of habitations serving 92 percent of population had a secondary schools within a distance of eight kilometers. It has also reported that, 79.94 percent of rural habitations have secondary schools within five kilometre distance. These habitations cater to around 85 percent of total rural population. These habitations include 8 percent of those habitations that have secondary education facilities within themselves and cater to only 21.35 percent population. Around 84.18 percent SC-dominated and 65.62 percent ST-dominated habitations have secondary education facilities within five kilometres. According to the 71st NSSO (2015b), while 40 percent of rural households had accessibility to secondary schools beyond 2 kilometer of distance, more than 12 percent of rural households, surveyed by NSSO, did not have any secondary schools within five kilometres (Table 3), whereas in the urban areas, such cases were insignificant (less than one percent).

The situation with regard to availability of schools might have improved during the last few years (Fig. 1) as the number of schools has shown an increasing trend though the enrolment has declined during the last one year.

Table 3 Distribution of households (per 1000) by distance, in having secondary schools/sections

Area	$d < 1$ km	1 km $< d < 2$ km	2 km $\leq d < 5$ km	$d \geq 5$ km
Rural	367	236	275	122
Urban	727	187	80	7
Rural + Urban	484	220	211	85

Source 71st NSSO 2015b, New Delhi

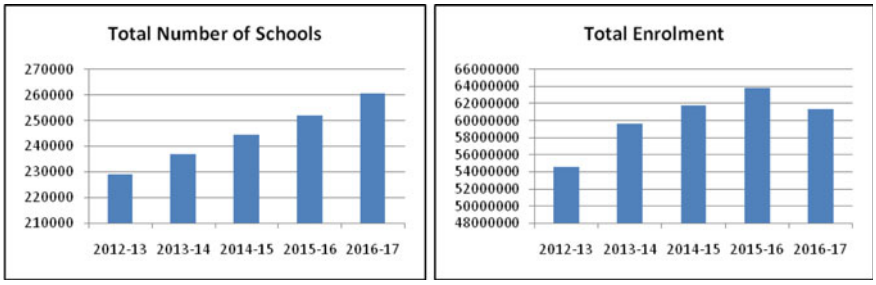


Fig. 1 Trends in number of schools and enrolment of students at secondary and higher secondary level. *Source* U-DISE for various years from 2012–13 to 2016–17, NIEPA 2015, 2018

3.2 Enrolment in Secondary Education

The enrolment at the secondary and higher secondary levels has increased considerably which can be seen with reference to GER and NER during last few years. However, there has been considerable difference between GER and NER at both levels, showing presence of over and under-aged children at these levels (Table 4).

The situation is not very different as mentioned by 71st NSSO (GOI 2015b). As per Table 5, the NAR is much higher in case of boys who belong to 'others' category. NAR declines sharply in case of Muslim students as well.

The secondary education should be of reasonable quality, ensuring success for all those who get an opportunity to access it. Thus, it is necessary to pay equal attention on quantitative and qualitative expansion of secondary education. In this context, it is necessary to see the present status of secondary education in terms of access and participation of students in schools. It is also required to see as to what extent RTE Act, 2009, could help different elementary schools to comply with ten parameters as prescribed by RTE Act, 2009. Out of 1,445,807 elementary schools, around 12 percent schools could comply with all the ten parameters prescribed by RTE Act, 2009 while around 20 percent of the schools could not even comply with seven parameters. It is heartening to see that higher proportion of government schools could comply with ten parameters as compared to private-aided and unaided schools (Table 6).

Under such a situation, one can understand that the elementary education system is quite unequal as all schools are not equipped with essential facilities as mentioned by RTE Act, 2009. After examining a long trajectory of initiatives taken for achieving UEE, an article (Govinda and Mathew 2018, 38) has recently concluded that 'one would hope that the UEE goal gets more intense and consistent attention, building on the measures taken in recent years to consolidate the gains made in creating school infrastructure, improving school functioning and enhancing learning outcomes'. It is the learning outcome at the elementary stage that would matter for success for all elementary graduates at the secondary stage.

It is understandable since the major objective of secondary education is to provide young people adequate skill and knowledge for becoming responsible citizens and productive workers. In addition, it is the stage when the role of schools and teachers

Table 4 Gross and Net Enrolment Ratios at the secondary and higher secondary levels

Year	GER		NER	
	Secondary	Higher secondary	Secondary	Higher secondary
2012–13	68.13	40.76	41.9	23.73
2013–14	76.64	52.21	45.63	30.43
2014–15	78.51	54.21	48.46	32.68
2015–16	80.01	56.16	51.26	32.3

Source U-DISE for various source from 2012–13 to 2015–16, NIEPA

Table 5 Net attendance ratio (%) for different levels of education for social groups

Social/religious group	Primary	Upper primary	Secondary	Higher secondary	Above higher secondary
Male					
Scheduled Tribes	84	63	46	29	8
Scheduled Castes	82	62	46	30	10
Other Backward Classes	83	63	52	39	14
Others	87	69	60	48	18
Female					
Scheduled Tribes	83	61	46	27	6
Scheduled Castes	83	57	52	31	8
Other Backward Classes	82	61	49	37	11
Others	84	69	57	45	16
Persons					
Scheduled Tribes	83	62	46	28	7
Scheduled Castes	82	60	49	30	9
Other Backward Classes	83	62	51	38	12
Others	86	69	58	46	17
Religions					
Hinduism	84	65	54	39	13
Islam	79	55	39	24	7
Christianity	87	70	63	51	18
Sikhism	86	65	55	52	15
Other religions	87	63	71	39	13

Source 71st Round NSSO (GOI 2015b), New Delhi

also assume importance for inculcating values and attitudes that would prepare them for a better future. In view of this, one of the major challenges for policy-makers and implementers is to ensure that secondary education of good quality is accessible to young people within their reach. In a diverse country like India, in addition to physical access, the social access to schooling is also very important and it has been found that socially disadvantaged children, living in remote rural areas, remain deprived of education due to various reasons. One of the major reasons is lack of access to secondary school in nearby areas. Most of the secondary schools are located in the district or block headquarters and towns or cities. The access problem is further accentuated in the difficult areas located in forest, desert, hilly and mountainous regions. Various socio-cultural norms, social discrimination as well as poverty makes it difficult for many students, especially girls and other social groups, to have access to a good quality secondary school.

Table 6 Distribution of elementary schools by management that comply with the 10 RTE parameters: 2014–15 (All India)

Management	X	IX	VIII	VII	VI	V	IV	III	II	I	Zero	Total ($n = 100$)
All Govt.	13.92	23.27	24.86	18.82	10.79	4.96	1.95	0.72	0.32	0.26	0.13	1,075,036
Govt.-aided	7.01	20.30	30.86	21.07	10.59	5.14	3.01	1.37	0.55	0.11	0.01	66,454
Pvt.-unaided	7.57	23.71	30.53	21.10	10.42	4.21	1.54	0.58	0.22	0.09	0.04	268,014
Other	13.92	30.40	29.22	14.89	8.34	2.56	0.41	0.15	0.05	0.00	0.05	1954
Unrecognised	2.49	11.79	18.57	15.58	11.87	9.08	8.82	8.70	10.31	2.36	0.45	24,852
MR + MUNC	3.02	9.28	17.71	23.00	19.23	15.25	7.69	3.00	1.27	0.45	0.09	12,764
NR	50.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	4
Total	12.14	22.90	26.02	19.32	10.80	4.99	2.09	0.88	0.49	0.26	0.11	1,449,078

Note All Govt. = (DOE = Department of Education, TWD = Tribal Social Welfare Department, LB = local body and CG = central government), Govt.-aided = (GA = government-aided/Pvt.-aided), Pvt.-unaided = (PU = private-unaided), other = (OTH = other), unrecognised = (UNG = unrecognised), MR + MUNC = (MR = Madarsa recognised, MUNC = Madarsa unrecognised), NR = (NR = no response)
Source Compiled from U-DISE, 2015–16, NIEPA

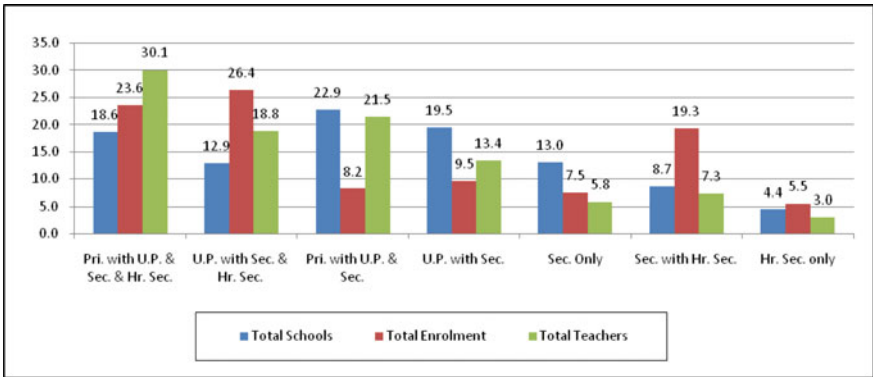


Fig. 2 Proportion of different types of schools, enrolment and teachers (2016–17). *Source* U-DISE, 2016–17, NIEPA

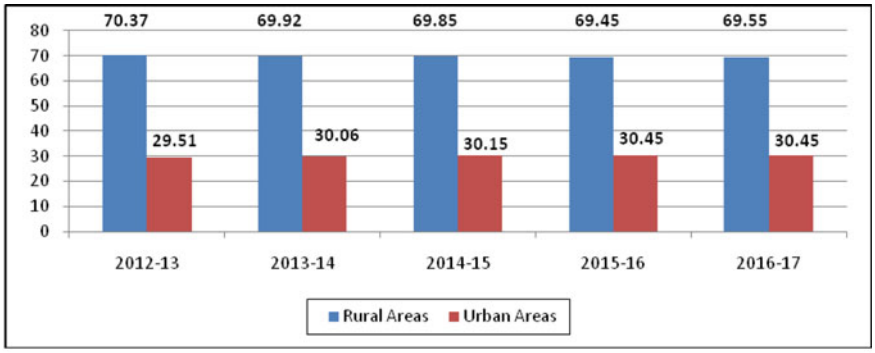
It has also been found that some children who get enrolled in primary classes do not transit to secondary schools even if they are located in nearby areas because most of the children who study in government schools need to take re-admission after completion of the elementary education. It is simply because majority of government elementary and secondary schools, being stand-alone schools and function independently. U-DISE has provided data on different types of schools and it has been found that some secondary and higher secondary schools are functioning as stand-alone and some are integrated with other levels, i.e. primary, elementary, upper primary, known as composite schools (Fig. 2).

In addition to DISE, RMSA has provided more schooling space in recent years along with repairing existing one. As mentioned on the RMSA website (GOI, MHRD 2016a, b) '10,513 new secondary schools have been approved under the Scheme, out of which 9239 new secondary schools have been made functional. Strengthening of 35,539 existing schools has also been approved under RMSA scheme…. With regard to teachers, 107,480 teachers (including 41,507 additional teachers) have been sanctioned for secondary schools, out of which 59,353 teachers have been appointed'.

It has also been found that a large number of schools have been opened in rural as well as urban areas. Both rural and urban areas have witnessed a considerable increase in the number of enrolment. While 31 percent of total secondary schools (Fig. 3a) are located in urban areas, in case of enrolment, this percentage share increases to around 35 percent (Fig. 3b) in 2015–16.

There is a considerable difference in types of schools that are providing education at the secondary and higher secondary levels in rural and urban areas. While a majority of schools in rural areas have upper primary and secondary grades, in urban areas, the highest proportion of schools are of the composite type which starts from primary grades and continues till higher secondary level, thus ensuring completion of education of learners who enter primary grades. The demand for integrated or composite schools is also found in the rural area as the highest proportion of total

A)



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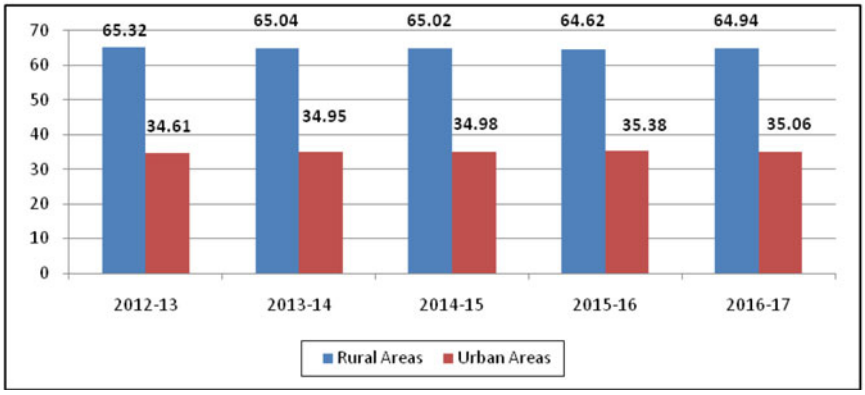


Fig. 3 Area-wise proportion of schools and enrolment. **a** Schools in rural and urban area. *Source* State Report Card, U-DISE, 2016–17, NIEPA (2018) **b** Enrolment in rural and urban area. *Source* State Report Card, U-DISE, 2016–17, NIEPA

enrolment (30 percent) is found in schools providing education from upper primary till higher secondary though the proportion of such schools is only 15 percent in the rural area. It is important, in this context, to upgrade existing elementary schools rather than opening new secondary schools for expansion of secondary education.

3.3 Enrolment by Management

It is also noteworthy that, despite an increase in the number of schools, the percentage share of government schools is still higher as compared to private-aided and unaided schools at both levels. The number of students attending secondary education has

been around 3.83 crores, whereas it has been around 2.35 crores at the higher secondary level. As the level of education increases, a decreasing trend has been found in the proportion of enrolment in government-run schools during the last one year. Despite the high proportion of private schools, the role of government schools still remains important as the proportion of government schools (Table 7) is much higher than private schools.

The 71st Round NSSO, based on the data of 2,737,140 respondents, could reveal that 2.95 lakh or 15 percent students in the rural area and 73,200 or 9 percent in the urban area were attending the government schools, indicating government still remains main provider of schools. In addition to management-wise distribution, it is also necessary to see the extent of availability of different streams (Table 8) or disciplines in secondary and higher secondary schools and who are choosing which stream. It has been found that some schools also diversify at the Grades IX–X, though the majority of schools provide stream-wise educational facilities for higher secondary grades (XI–XII). The proportion of schools providing science and commerce is much less than those providing humanities, thus limiting the choice of students and their preference for higher education. It is also noteworthy that, except in humanities, the proportion of girls has been lower than boys in all other streams.

Table 7 Availability of schools and enrolment at secondary and higher secondary level (in %) by management

	Year	All Govt.	Pvt. aided	Pvt. unaided	Unrecognised	All Madarsa	Total schools
Schools	*Secondary level*						
	2014–15	42.77	16.68	38.84	1.06	0.63	233,517
	2015–16	42.26	16.58	39.48	1.17	0.51	239,148
	Higher secondary level						
	2014–15	39.86	16.72	42.07	0.50	0.85	109,318
	2015–16	40.60	16.68	41.43	0.71	0.58	112,637
Enrolment	*Secondary level*						
	2014–15	44.16	22.12	32.52	0.53	0.67	38,301,599
	2015–16	44.43	21.44	32.95	0.58	0.60	39,145,052
	Higher secondary level						
	2014–15	35.34	24.85	38.71	0.33	0.76	23,501,798
	2015–16	35.74	24.97	38.43	0.41	0.44	24,735,397

Source Secondary Education in India: Flash Statistics: 2014–15 & 2015–16, U-DISE, NUEPA (2016); NIEPA (2018)

Table 8 Percentage of schools by availability of streams and enrolment by stream (2015–16)

Streams	Percentage of schools by Availability of stream (2015–16)[a]		Enrolment by stream at higher secondary level			
			2015–16		2016–17	
	Secondary	Higher secondary	Boys	Girls	Boys	Girls
Arts	26.86	62.17	48.30	51.70	48.11	51.89
Science	20.23	48.55	57.44	42.56	57.63	42.37
Commerce	13.41	31.87	54.11	45.89	53.43	46.57
Vocational	2.81	6.59	60.88	39.12	50.00	50.00
Other streams	1.44	3.08	54.99	45.01	74.33	25.67

Source Secondary Education in India: Flash Statistics, U-DISE: 2015–16, NIEPA
[a]Data not available for 2016–17

3.4 Gender and Grade-Wise Enrolment

The data provided by U-DISE for the last four years indicates that there has been a substantial increase in the number of enrolment of boys as well as girls though enrolment of boys is found higher than girls at both secondary and higher secondary levels. For example, in the last two years, despite a slight increase in enrolment of boys and girls, the proportion has remained almost the same. While around 52 percent of total enrolment is for boys, it is around 47 percent for girls having a difference of five percentage points (Fig. 4). However, there has been considerable improvement in enrolment, especially of girls, resulting in considerable reduction in gender gap in Gross Enrolment Ratio during last ten years (Fig. 5).

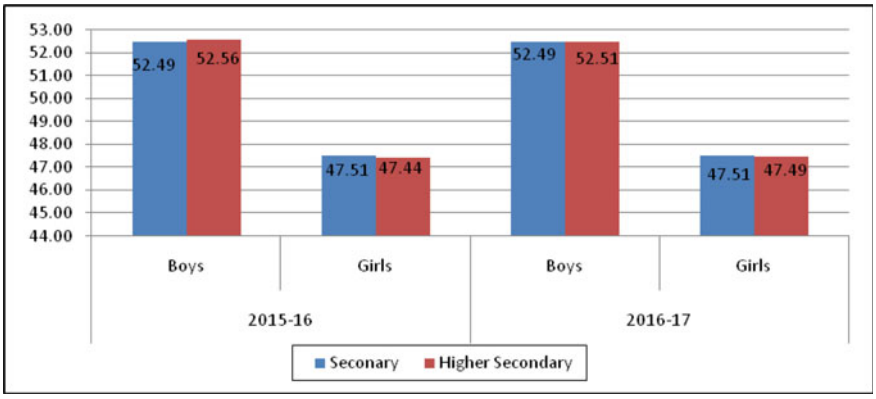
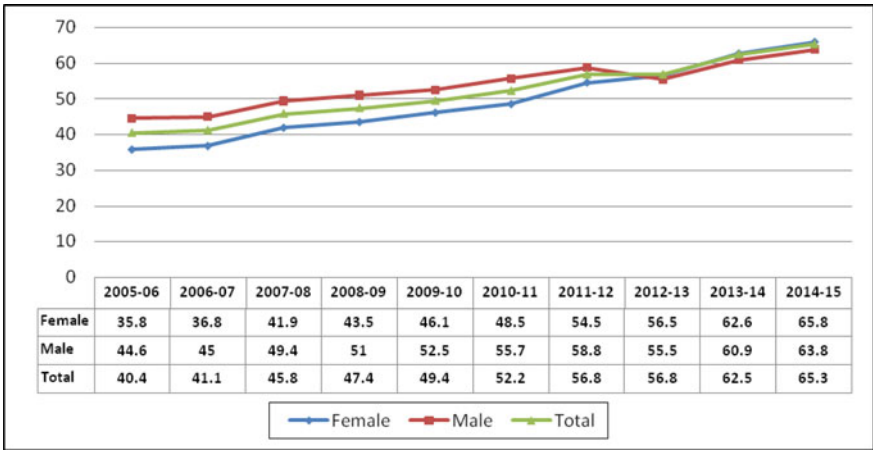


Fig. 4 Percentage distribution of enrolment by level of education and gender. *Source* State Report Card: 2015–16 & 2016–17, U-DISE, NIEPA



	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Female	35.8	36.8	41.9	43.5	46.1	48.5	54.5	56.5	62.6	65.8
Male	44.6	45	49.4	51	52.5	55.7	58.8	55.5	60.9	63.8
Total	40.4	41.1	45.8	47.4	49.4	52.2	56.8	56.8	62.5	65.3

Fig. 5 Trends in gross enrolment ratio for Class IX–XII (14–17 years) by gender. *Source* Educational Statistics at Glance, MHRD, 2016

3.5 Inter-state Variations in Enrolment

U-DISE data also indicates that there are 11 States (Fig. 6) where the proportion of enrolment is high in schools run by private agencies as compared to government-run schools. Maharashtra is the State having the lowest proportion of enrolment (2.9%) in government schools and the highest proportion of enrolment (80.2%) in private-aided schools. It is also noticeable that Nagaland has the highest proportion of enrolment (75.2%) in schools managed by private agencies followed by Telangana (73.3%), while the percentage share of enrolment in government higher secondary schools in these States is around 25%.

While the above analysis reveals that there has been an increase in schools and enrolment at the secondary and higher secondary level, but it is the private-unaided

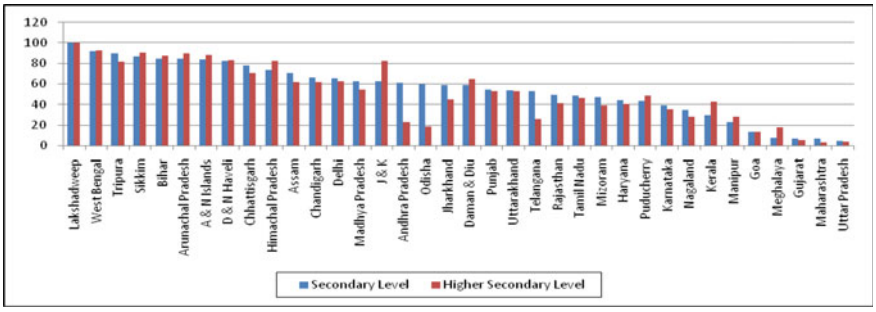


Fig. 6 State-wise enrolment in all government schools at secondary and higher secondary levels (%): 2015–16. *Source* Flash Statistics: 2015–16, DISE, NIEPA

schools which observed higher enrolment during last one year. At the same time, it has been found that many secondary schools are functioning with fewer students, with considerable bearing on quality of education in these schools. A recent study (Ojha 2016) on secondary education has revealed that although a large number of schools opened during last few years, around 65% of these newly opened secondary schools had fewer than 150 students in 2013–14. The percentage of small government schools declined marginally between 2009–10 and 2013–14. There has also been a marginal increase in the percentage of districts with high concentration of small schools between 2009 and 2013.

3.6 Is Access to education Equitable?

In view of gender and locational disparity in enrolment mentioned earlier, one can understand that the children from disadvantaged families, especially girls, are not being able to attend the secondary and higher secondary schools due to different reasons. One of the reasons behind this may be the non-availability of secondary and higher secondary schools near their residence, particularly in rural and remote areas. The coverage of secondary education within walking distance becomes more critical in the context of promoting the equity aspect, satisfying specific needs of girls, SCs, STs, other disadvantaged groups and physically challenged students. It has already been mentioned that, As per the NCERT survey of 2009, around 20 percent of ST-dominated and 6 percent of SC-dominated habitations still do not have secondary schools within eight kilometres and it may jeopardise the equity in access to secondary education. The caste-wise distribution of students indicates that the proportion of disadvantaged group is lower in case of higher secondary level (Fig. 7).

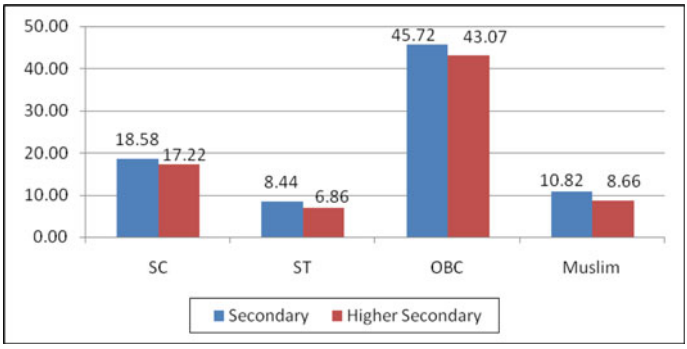


Fig. 7 Percentage distribution of enrolment by social category in 2016–17. *Source* State Report Cards: Secondary Education, U-DISE, 2016–17, NIEPA

Table 9 Percentage distribution of Children with special needs in 2014–15 to 2016–17

CWSN	Secondary level			Higher secondary level		
	2014–15	2015–16	2016–17	2014–15	2015–16	2016–17
Percentage CWSN to total CWSN	8.45	13.02	0.14	2.35	3.63	0.04
Percentage CWSN to total enrolment	0.57	0.56	0.56	0.26	0.25	0.28

Source State Report Card: Secondary Education, U-DISE: 2014–15 to 2016–17, NIEPA

From the above data, it may be seen that although the demand for secondary education has increased over a period of time and is being reflected in the increase of enrolment at this stage, the distribution of schools providing secondary and higher secondary education has been quite inadequate and uneven. Apart from the social group, there has also been a slight improvement in case of proportion of children with special needs (CWSN) that has been given in the following Table 9.

However, in spite of the increase in enrolment of CWSN students, around 30% schools are still devoid of a ramp and merely 20% schools have CWSN-friendly toilets.

3.7 Quality of Secondary Education

Improvement in the quality of secondary education has remained a matter of concern in each policy document because expansion without quality has no meaning. According to the Mudaliar Commission (GoI 1953, 10), 'The special function of the secondary school is to train persons who will be able to assume the responsibility of leadership in the social, political, industrial and cultural fields in their own small groups or community or locality'. It is needless to say, the commission has indicated the need to establish a strong secondary system with a balance between quality and quantity. Moreover, with emerging pressure from elementary education, the concerns for expansion and quality in secondary education are expected to gain further momentum in the near future. One of the major reasons for the poor quality of education is lack of adequate infrastructure facilities in many schools run by the government.

3.8 Availability of Infrastructure Facilities

Availability of adequate and essential physical and academic facilities in the schools is a crucial factor for ensuring the quality of education provided in school. A comfortable, hygienic and safe school can ensure a suitable environment that can promote

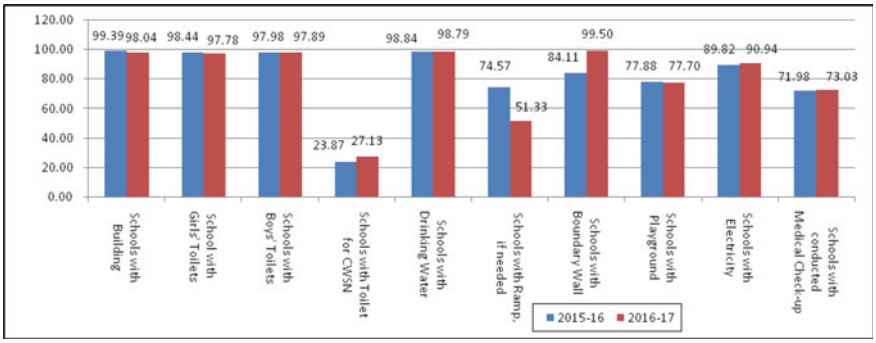


Fig. 8 Percentage of Schools with different physical infrastructure facilities. *Source* U-DISE, 2016–17, NIEPA

an active participation of teachers and taught as well as can facilitate an effective teaching–learning process in the classroom. The current scenario of availability of facilities in the country can be assessed with the help of 2015–16 data. Although the majority of schools are now provided with basic facilities like building, road, drinking water and toilets, they are still devoid of the facilities like computer, playground, etc. (Fig. 8).

3.9 Availability of Teachers

The number of teachers at the secondary level has shown a considerable decline from around 14.1 lakh in 2013–14 to 12.9 lakh in 2014–15, while at the higher secondary level, a slight increase by 4283 teachers has been found during the last one year. There was a slight increase in the proportion of teachers working in private-unaided schools. According to U-DISE, 2015–16, the total number of teachers was 2,074,713 (20.7 lakh). In 2015–16, the majority of teachers were found qualified as well as trained (86%). Majority of teachers were post-graduate (53.5%) and graduate (36.8%) with around 71% of trained teachers possessing B.Ed. degree (Fig. 9 and Table 10).

Despite the increase in numbers, as discussed above, a few States face the crisis of teachers. Teacher absenteeism is a continuous problem and many students experience the negative attitude of teachers. In addition, indifferent teaching, based on a belief that a certain section of children is not educable, may turn out to be as impairing for educational attainment of students as teacher shortage or absenteeism (Majumdar 2001). In view of the presence of a large number of first-generation learners in government secondary schools, improvement in quality of teaching–learning process is absolutely necessary.

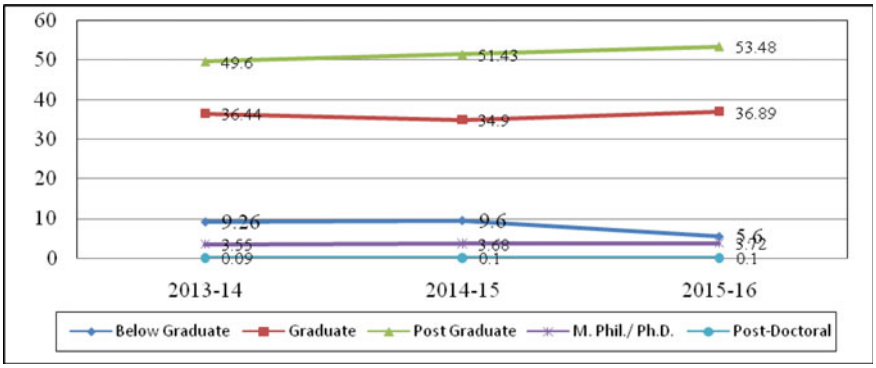


Fig. 9 Trends in availability of teachers by academic qualification (in %). *Source* U-DISE, 2015–16, NIEPA

Table 10 Distribution of Teachers by professional qualification (in %)

Professional qualification	2013–14	2014–15	2015–16
2 years basic teacher training	4.17	4.05	3.94
B.Ed./B.EI. Ed.	69.51	70.39	71.39
M.Ed. or equivalent	5.72	5.86	5.57
Other	4.15	4.15	4.15
Dip./degree in special education	1.31	1.42	1.35
No response	15.14	14.13	13.62
Total (number)	1,929,949	2,003,421	2,074,713

Source U-DISE, Different years from 2013–16, NIEPA 2015, 2018

3.10 Learning Outcomes and Drop-Outs

Quality of education is most often related with the result of an examination. The data on secondary and higher secondary examinations suggests that there has been a significant increase in the number of students who appeared in higher secondary examination over the period. The secondary education system is so huge that can be seen from the number of students who appeared for secondary and higher secondary examination. While 76 lakh boys and 68.32 lakh girls appeared for secondary examination during 2015–16, the number of such students reduced substantially for higher secondary examination and 49.5 lakh boys and 44 lakh girls appeared for this examination in same year.

In addition to the performance of students in examinations, some other indicators like promotion rate, repetition rate and transition rate also indicate the overall

academic performance of students and their participation. The data shows that promotion rate of Grade IX students has substantially reduced during last one year and, while around 90 percent students could be promoted to Grade X in 2015–16, their proportion declined to 87.5 percent in 2016–17 (NIEPA 2018). The promotion rate is still less than 70 percent for Grade X students which is a matter of concern because a large number of Grade X students could not perform well in their board examination and some of them might have dropped out at this stage after spending ten years in schools. The recent data (NIEPA 2018) suggests that altogether 78.7 percent students could pass their secondary examination conducted by different boards in 2015–16 out of around 13.8 lakh students who appeared for this examination. It is also disheartening to see that around 31 percent students dropped out at the same time after spending ten years in school. It is also noticeable that the transition rate from elementary to secondary level was around 90 percent in 2016–17 though it declined to around 66 percent in case of transition from secondary to higher secondary grade.

While enrolment at the secondary and higher secondary stage increased at a faster rate even for girls and socially disadvantaged groups, at the same time, it has been observed that many children have dropped out of school and did not even reach the higher stage of school education. It has been found that around 18% students had to drop out at the secondary stage. Grade-wise drop-out shows very high drop-out rate in case of Grade X which is almost same since the last three years and stands at around 31% in 2016–17. It is to be noted that, around 20 percent at the secondary stage and around 6 percent at the higher secondary stage dropped out in 2016–17 (NIEPA 2018). There is also an increase in drop-out of Grade IX children as it has increased from 2.44% in 2013–14 to 7.11% in 2015–16 (Table 11) and further increased to 9.48 percent in 2016–17 (NIEPA 2018). The drop-out rates of SC and ST have both increased substantially at the secondary level during the last three years.

The drop-out rates by social groups (Table 12) indicate that girls from STs and Muslim minority groups are in most disadvantaged groups.

In addition to drop-out, the low transition rate from secondary to higher secondary level also indicates that all children who manage to complete secondary education do not transit to the next level and large proportion of children remain deprived of senior secondary school education. It has been mentioned earlier that, on an average, around 30% students could not transit to higher secondary level after completing ten years of schooling.

Table 11 Drop-out rate in different education levels among Scheduled Castes and Scheduled Tribes

Levels	2012–13		2013–14		2014–15	
	SC	ST	SC	ST	SC	ST
Primary level	6.13	8.44	6.10	10.56	4.46	6.93
Upper primary level	4.65	7.86	6.61	11.13	5.51	8.59
Secondary level	15.92	22.27	20.89	29.79	19.36	24.68
Hr. secondary level	–	0.07	4.70	7.32	3.22	–

Source Flash Statistics U-DISE, NIEPA, 2016, 2018

Table 12 Annual average drop-out rates by castes in 2014–15

Castes	Secondary			Higher secondary		
	Boys	Girls	Total	Boys	Girls	Total
Scheduled castes (SC)	19.64	19.05	19.36	3.34	3.09	3.22
Scheduled tribes (ST)	24.94	24.40	24.88	3.09	2.77	2.94
Other backward Class (OBC)	17.35	16.72	17.05	–	0.35	–
Muslim	24.71	23.58	24.12	8.55	6.29	7.40

Source U-DISE, 2014–15, NIEPA, 2016

This implies the education system needs to improve access and create schooling facilities for those children who graduated from elementary to secondary level of education. The foregone analysis hints at improvement in schooling facilities at secondary and higher secondary levels of education along with steady increase in enrolment. Though we have made a great breakthrough in improving the schooling facilities, enhancing the learning outcome of all students still remains a major area of concern. The following section dwells upon the challenges in up-scaling secondary education.

4 Challenges and Prospects

The previous section highlighted the phenomenal growth in both elementary and secondary education in India while, at the same time, emphasising the fact that the demand for secondary education depends on internal efficiency of elementary cycle. The indicators of secondary education such as providing physical access to school, high drop-out rates in the 9th standard and high transition rates pose a difficult picture for Government of India's commitment to universalisation of secondary education. Hence, in the context of extension of RTE 2009 to secondary education, it is imperative to first look at the immediate challenges that secondary education faces. These challenges need to be addressed in the near future as the success of universal secondary education depends upon improving the internal efficiency of the existing education system.

4.1 Expanding Access with a Focus on Equity

The expansion of secondary schools depends primarily on the success of completion of elementary level of education. For estimating the future requirement of schools and teachers at secondary education level, information needs to be collected on-attendance rate of children, promotion, repetition and drop-out rates at lower secondary level, survival rate (the proportion of students entering lower secondary

education who complete it later), number of habitations without schooling facilities, as per national or State norms, and number of habitations predominantly inhabited by SCs, STs, religious minorities like Muslims or other disadvantaged group deprived of secondary schooling facility. In order to promote equity, it is required to address diverse needs of children, including those who are first generation learners coming from poor households. It will be worthwhile to provide composite secondary schools rather than 'stand-alone' secondary schools and to provide residential schools in remote rural areas with modern facilities of IT and vocational education. The expansion of secondary schools needs to be prioritised in unserved areas so as to reach the hardest-to-reach groups. In the 12th Five year Plan, it was proposed to open schools in unserved and hard-to-reach areas as a priority. In these areas, procuring land is not a constraint. Other than this, second-shift schools in urban slums and thickly populated areas were identified as a possible option to increase capacity of intake in secondary schools (GoI 2013,12th FYP, Chapter 21). RMSA also proposed relaxation in norms for opening new secondary school (GOI, RMSA-TCA 2015d).

- In case of special disadvantaged groups, such as SCs, STs, minorities, Left Wing Extremist and Educational Backward Blocks, non-availability of high school facility within five-kilometre distance and at least 50 children to be enrolled in Class 8 of feeder Upper Primary Schools within catchment area for providing two-section schools;
- In case of difficult geographical terrain, e.g. hilly/river (natural/physical barriers), non-availability of school within three-kilometre distance and at least 50 and 25 children to be enrolled in Class 8 of feeder UPSs within catchment area to provide two-section and one-section school, respectively;
- In case of special situations, e.g. difficult terrain and low density of populated in States like Himachal Pradesh, Jammu & Kashmir, Uttarakhand and North-East Region and international border areas, school specific/habitation specific barriers need to be taken into account.

4.2 Consolidation of Small Schools

To improve the schooling facility, especially for the disadvantaged children and in geographically difficult terrain, new schools are being established and this has resulted in an increase in small secondary schools (those with enrolment below 150 in Grades 9 and 10). Study conducted by TCA in 2015 observed that schools with less than 150 students in Grades 9 and 10 make up more than 70 percent of all schools in more than 20 States. It has also been found that schools with enrolments below 100 have on average, pupil–teacher ratios of only 8:1. Many of the schools, opened since 2011, are small, with 35 percent of them having below 25 students. Reflecting on the physical facilities, the study revealed that only 2 percent of the small government schools had a science laboratory, computer laboratory, library and functional computer (GOI, RMSA-TCA 2015d). It becomes difficult for the schools to appoint subject-specific teachers and also offer range of curriculum options to children (GOI,

RMSA, Fifth Joint Review Mission 2015c). Govinda and Mathew (2014) observed that this sub-optimal academic support will have an adverse impact on the learning and such small schools are socially undesirable. The issue is whether this practice of opening schools should continue with a compromise on quality of services to be provided? The challenge is to ensure equal opportunity of quality education for all the children. For this, school mapping exercise needs to be undertaken in a more systematic and scientific way to avoid wastage of resources (both human and financial). States need to find context-specific solutions like opening of residential schools or arranging transport services for children.

4.3 Improving Internal Efficiency of Elementary Education and Transition to Secondary Level

Poor academic performance and disinterest in education are among the significant causes of children discontinuing their studies. Though the transition rate from elementary to secondary level has improved considerably but still large proportion of children admitted in 9th standard leave the school before reaching 10th standard. Achievement survey, conducted by NCERT, and the ASER reports, clearly indicate that the learning deficit starts at the primary level and performance of students show declining trends as they progress from one grade to the next. Teachers play a significant role in improving the learning level of students. They need to continuously upgrade their knowledge and be given opportunities for professional growth. They need to be lifelong learners if they want their students to succeed.

4.4 Improving Broad Base Participation Through Demand Generation

As stated earlier, secondary education is essential for social and income mobility. All children eligible for secondary education may be given equal opportunity, irrespective of gender, caste, religion or spatial location. It is also required that children with special needs, of different **c**ultural and linguistic background should be included in the system without any discrimination. This is also an important strategy for ensuring equality in Indian classrooms. For example, at present, almost 40 percent of secondary schools are private-unaided schools whose clientele belong to a better economic class. This means that children studying in such schools are devoid of any experience of knowing children of different social classes and diverse cultural backgrounds. Such school cultures can never inculcate a sense of equality or social justice among their students or even foster an appreciation of the composite culture and plural character of India. This anomaly can be addressed only by including the

private-unaided schools in a common school system as recommended by the Education Commission (GOI 1966). If this is put into place, all types of schools, including private-unaided schools, will also contribute towards universalisation of secondary education by ensuring adequate space for children from under-privileged society as well as children below poverty lines. Participation could be increased by generating awareness among the people on importance of secondary education and extending incentives like provision of free text books, uniform, and scholarships to those who belong to economically weaker sections.

4.5 Vocationalisation of Secondary Education

Vocationalisation of secondary education (GOI 2014) provides diversification of educational opportunities. Several commissions and committees have highlighted the need for diversification of educational curriculum so as to enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and meet the requirements mainly of the unorganised sector. After long decades of trial and error, vocational education has been introduced in school education in an organised manner. Scheme of National Vocational Education Qualification Framework seeks to integrate general academic education, vocational education, vocational training and higher education as a comprehensive system. The specific objectives of the scheme are to enhance the employability of youth through demand-driven competency-based modular vocational courses; to maintain their competitiveness through provisions of multi-entry multi-exit learning opportunities and vertical mobility/inter-changeability in qualifications; to fill the gap between educated and employable; and to reduce the drop-out rate at the secondary level and decrease the pressure on academic higher education. Appreciably, in close coordination with organisations having domain-expertise, trades and matching skill-levels have been identified pragmatically. Under the scheme, vocational education is provided from ninth standard onwards. This may be useful for inculcating relevant skills in the youth and facilitate their getting better job opportunities. This also takes into account the diverse learning needs of children and caters to their specific requirements. The challenge is to provide for infrastructure, material, equipment and teachers in the specialised vocational skills in each school.

The foregone sections have presented the existing scenario of education at the elementary and secondary level and highlighted the existing challenges of secondary education which can be useful for examining the possibility of extension of RTE 2009 Act (GOI 2010) to secondary education. The ensuing section would discuss the preparation needed before RTE Act, 2009 (GOI 2010) is extended further to secondary education.

4.6 Preparation Required for Extension of RTE Act, 2009 to Secondary Education

Since the extension of RTE Act to secondary education is expected to result in rapid expansion of secondary education by opening private as well as government schools, this may jeopardise the equity in enrolment and participation of children. Along with equity issues, diversity in composition of students will also become a pressing issue as demand for secondary education from socially disadvantaged and economically weaker sectors will increase in the coming years, making it imperative to provide quality education to all these children.

Extension of RTE 2009 Act (GOI 2010) to secondary education is a gigantic task, requiring a comprehensive systemic perspective, wherein efforts need to be put across different focus areas. The points identified below provide an overview of focus areas that can be taken together to develop a framework for the preparation required to extend RTE 2009 Act (GOI 2010) to secondary education.

4.7 Assessing the Magnitude and Demand

The first step is to collect data from Central and State Governments on various aspects to ascertain current status of secondary education. Information needs to be gathered on several aspects such as: Demographic-Current Population of 14–16 and 16–18 years of age groups and projections for another ten years; number of school places required (Government, private); teacher requirement; current patterns of financing by States; norms adopted under RMSA; per student expenditure at the secondary level; evaluation and assessment method and practices adopted by State Boards/CBSE/ICSE. Further, detailed deliberations are required on four dimensions—(i) Assessment of existing infrastructure, coverage of age of children in secondary education (15–16 or 15–18) and duration of secondary education (IX–X or IX–XII), (ii) appointment of additional teachers as per new PTR norm, which would be fixed if RTE is extended, (iii) having consultations with all partners like State governments (on various issues like the norms of opening school, school infrastructure, teacher recruitment etc.), NCERT on curriculum and NCTE for qualification of teacher appointment, Teacher Eligibility Test, teacher training institute, role and regulatory mechanism of the private sector, (iv) sharing of financial responsibility between the Centre and the States (drawn from the discussion points during the meeting of Sub-committee on Extension of RTE 2009 to Secondary education), (v) consultation with the private sector providers to avoid the dual enrolment and their role in the provision of secondary school facilities.

4.8 How to Ensure Quality in Education

Quality in education depends not only on the provision of basic physical and academic facilities like school building, laboratory, library, adequate number of teachers, etc. but also on the quality of teachers, classroom transactions and achievement of required learning competency by students. There is need to make adequate preparation for improving the quality in education and, for this, curriculum reforms need to be introduced. Capacity building of teachers and principals should be a continuous process.

4.9 Curriculum Reforms

Educating young people for a changing world requires that the type of educational experience, currently available, corresponds to the economic, social and civic needs of the individual and society. In India, the relevance and low quality of secondary education is a matter of serious concern. Secondary education curriculum should reflect the dynamic connection between quality in education and a productive economy. Diversification of the curriculum content to ensure quality and greater relevance which responds to the needs of the individual, community and society at large for sustainable growth and poverty reduction, is required. The greatest challenge before the educational planners at the secondary level is to provide adequate teachers and physical facilities, make curriculum relevant to children and relate it to their life experience and adopt innovative instructional methods. Several studies such as Conn (2017) and Aker et al. (2012), suggest that more engaging pedagogical approaches are beneficial for better academic outcomes for students. It is not sufficient to provide the technical information to children but curriculum should also entail life skills that equip students with better decision-making both at the academic and personal levels. Thus, school-based curricula or pedagogical approaches that emphasise skills needed by employers and communities, such as problem-solving, critical thinking, negotiation and communication skills, so as to be effective team members, needs to be appropriately included in the curriculum.

4.10 Capacity Building of Teachers and School Heads

To be abreast with the new developments, the educational personnel need to remain updated and for this in-service training is an important pre-requisite. India, being a big country with huge number of educational personnel employed, the capacity building of teachers and school heads is a herculean task. With the expansion of secondary schools, this number will also grow. At the secondary level, multiple complex issues are involved in capacity building of teachers such as diversity of subjects, dealing

with adolescents of different socio-economic backgrounds, medium of instruction, use of innovative curriculum transaction methods, etc. Hence, the capacity building programmes will have to factor in all these challenges.

4.11 Introducing Monitoring and Regulatory Bodies

To improve the quality of education, apart from the Education Boards which does certification and selection, like higher education system, there is a need of an 'institution or a body' for undertaking evaluation and research of schools on a regular and systematic basis. This type of institution would provide feedback to policy-makers, planners, school administrators and other stakeholders. In addition, it would be responsible for the impact evaluation of the schemes and programmes launched by Central or State governments, tracking progress of students over a period of time, conducting systematic and comprehensive educational research in curriculum relevance, transaction, teacher education etc.

4.12 Strengthening Educational Management Information System

The CABE committee on universal secondary education 2005 (GOI 2005) recommended that the expansion of supply provisions at secondary level has to be situational and, hence, should be based on mapping of educational facilities (plotting of schools, course mapping, mapping of physical and ancillary facilities, teachers and other related facilities etc.). Such exercises need to be done at block level or may be even at the cluster (of villages) level. However, in order to initiate a comprehensive school mapping exercise at secondary and higher secondary level, it is necessary to develop a reliable data base. Besides, reliable and timely availability of data is one of the significant pre-conditions for effective planning and management of any level of education, including the secondary level. Data will help in determining the future requirements of new schools, additional classrooms and teachers.

4.13 Exploring the Possibility of Public–Private Partnership

As has been stated earlier, the private sector plays a significant role at the secondary level and, therefore, wider consultations are required with the private management on their future role and responsibilities. Government may encourage private providers by providing them essential facilities needed for the smooth functioning of the school, with the condition that they would also cater to the children of poor socio-economic

backgrounds. Voucher system is another experiment that could be tried on a sample basis to meet the increased demand of secondary education.

4.14 Increasing Public Investment

Although the expenditure on education has shown a continuous upward trend since Independence, it is still grossly inadequate. Hence, to meet the increasing demand of the aspiring youths, more resources need to be allocated to this sector. Additional resources are needed for opening of secondary schools, providing infrastructural and physical facilities like building, laboratories, library, recruitment of teachers, salaries of the teachers, supervisors, administrative staff, etc. Detailed estimate of fund requirement needs to be made and the share of Centre and State needs to be worked out.

4.15 Divergent Viewpoints

One of the important parameters for the planning of universal secondary education is environment-building and generating public opinion in favour of universalisation of secondary education. The debate on extension of RTE 2009 to secondary education is divided. On the one hand, a group of scholars and practitioners, with a myopic vision, question the wisdom of universal secondary education when universal elementary education has not yet been achieved. It is argued by them that before extending RTE Act, 2009 to secondary education, implementation of existing RTE needs to be stabilised and consolidated. The other dominant view is that a legal binding would be useful for allocation of resources. The proponents of this view argue that given the emerging scenario in a globalised world and the determination of Indian government to emerge as an important global player, it is necessary to take a quantum jump rather than adopting incremental growth through piecemeal social engineering mechanism. This is, particularly, necessary to ensure participation of girls, Scheduled Castes and Scheduled Tribes, adolescents and youth, adolescents and youth with physical and mental disabilities, and prospective students from the poorer community. Wider consultations are required with the States on issues related to teacher status, school management, public-private partnership and the kind of administrative, financial and governance reforms needed for the purpose. Without involving all and each of them, universal secondary education will remain another dream.

5 Conclusion

This paper began with charting the development of secondary education in India through an analysis of national policy documents. Ever since the inception of national thinking on the importance of secondary education, it was regarded as both a terminal and a preparatory stage for the youth. Hence, its significance was emphasised as a critical contribution to both educational development as well as national economic growth. With greater focus on universalisation of elementary education till recently, secondary education failed to gather momentum until the launch of Rashtriya Madhyamik Shiksha Abhiyan in 2010. National policy focus, combined with issues flagged by researches done by World Bank and RMSA-TCA, once again brought forward the key role of secondary education in the context of twenty-first century skills.

Despite secondary education lagging behind on key indicators, the sub-committee for extension of RTE Act, 2009 to secondary education even suggested bringing this level of education into the purview of right to free and compulsory education. However, the challenges for making secondary education free and compulsory are many, the primary one being improving access, consolidating small schools, provision of diversified curriculum, enhancing internal efficiency of elementary education and generating demand for participation at secondary level. Over and above this, the preparedness of the education system needs to guarantee efforts on multiple fronts so as to make secondary education affordable and universal for all those belonging to the age group of 14–16 years.

There are three key issues which emerge from the analysis of this paper. One, there is an urgency to view the linkages between elementary and secondary education as seminal, i.e. to view both the stages of schooling as one. For this, schools need to be seen as a composite unit, with classes from 1 to 12, so that transitions from upper primary to secondary are natural and smooth. Improving access will play an important role in achieving this. Second, the preparedness of children graduating from elementary to secondary is critical for their sustenance in secondary grades, as drop-outs in secondary are severe. The major reason is the lack of opportunities provided by the schooling system to prepare the elementary graduates to take on the rigour of secondary curriculum. Third, the need to make vocational education as a viable component of secondary schooling warrants the attention of policy-makers, so that students are able to diversify and participate at secondary level with a focus on entering the job market. These efforts, put together, can build a case for universalising secondary education.

As far as the question of making secondary education free and compulsory goes, there are issues related with multiple private provisioning and affordability. Once it becomes free, it can provide a boost to students from low socio-economic backgrounds, but on the flipside, can witness an inflow of enrolment into the government sector by those who can afford private education. Simultaneously, those who can afford to will also avail private tuitions and other privileges. Secondary education can, thus, be made free but with checks and balances, based on evaluation of

economic criteria of students. At present in secondary education, there is almost a 60 percent incidence of private provisioning, with fee surcharges, even in the government sector; hence, making it compulsory could tilt the balance against those who belong to low socio-economic backgrounds, undermining the spirit of free and compulsory education. Hence, at best, the approach must be to provide a timeline during which the government machinery builds the necessary conditions for making secondary education free and compulsory, by working on the challenges identified and regulating the private sector. Only then, RTE Act, 2009 can be extended to secondary education so that India is able to create a youth which possesses knowledge and skills for the twenty-first century.

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Push-Out, not Drop-Out: Youth and Secondary Schooling in India

Manabi Majumdar and Sangram Mukherjee

1 Introduction

There is a general consensus that the natural next step to universalise elementary education is to near-universalise secondary schooling for the country's youth. This would ensure that the basic learning capabilities that they are likely to achieve at the elementary level are cultivated further at the post-elementary level, contributing to the growth of their cognitive knowledge, abstract and critical thinking, and practical skills (Tilak 2007, 2008). That this transition is critical for individual flourishing, for country's social and economic development, and for its democratic functioning is well accepted in both scholarly thinking and policy planning. And yet this transition and, especially, high school completion remain truncated in the country.

There are competing and even conflicting accounts of such halted educational journey of India's young girls and boys. At the risk of over-simplification, in this paper, three such approaches are discussed, namely the choice-centric view, the supply-centric perspective and the curriculum-, pedagogy- and evaluation-centric approach. One common concern that motivates several such prominent theses is to examine why young children 'opt out' of secondary schooling, followed by the common retort that they are simply not interested in their studies, or that they are overly keen to prematurely enter the world of work. Even those who stay back—at least a sizable section of them—simply 'rust out' in the system, it is claimed; they just 'pass time' in school for want of work (Jeffrey 2010). It is as though a secondary school is a 'waiting room' where reluctant pupils loiter around for a certificate which, in the long run, may not prove to be worth the wait after all, in terms of getting a

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suitable job. To put it differently, it is the narrative of 'drop-out' that dominates the discourse on the gingerly pace of high school completion in our country.

As a counter-argument, this paper contends that what the 'school', understood as an ensemble of vision, policy and practice, can (or cannot) do largely determines the 'school life expectancy' of the youth, their personal predicaments and predilections notwithstanding. More concretely, first, while we acknowledge the importance of agency in schooling decisions, we focus on why the youth and their parents collectively aspire for high school completion even with a lot of family hardships, but then are often driven to lose that agency by the education system, itself embedded within a social field of power that truncates their school life and pushes them into precarious livelihoods. Second, we then seek to look at the 'push-out' factors within the school education sector. For this, we focus primarily on two related dimensions: infrastructural and instructional resources available or lacking at this level, on the one hand, and the curriculum load and the 'eliminative' as opposed to the 'evaluative' model of examination (Kumar 2005) prevalent, on the other. Our general argument is that there are strong forces within the education system and its underlying 'vision' that tend to work against the egalitarian goal of secondary education for all.

Surely, there is no all-or-nothing dichotomy between drop-out and push-out factors that impel a young adolescent to discontinue schooling, and it is simplistic to pose one. And yet, systemic deficiencies and imbalances, which often create an outright hostile learning and testing environment or an enervating and de-motivating learning experience for young boys and girls, remain relatively under-discussed, while unfavourable external determinants of discontinuation are routinely brought to the fore. Hence is our focus on what schools do or do not do. Internal workings of the school system, however, themselves constitute a vast subject, and, therefore, at the risk of being partial and inexhaustive, we attempt here to shed light only on a few corners of this multi-layered canvas.[1]

In the following sections, we, first, try to map out the trajectory of progression of the country's youth to secondary grades, in the light of prominent perspectives on school transition or truncation. Second, keeping unfavourable social determinants, such as class and caste impediments to schooling as a backdrop, we probe whether the school system is ready to facilitate near-universal transition of post-elementary students to secondary grades or whether there is a need for the system to fail pupils for the purpose of rationing of school places. Third, the school's readiness is also examined through a preliminary analysis of a sample of question papers that we label as 'push-out' papers. At a time when transition readiness of young boys and girls is being seriously doubted in the light of their 'underwhelming' quality of learning, the quality of assessment tools, question papers and the high-stakes examination system, in general, calls for scrutiny as well. Finally, the paper alludes to the so-called shadow of secondary education, i.e. privately paid tutoring, and asks whether

[1] A major limitation of this paper relates to its inattention to the critical role of teachers, their classroom pedagogy, and of their professional development and autonomy in shaping the overall learning environment in school, which, in turn, influences the educational voyage-successful or otherwise of the youth.

the financial stress, that it generates for parents and students, renders the market, rather counter-intuitively, a choice-curtailing 'push-out' mechanism.

2 Secondary Schooling: Transition, Progression and Truncation

Available figures clearly indicate a rising trend of participation in secondary grades among the youth, once they complete the stage of free and compulsory education (Banerjee 2018). According to Annual Status of Education Report (ASER) that focusses on the age group of 14–18 years, more than 85% of young boys and girls continue their education at least up to the age of 16 (ibid.). This aggregate picture, of course, hides several area-, class-, caste- and gender-based disparities in transition from upper primary to secondary grades as well as within the secondary/higher secondary cycle itself. A Pratham study (cited in Banerjee 2018) tracking the transition of school-going children from Classes 8–9, conducted in selected locales of Hardoi district in Uttar Pradesh and of Sambalpur district in Odisha, finds that close to 40% of children discontinued their education after Class 8 in Hardoi; the corresponding figure in Sambalpur was less than eight per cent. This is despite the fact that Hardoi has a greater number of schools on the whole and a significantly higher proportion of private schools, in comparison to the corresponding figures in Sambalpur.

Scholarly studies, understandably, make a good use of the classical economistic lens to look at both demand and supply side issues that affect transition to secondary school (Ramachandran 2017). Parental perceptions about the value of secondary education, social practices and norms that shape their demand and aspirations for their children's educational progress, and their economic wherewithals or its lack (commonly encapsulated under the label of 'poverty') are often identified as demand-side variables that have a major bearing on participation at secondary level. What this demand-side story underscores, however, is the role of family choices and family strategies, to the relative neglect of the fact that, in several cases, due to unfavourable social determinants such as caste, communal and gender disadvantages, parental demands and high hopes for their children's educational progress get thwarted. In a sense, therefore, there is a 'social' supply-side tale (i.e. short or ample supply of enabling social conditions) that remains hidden within the demand-side narrative.

Ramachandran's (2017) study that probes factors either facilitating or impeding transition to secondary grades attempts to elicit views, on this subject, of parents, on the one hand, and of teachers and head teachers, on the other. Intriguingly, parents often point the finger at the 'inside', i.e. the school system, for the poor quality of training it allegedly offers, whereas teachers mostly focus on the 'outside', holding parents responsible for their lack of awareness and poor attendance of their children in school. In fact, the factors that teachers have identified as 'enabling' forces hardly relate to the school system and teaching–learning processes in classrooms, the quality

of their professional training, their autonomy, the testing culture in school and so on. This paper, therefore, makes a specific attempt to develop a 'view from within', that is to say, to look at the inner workings of the school system and its underlying education policy apparatus. Its primary motivation is to examine how helpful the 'Inside' is to facilitate transition of young boys and girls to the secondary level and their school completion. In particular, to what extent is the school system ready to open its gates to an increasing cohort of students? Does it, at least, avoid pushing them out? But before addressing this question, let us briefly look back at the theme that this section begins with, namely the current scenario of high school participation in the country.

The initiatives taken by the State in the field of school education, especially during the last decade, are clearly yielding positive results. An analysis of the age-specific participation rate emerging out of the last two rounds of NSSO data (64th and 71st) definitely indicates a rise in enrolment among children up to the elementary level (age cohort of 6–14 years). This success may be partly attributed to the promulgation of the Right of Children to Free and Compulsory Education Act (RTE) in the country. However, since the last round of NSSO data was collected in 2014, only after a lag of a few years since the enforcement of RTE, one has also to give credit to earlier State initiatives.

School participation rate has shown noticeable improvement during the last few years. For convenience of analysis, we consider here (in Fig. 1) age-specific participation rate rather than participation rate at various educational levels, to glean a picture of year-to-year progression in education. However, as the gap between gross enrolment ratio (GER) and net enrolment ratio (NER) has narrowed considerably during the same period, an age-specific analysis may not be very different from the one based on particular levels of education.

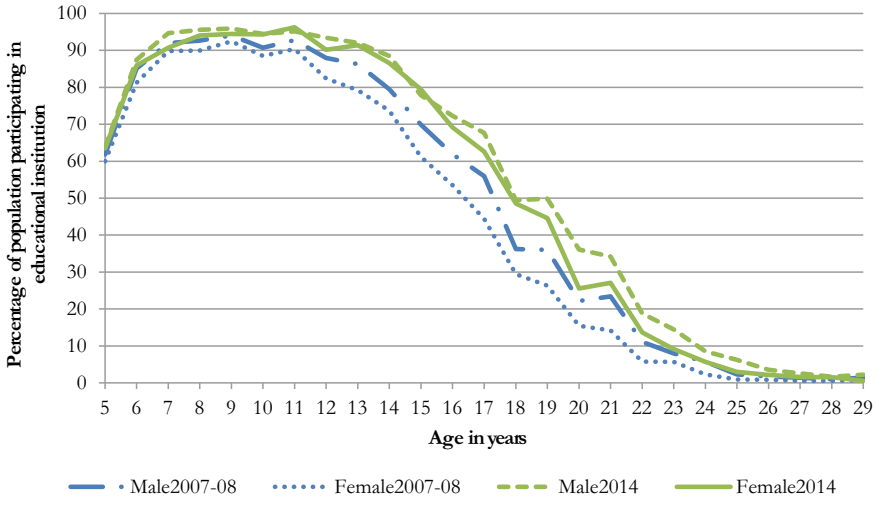


Fig. 1 Gender-wise participation rate in educational institution in India by single year age, 2007–08 and 2014. *Source* Calculated from NSSO 64th and 71st round

As Fig. 1 suggests, school participation rates among children between 6 and 13 years of age remained consistently above 90% during 2014. Significantly, the participation rate among girls has improved and has almost been at par with that among boys, at least up to the age of 18 years, i.e. roughly up to the higher secondary level. The figures were quite different during 2007–08 in at least two respects. First, a sharp decline in enrolment was evident in the mid-upper primary age group across the genders during 2007–08. Second, this rate of decline was much steeper among girls, and the gap between participation rates of girls and boys widened at the lower secondary age group (i.e. in the age bracket of 15–16 years).

But what has not changed much in the last few years is the fact that the participation rate takes a nosedive among children of 14 years and above, to halt only at a couple of stages, that too momentarily, at the ages of 18 and 20 years. However, the participation of boys in the age cohort of 18–19 years and 20–21 years remains almost unaltered. The picture is a little different in the case of girls at the same age groups. Let us now focus on the children in the age group 13–18 years in order to examine how they have fared between the two rounds of NSSO surveys in terms of their participation in higher levels of school education, taking into account their economic status, caste and religious affiliations and their place of residence—rural or urban. These socio-economic determinants are broadly considered to be some of the most decisive factors underpinning expected schooling years of children in the country.

Not surprisingly, the current rate of discontinuation is much higher among children from poorer economic backgrounds. This so-called class effect on educational participation and progression is old news. But what makes the situation particularly disconcerting is the fact that the gap between participation rates among children (in the age group of 15–18 years) from the lowest and the highest quintile classes has increased in recent times, whereas the corresponding gap has, in fact, declined marginally among the same (i.e. the richest and the poorest) classes of children below this age group. This implies that access to elementary education has improved for economically marginalised sections of the society. To put it differently, the 'class effect' seems to have been mitigated somewhat for the children of indigent families at least up to 15 years. In contrast, such effect seems to have become much more pronounced in recent years, when we compare the elite and indigent children in the older age cohort. This suggests that over time, in absolute terms, there may have been some increase in transition to secondary grades among poorer children, but class-based inequality in secondary participation, the rich-poor divide in particular, has also increased, since economically underprivileged children have fallen far behind their privileged counterparts in this respect. Similarly, the gap between the rate of participation among children of this age group from Hindu and Muslim families has also increased to some extent (see Fig. 2a, b), indicating a widening educational distance between these two religious communities at the post-elementary stage.

It is important and encouraging to note, however, that the said gap is found to be closing over time, when we consider caste/ethnic affiliation of children. For example, the gap in post-elementary participation of children from ST families and from general castes (the two polar groups in educational terms) is narrowing in recent years (see Appendix Table 5).

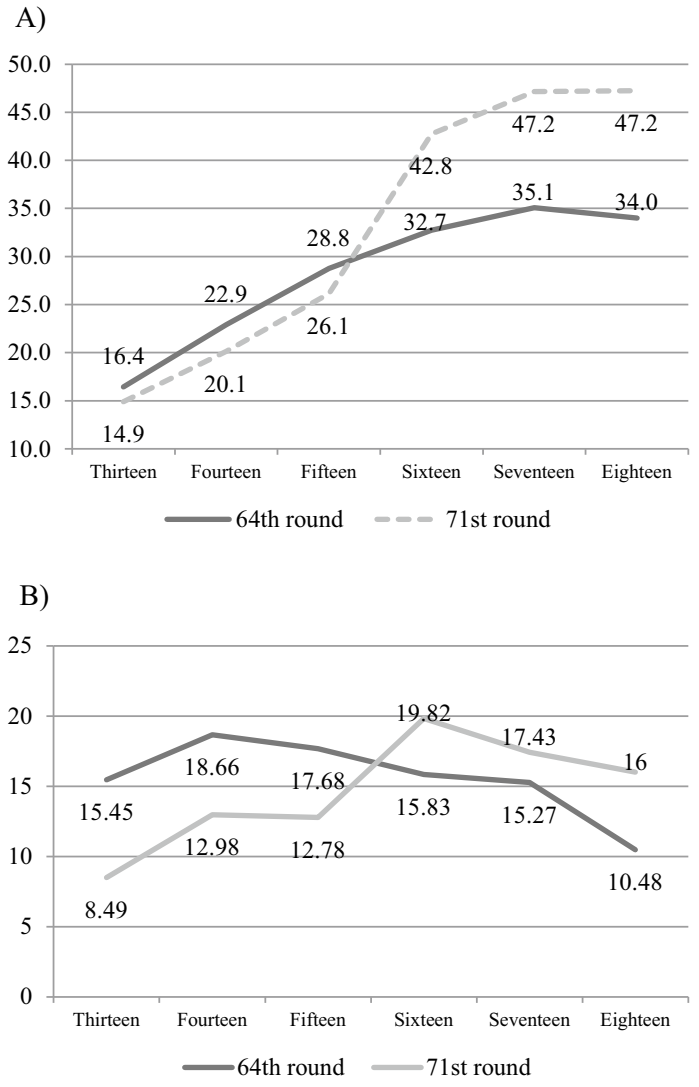


Fig. 2 Age-specific Participation rates, 2007–08 and 2014. **A** Gap between the lowest and highest quintile classes. **B** Gap between the Muslims and Hindus. *Source* Calculated from NSSO 64th and 71st rounds

The privileged seem to be internalising the dictum that high school completion for their children is the minimum educational cut-off point that they must aim for, causing a rise in their progression through secondary grades. The underprivileged, on the other hand, also seem to be appreciating the value and advantages of secondary schooling ('school pass' in common parlance) for their children, as reflected through their entry in greater numbers into the post-elementary stage; but they seem to be

driven to lose that steam of ambition on the way. Do we then need to turn to the proverbial 'lack of interest' thesis for an explanation, or is it to be replaced by a counter-thesis of 'loss of interest'?

Various reasons are attributed to such premature discontinuation of schooling of children. Most of the quantitative data available in the country in this regard follow almost a similar pattern of enquiry, with almost a similar array of questions, framed in a routine manner. They differ only in the number of reasons that specific surveys canvass, but the prominent reasons, mostly, remain the same. Though these surveys are known for their dependability regarding assessment of the extent of participation and of household expenditure on education, when it comes to determine the reasons for discontinuation, these sources appear limited in that they do not reveal much. For example, first, they do not procure multiple responses to the question regarding reasons behind discontinuation, whereas, in reality, children are driven to leave school under various compelling circumstances, which are intertwined and mutually reinforcing. Second, there are some responses that raise more questions than they actually answer; for example, since 1986, all the NSSO rounds of data on participation and expenditure in education mention lack of interest as one of the most important reasons for discontinuation of education (Table 1), but one hardly gets an answer to the crucial follow-up question as to why they lack interest. The framing of this question as well as responses to it constitute a kind of a 'black box' or even a 'black hole' from which no light emerges to illuminate our understanding. Do they really lack interest? Or do they lose it in the course of their journey through the school system?

In the absence of a fair answer to the question as to why students lack interest in studies, it becomes difficult, for example, to explain why there is a continuous decline in the proportion of women, both in rural and urban settings, citing lack of interest as the reason behind their discontinuation, while the proportion of men citing the same reason for their decision to leave school has remained more or less constant for almost three decades. This constancy of a particular genre of 'reasoning' over a protracted period, which surely has witnessed considerable socio-economic changes likely to cause changes in our educational decisions, renders it an unclear or even a socially irrelevant investigative tool to make sense of children's educational opportunities, ambitions and attainment. If the same question was asked to the students who have

Table 1 Percentage of persons who are currently not attending any educational institution citing reason for discontinuation as 'lack of interest in further study', by year, sector and gender

Year	NSSO Round (and age group)	Rural			Urban		
		Male	Female	Person	Male	Female	Person
1986–87	42nd (age 5 and above)	26.57	33.25	26.26	23.62	28.47	25.6
1995–96	52nd (age 5–24)	28.5	21	25.3	23.9	19.4	22
2007–08	64th (age 5–29)	24	17	20.7	20.3	15	17.9
2014	71st (age 5–29)	25.1	16.2	20.9	20.8	14.3	17.7

Source Respective rounds of NSSO

not discontinued their studies yet, who are either progressing into higher grades with enthusiasm or just 'passing time', no one knows what the answer would be. But it is not implausible that a sizable number of them would voice similar disinterest, while continuing their studies. In short, this demand-side, 'natural' interest-driven reason is an obscure indicator of why children do or do not go to school. After all, their interest in studies is either cultivated with much care or enervated because of its absence within the school system.

That children's 'school life expectancy' depends, to a considerable extent, on what goes on within school, on its overall environment, on teacher development, their interaction with students, content and language of training, and pupils' freedom from fear of failure and corporal punishment are issues that need to be reiterated, because such 'common knowledge' is routinely ignored. Admittedly, pupils and parents are asked to reflect on some school-related reasons, such as the availability and distance of schools, inadequate infrastructure, school timing, and the medium of instruction and so on. However, often they are not in the know of systemic gaps that make their educational transition difficult and, hence, are not in a position to voice such lacunas. Those in the know, on the other hand, often are indifferent in their amends. For example, a Pratichi India (Trust) study (2013) on secondary schooling in West Bengal suggests that a noticeable decline in enrolment is evident between Grades 9 and 10. This is not the stage when students transit from one school to another; rather this is a stretch of time by which students complete their first year in high school and, perhaps, find the curriculum too onerous to handle, and the culture of testing and purging too intimidating to cope with. Here, truncation appears to be a function—a 'push-out' effect—of internal workings of the education system.

From the prevailing perspective of demand and choice, therefore, it is difficult to explain satisfactorily why children across all social and economic classes show enthusiasm to begin their school life roughly at the same age but quit school at different ages, unless we pay closer attention to disabling conditions that are generated from within the school apparatus. A similar entry and a dissimilar exit cannot be interpreted entirely as a class phenomenon. An analysis of the recent NSSO (71st round, 2014) data clearly shows that mean age at discontinuation among persons aged 5–29, who have already discontinued their education, varies widely across economic classes, although there is hardly any difference in mean age at first enrolment among the same set of population across various economic classes (Table 2). It clearly shows that though the age at exit is dissimilar for various economic classes, their age at entrance is very much similar; in other words, children of lower economic status and their families are equally eager to enrol children in school but they are pushed to leave school much earlier, as compared to children of higher economic classes.

3 Systemic Resistance to Transition

We argue that we need to pay much more attention, than is usually given, to issues pertaining to the readiness of the school system to equalise opportunities for

Table 2 Mean age at first enrolment and discontinuation for persons aged 5–29 years who are currently not attending any educational institution in India

Quintile class of MPCE	Mean age at first enrolment	Mean age at discontinuation
1	5.6	13.8
2	5.6	14.5
3	5.5	14.9
4	5.5	15.8
5	5.4	18.0
All	5.4	15.4

Source Calculated from NSSO 71st round, 2014

secondary schooling for all. The bare minimum of such equity conditions includes provisioning of school places for all secondary age children in the hope and readiness that nearly all of them will throng the gate of high school. And yet the system does not seem to be ready; worse, it seems to resist universal high school participation for all. Why elementary school graduates are forced to fiercely compete for opportunities for further education and why education has been rendered a 'race' has a lot do with scarcity and resulting rationing of places at the post-elementary stage, as several scholars have pointed out (Deshpande 2018; Kumar 2018a; Rampal 2018). As Kumar perceptively observes, this 'systemic resistance to social inclusivity' has become more palpable from the 1980s onwards; earlier, the pressure on the secondary stage of school education was relatively low, as primary school completion rates were unsubstantial. In Kumar's words, 'That scenario has changed, and now the pressure of a radically expanded base level is manifesting at each level placed above it' (2018a, p. 2). This systemic imbalance is largely because the two stages of secondary and higher secondary education have not grown at a pace that is '…sufficient to accommodate the far higher growth in the number of children crossing elementary education' (ibid.).

For example, if we do a counter-factual exercise and assume that all pupils who are enrolled (as per the recent available data) in lower secondary section make a successful transition to the higher secondary level, the average enrolment at this stage in the country will increase from the present already high figure of 195 to 334 (Table 3). Were we to include those elementary school graduates who have stopped short of joining the lower secondary section, the accommodative agility of the higher secondary level would have appeared even more dismal.

Admittedly, schooled children are unable to make a successful transition to secondary and higher secondary grades due to a variety of reasons; but systemic deficiencies feature prominently among these disabling factors. So a 'transition bottleneck' is not just a function of students' personal failings or family decisions, but the system itself cannot afford to encourage or even allow all post-elementary students to progress further. Ironically, and as Carnoy (2004) astutely observes in a different context, the available places in many schools do not '…permit all students to complete all grades…in those schools there is an expectation, *even a need, to fail pupils.*' (cited

Table 3 Schools with secondary and higher secondary sections in India and their total enrolment: 2016–17

Total schools with lower secondary sections	249,089
Total schools with higher secondary sections	116,125
All	365,214
Total enrolment in lower secondary sections	38,823,854
Total enrolment in higher secondary sections	22,625,448
All	61,449,302

Source State Report Cards, NUEPA

in Majumdar 2018) italics supplied). Again, a recent ASER study by Ramanujan and Deshpande (2018) finds the presence of 'continuous grades', i.e. integrated schools, to be important for children to continue in school. It suggests that children from schools that offer education at both elementary and secondary stages are less likely to discontinue their studies than those who attend schools without continuous grades.

To facilitate students' progression through the secondary cycle, of course, would require much more than sufficient places and integrated schools, including 'equitably resourced classrooms (with qualified and enabled teachers, libraries, materials for experiments) etc.' (Rampal 2018, p. 57). The contrasting reality shows that a large majority of schools are resource-starved, in terms of laboratories, libraries and so on (Mahajan 2018). A study of about 2.5 lakh secondary and senior secondary schools in the country, conducted by NUEPA, observed that about 75% of them lacked well-equipped and functional laboratories (NUEPA, as cited in Mahajan 2018, p. 102).

Furthermore, there is 'geography of inequality' in resource starvation as well. For example, a recent Pratichi (India) Trust study on secondary education in West Bengal (2017) found that mean enrolment in secondary sections was very high in the State—180 and 327 respectively in sampled government-run secondary and higher secondary grades. In the under-developed blocks, in particular, secondary classes were found to be bursting at the seams. Teacher distribution, across rural and urban schools, also revealed a highly skewed pattern; a disproportionately smaller proportion of teachers at the high school level were found to be working in rural schools as compared to their urban counterparts. In the socio-economically laggard block of Sitai, for example, as per the DISE data for 2015–16, the pupil–teacher ratio was 99, followed by a student–classroom ratio of 157.

Thus, over and above being an individual difficulty, the 'fear of failure' that often debilitates students at the level of secondary education is an artefact of real needs of the system to fail pupils—through screening and sorting, offering poor learning environments, conducting 'eliminative' examinations and so on.

4 The Narrative of Learning Crisis and Push-Out Question Papers

Before we talk about examinations and assessments, especially the high-stakes 'Board' examinations at the end of lower secondary and higher secondary cycles, that arguably work towards 'eliminating' rather than 'evaluating' high school students (Kumar 2005; Nawani 2018a, b), we briefly dwell on the narrative of learning crisis that currently dominates the educational discourse in the country. This is because it is important to ask as to what extent this stated crisis is produced from within the system and in which directions our reform efforts should be steered to remedy these structural and systemic deficits.

For several years now, large-scale ASER (Annual Statistics of Education Report) surveys show that levels of learning, in basic fields of literacy and numeracy, are disconcertingly poor among the country's schooled children. Indeed, many children are unable to reach grade-level learning outcomes and their learning trajectories are flat over time. Besides, there are inequalities in learning outcomes, since such outcomes are poorer for poorer children (Banerjee 2018; Filmer and Rogers 2018; Ramachandran 2018). In short, there seems to be a countrywide crisis of learning.

And yet, several scholars and educationists, both in India and other parts of the globe, are of the view that currently popular standardised tests and assessments do not lend a hand in improving learning levels (Carnoy 2004; Ramachandran 2018) and that children's imagination, creativity and critical thinking are enervated by standardised testing (Ravitch 2017). In what ways, then, does the discourse on learning crisis shed light on how to ameliorate the situation? More insistently, does the discourse on learning outcomes deflect our attention away from the first-order questions about teaching and learning, about teacher autonomy and pedagogy, about textbooks and examinations that constitute the core of schooling? Or, alternatively, does this debate on learning shortfalls lead to a prior debate on shortfalls in learning conditions?

Some scholars are concerned about the direction in which such conversation is bending the arc of our attention. Rampal (2018), for example, is concerned that 'this global manufacture of a learning crisis' is likely to divert our attention from 'classroom practices that have the strongest association with learning and achievement' (p. 58). More disconcertingly, on the other hand, it may open up the field of education to the free play of 'business enterprises for teaching, tuition and testing…' (p. 59). Kumar (2018b) forcefully argues about how ASER data on low learning rates are usually presented along with teacher absenteeism data and, as a result of this linkage, how such declared 'truancy' among teachers serves as the basis for introduction of 'different kinds of accountability regimes' for teachers in many States in India. Kumar further contends that these reform measures routinely assume that 'the so-called learning crisis has been caused by non-performing teachers' and consequently ignores the crisis in teacher training, teacher recruitment, and their working conditions (p. 20). Kumar therefore compellingly argues to 'spot' the crisis in teaching rather than in learning. In line with this genre of thinking that seeks to veer our discussion towards systemic trouble spots and their amends, we briefly dwell on

the prevailing examination systems in the country as also on the issue of quality of assessment itself. This is followed by a discussion, based on a sample of what we label as 'push-out' question papers.

High-stakes Grade X and XII 'Board' examinations, as opposed to school-based, teacher-conducted assessments, carry the colonial legacy of the need for institutionalisation and centralisation of examinations for the purpose of screening aspirants for government service. In independent India, this system has been consolidated to serve as a filtering device primarily to eliminate rather than evaluate pupils (to assist them in their learning) and to '…allocate success and failure on the basis of a one-time performance', through assessment modes based on non-involvement of teachers who have taught them (Kumar 2018a, p. 12). In a sense, therefore, this is not only an '…examination for elimination [of students] celebrating fear and penalising failure…' (Nawani 2018a, p. 64), this also screens out those who teach and interact with them in the classroom. Besides, thanks to this legitimising device, the 'bitter pill of failure' (p. 72), to use Nawani's pithy phrase, is swallowed by unsuccessful students as a mark of their own inability, discounting the fact that the system can accommodate only a few to square with the availability of seats.

High-stakes examinations, however, have an overriding and permeating effect on what goes on inside the classroom on an everyday basis, on the curriculum, syllabus and textbooks, and on teachers' pedagogic practices. The distant and centralised Board, thus, determines the de-centred and quotidian school life in a significant way. Hence, even if school teachers are invited to set question papers under the rubric of the existing centralised regime, they are not necessarily autonomous to frame tools for assessment of deeper learning. It is, therefore, apt to examine a few sample Grade X Board-conducted question papers, in Mathematics and English, in order to ascertain the quality of assessment itself, in a climate replete with talk of quality of learning.

The focus on a select set of question papers in this article, to the relative neglect of secondary syllabi, textbooks, and teaching–learning processes in the classroom, clearly restricts our analysis of the inner workings of the school system that we have set out to do. But, as a limited attempt to deduce the connection between question papers and teaching practices, we raise a few motivational issues that underpin the introduction of various concepts and topics in the classroom. For example, when a mathematics paper sets a question on logarithms, one is prompted to ask a prior question: whether students have been given the motivation to learn this concept. When a Grade XI student was indeed asked why he was studying this topic, his simple answer was: 'because it is there in the Mathematics syllabus'.

That this mathematical tool may help avoid multiplication of huge numbers, that it can help to do same operations by addition of smaller numbers are not appropriately presented before pupils, either in standard textbooks or in class, so that they can grasp the underlying motivation. Thus, those students, who are lucky to 'get the idea', complete the race, but the rest struggle with the burden of miscomprehension. To cite another example, in order to assess numeracy levels of students, ASER surveys set questions that require use of unitary method and calculation of area and perimeter, in addition to some straightforward numerical operations such

as addition and subtraction. These surveys find that the former set of questions poses more difficulty for students even though these are, arguably, simple questions.

Once again we need to push back the enquiry to raise motivational issues. How are these concepts introduced to students? Does the instructor explain why we need to study concepts like area and perimeter? For example, if it is said that we need to grow grass in this ground or we need to put up a fence around it, then these everyday practical issues will make it clear to children why they need to pay attention to these issues and what, after all, are area and perimeter. Assessing learning outcomes without pushing our enquiry back to probe these first-order questions will likely hide more than reveal as to what is ailing our school system.

For example, Board examinations, and correspondingly, school examinations in many States, primarily focus on rote memory and recall of facts and information (Rampal 2018), with hardly any attempt to encourage critical thinking and self-expression on the part of students. In a similar vein, Burdett (2017) provides a careful and comparative analysis of assessment materials used in high-stakes examinations in a few developing countries, including India and Pakistan. His close look at papers from the Central Board of Secondary Education (CBSE) in India makes him argue that these papers mostly test 'rote-learnt knowledge' and mere ability to recall facts, with no encouragement to students to learn 'higher-order skills'.

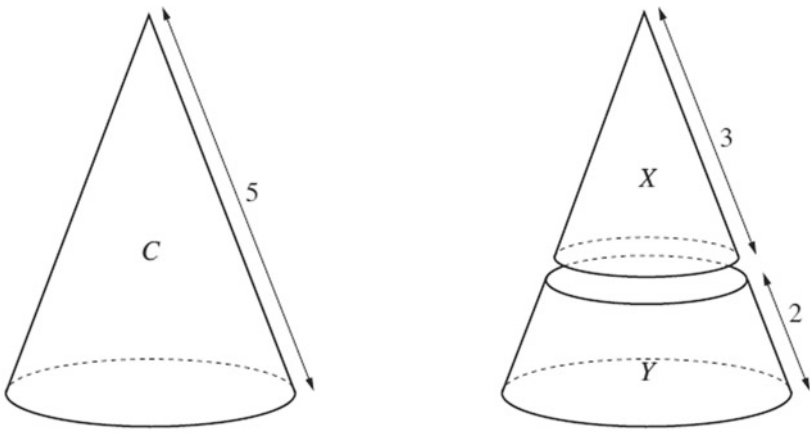
By seeing a couple of CBSE question papers on Mathematics and English, we draw a rough comparison with Cambridge O Level (i.e. Grade X) question papers on these subjects to determine the quality of the CBSE-administered assessment tool itself that decides the educational fortune of so many in the country.

In Box 1, we reproduce the Hindi as well as English version of a particular question from the Mathematics paper, set for CBSE Board Examination, in 2017. Overall, this paper covers a whole lot of mathematical themes and concepts such as trigonometry, coordinate geometry, mensuration, probability, algebra, quadratic equation, AP, GP, Euclidean geometry, etc., covering primarily materials introduced in Grades IX and X. This paper does not aim to test any elementary mathematics, and, therefore, is useful only for pupils who will go on to study mathematics, physics, etc., in future. This paper is pitched at a specialised section of students and, in that sense, is not inclusive and ready to develop a sense of mathematics for all. Many questions test familiarity with mathematical terminologies and how well a student memorises mathematical formulas. There are only a few visual presentations and diagrams in the paper that are likely to help students deduce the problem better than just relying only on difficult language.

In contrast, a General Certificate of Education Ordinary Level Paper on mathematics (also known as Cambridge O Level Examination for Grade X students) has a good range of questions and appears more balanced in its assessment. This is because it focusses on testing knowledge of elementary mathematics such as fractions, elementary algebraic inequality, unitary methods, cardinality, ordinality, set theory at a basic level etc., while also including questions on more advanced mathematical problems. It tests both basic and 'higher-order' skills. There is a general focus in this paper on everyday usefulness of mathematics, explaining questions with

many diagrams, and, at the same time, not diluting the primary and rigorous goal to help pupils understand mathematical concepts.

To return to the specific question, we have reproduced in Box 1, it is clear that a student who has forgotten the definition of the frustum of a cone will remain eminently frustrated. The Hindi version, too, looks so inaccessible because of the use of the heavily Sanskritised phrases like 'Chinnak' and 'Brittio', that sound so alien to everyday usage in Hindi. It seems as though language is used here to disable and not enable students. We label such assessment tools as 'push-out' question papers, and argue that these are designed to exclude the less fortunate sections of the student body from an essentially 'elitist school system'. Thus, an examination paper, just like the education system as a whole, can be put to the use of serving a social purpose: either to massify, democratise and universalise educational opportunities or to render them exclusive. To quote Burdett (2017), '…the majority of students are not being catered to by the content of these examinations [for example, CBSE examinations] and, by implication, the education system.' Almost an identical question has been posed in the Cambridge O Level mathematics paper through diagrams (Fig. 3). It first draws a cone, identifies a frustum and then asks examinees a few conceptual questions. Importantly, framing the question in such a fashion, with the aid of diagrams, does



A solid cone, C, is cut into two parts, X and Y, by a plane parallel to the base.
The lengths of the sloping edges of the two parts are 3 cm and 2 cm.
Find the ratio of

(a) the diameters of the bases of X and C,

(b) the areas of the bases of X and C,

(c) the volumes of X and Y.

Fig. 3 Cambridge O level mathematics paper 1

not in any way dilute or water down the rigour of understanding or Grade-level competencies that are expected from these students.

Box 1 "Eliminative", not "Evaluative" examination: A push-out question paper

एक शंकु के छिन्नक की तिर्यक् ऊँचाई 4 सेमी है तथा इसके वृत्तीय सिरों के परिमाप 18 सेमी और 6 सेमी हैं । इस छिन्नक का वक्र पृष्ठीय क्षेत्रफल ज्ञात कीजिए ।

The slant height of a frustum of a cone is 4 cm and the perimeters of its circular ends are 18 cm and 6 cm. Find the curved surface area of the frustum.

A quick comparison of CBSE English papers with Cambridge O Level papers on English language also reveals a noticeable difference in their respective emphases. Both contain questions to test pupils' reading and writing skills, but Cambridge O level papers probe deeper to gauge as to what extent they can 'read for ideas' (i.e. can glean main ideas from a factual communication) and 'read for meanings' (i.e. can grasp explicit and implicit meanings from a narrative passage); CBSE papers also contain similar questions and comprehension exercises but give more stress on reproducing facts narrated in given passages. To assess writing skills, Cambridge O Level papers give candidates a task such as writing a letter to test their level of 'directed writing' as well as test their 'creative writing' skills through essays that test both language and content. There is relatively less focus in CBSE papers on gauging creative writing skills of candidates and their ability to write in their own words. The Cambridge O level examination sets a separate paper on literature in English, on poetry and prose, that almost always reproduces the selected poems or extracts from selected prose, on which questions are set, along with the names of their authors, making no demands on memorisation or information recall. In contrast, the questions on textual literature in CBSE papers are stand-alone, even cryptic, questions without any reference to the original text materials, which expect candidates to know the literary texts by heart and do not reproduce excerpts from any poems or prose. To give a couple of examples of this sort of questions, 'What is your impression of Peter?' (There is a good chance that this refers to Anne Franks' Diary that is included in the syllabus), or 'Dedication and hard work are essential for success. Explain how these qualities enable Patol Babu to perform his small role to perfection.' (This question relates to a short story written by Satyajit Ray that is one of the chosen texts in the syllabus). We argue that such questions seem to test pupils' familiarity with the text and not so much their ability to engage with these texts in a meaningful way and their skills to think and argue critically. This raises questions about *what* we are testing and what our *desired* learning outcomes are, and correspondingly, about the *type of learning* that our education system values (Burdett 2017; also see, Somerset 1997).

In this context, it is important to recognise that with adequate training of various examination techniques, it would be possible for a student to provide set answers to such set questions and score high marks, without necessarily having any meaningful

understanding of the subject matter. Underlying the so-called learning crisis, therefore, there lurks a crisis of assessment tools and their questionable quality. To ensure, therefore, that learners are 'fairly' assessed and that their level of 'real' learning is improved, there is a systemic need to undertake a drastic and thorough going examination reform which will aim at evaluating students' meaningful learning and not push them out of the system prematurely.

As has been mentioned above, poor assessment formats allow mechanical teaching practices to continue within the classroom; more disconcertingly, they cultivate a widespread reliance among high school students on paid private tutoring, in the hope of examination success. We will now briefly discuss this almost ubiquitous practice of extra coaching among high school students in the country, to then ask whether the market-driven, overwhelming 'shadow' of secondary education curtails rather than expands educational choice for the country's youth.[2]

5 Financial Stress as a Push-Out Factor

In his two influential articles, Tilak (1996a, b) asks: how 'free' is 'free' primary education? In a similar vein, we are inclined to ask as to how affordable is secondary education. Admittedly, there is no official mandate to provide free secondary schooling for all in our country (in government schools, fees are claimed to be nominal); but there are both public and private initiatives to expand secondary participation for a number of compelling reasons. There are several public programmes and schemes that aim to ease the financial burden that parents usually carry to send their children to high school. In other words, there seems to be a kind of social acceptance that the responsibility to near-universalise secondary schooling cannot be entirely laid at the door of the family.

And yet, private spending on secondary schooling, including huge and rising expenses on private coaching, is treated as a sign of the proverbial willingness and ability to pay on the part of parents—an expression, in turn, of parental choice. From a pro-choice perspective, therefore, the tutoring market allows more options, not less, for students to benefit from a paid supplement in order to cope with their studies at school and, thereby, ensure that they are not pushed out.

It is myopic to deny, however, that examinations (and the urge to improve children's performance in examinations) have been at the heart of both the culture of schooling and the culture of private tutoring in the country (Kumar 2018a). Thus, it seems as though spending on extra coaching is more of a system-generated compulsion than a parental 'freedom to choose'. Indeed, as in the case of healthcare sector, in education also, out-of-pocket spending (Oops) appears to be causing a real affordability crisis so much so that both patients and parents are practically left with what may be called a 'freedom to lose'.

[2]For an illuminating analysis of 'shadow education' (i.e. supplementary private tutoring), see Bray (2009). Also, see Majumdar (2018).

Hence, it is arguable that rising, and often binding, private expenditures on secondary schooling restrict options of students, especially of those from indigent families, to continue in school. High school students from all economic classes, from the poorest to the richest, appear to incur sizable expenditure both on course fees and private supplementary tutoring (Table 4). Moreover, the demand that paid course fees makes on the overall expenditure of a household in the lowest quintile class is roughly comparable to the corresponding load borne by families belonging to higher quintile classes, and, in some cases, such load is even more for the least privileged households. This, indeed, is a substantial price to pay for parents having meagre economic wherewithals. Their means get even more stretched to meet expenses for extra coaching of their school-going children that they consider 'essential' and yet find onerous. Considering the bulk amount, spent almost mandatorily, on extra tuition even by indigent families in the hope that their children complete the secondary cycle, one cannot but acknowledge how prohibitive secondary education is for a large section of our society. The recently conducted ASER study by Ramanujan and Deshpande (2018) alludes to similar financial constraints, drawing on the findings of their study, among children who have discontinued from school; the most commonly cited reason for such an act has to do with the 'financial implications' of continuing to study. But why is secondary education so expensive? What are the systemic forces that cause this cost inflation? This paper falls short of such deeper probing. But we only make a simple point about revisiting a statement that we have made earlier in this section. Is the onus of secondary school completion to be conceived primarily as a household responsibility? Or is it time to turn to discussing the role of social and collective commitment to expand secondary education?

6 Concluding Remarks

Instead of belabouring the points already made above, we close our analysis here, by reiterating two critical points. First, we need to wash out from our current educational ethos the dominant idea that secondary education is all about fierce competition. In the perceptible words of Ravitch (2017), 'Education is a developmental process, a deliberate cultivation of knowledge and skills, a recognition of each child's unique talents, not a *race*.' (emphasis added). Second, this careful cultivation of cognitive and creative diversities of India's children and the youth is to be undertaken as a joint, collective and collaborative endeavour on the part of a democratic, autonomous and professionalised school system—the 'Inside', in short.

There is no denying the fact that unfavourable social situations, such as economic hardship and social discrimination, impede the educational participation of a significant section of the country's youth. Hence, undoubtedly, the 'Outside' matters. But what matters more is whether and to what extent the school system and school teachers are given support, through adequate resources and training and through other supportive social policies to alleviate student poverty, to effectively deal with

Table 4 Out-of-pocket spending on course fees and private coaching at secondary and higher secondary level, All-India, 2014

Quintile classes	Average annual private (household) spending on course fees (Rs.)		Private expenditure on course fees as a percentage of average annual household expenditure		Percentage of students opting for paid coaching		Average annual expenditure on paid coaching (Rs.)	
	Secondary	Higher secondary	Secondary	Higher secondary	Secondary	Higher secondary	Secondary	Higher secondary
1	1044.3	2329.4	13.0	29.1	31.1	25.6	1333.3	1850.5
2	1276.4	2453.1	10.7	20.6	37.2	33.6	1734.5	2450.2
3	1926.8	3297.5	12.3	21.0	33.1	28.7	1911.0	2559.7
4	3332.9	4384.4	15.9	20.9	37.1	34.6	2537.8	3779.0
5	9128.3	11,243.6	21.3	26.2	46.0	46.6	5916.8	9512.7

Source Calculated from NSSO 71st round

Table 5 Gap in age-specific participation rates among various social groups during 2007–08 (64th round of NSSO) and 2014 (71st round of NSSO)

Age	Gap between the highest and lowest MPCE quintile classes		Gap between Hindus and Muslims		Gap between general castes and STs		Gap between urban and rural residents	
	64th round	71st round	64th round	71st round	64th round	71st round	64th round	71st round
Thirteen	16.4	14.9	15.5	8.5	10.6	6.8	5.2	2.9
Fourteen	22.9	20.1	18.7	13.0	15.7	7.5	8.8	3.7
Fifteen	28.8	26.1	17.7	12.8	22.8	14.3	11.3	7.3
Sixteen	32.7	42.8	15.8	19.8	21.6	19.7	14.8	13.0
Seventeen	35.1	47.2	15.3	17.4	22.0	21.9	16.3	10.3
Eighteen	34.0	47.2	10.5	16.0	21.1	21.8	16.6	11.9

Source Calculated from NSSO rounds 64 and 71

the challenges of educating poorer children so that their educational journey does not get derailed.

Importantly, to ensure their educational progress does not detract from the need to expect from them the attainment of high academic standards; indeed, on the contrary, to expect high levels of learning from all students is both egalitarian and democratic (Rose 2014). But the system has to make sure that the standards are fair and fitting to facilitate learning for all, and not discriminatory and damaging for those who are already disadvantaged. The school system cannot alone alter social exclusions and inequalities that may make students drop out, but it can, through fair and appropriate internal reforms, stop pushing them out.

Appendix

See Table 5.

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Secondary Education in Maharashtra: Issues of Concern

Anuradha De and Meera Samson

Universalisation of elementary education has been prioritised in India for more than two decades. More recently, the focus has broadened to include secondary education as well and India committed to ensure availability, accessibility and affordability of good-quality education for all young persons up to the age of 18. In 2009, Rashtriya Madhyamik Shiksha Abhiyan (RMSA) was introduced to enhance access to secondary education and improve its quality. This was in line with the fourth SDG which aspires to ensure that all girls and boys complete free primary and secondary schooling by 2030. It is in this context that we explore Maharashtra's progress towards universalisation of secondary education, both in terms of its achievements and the challenges that it faces.

Maharashtra is among the more developed States in India with the second highest per-capita income in the country. It is also a relatively urbanised and industrialised State.[1] It is the second largest State in India in terms of area and population. The literacy rate in 2011 was much higher than the national average (83% vis-à-vis 73%). Enrolment at elementary level is nearly universal, and the gross enrolment ratio (GER) at the secondary stage is also higher (89%) than for India (78%) as a whole in the year 2014–15.

However, the development is not even, either economically or educationally. Part of these variations can be explained by the fact that in 1960, the State of Maharashtra was formed by consolidating three sociocultural regions with different physical features and different histories of development—Western Maharashtra, Marathwada and Vidarbha. The Kelkar Committee Report points out that the variations have increased over the last decade. The State's geography also directly plays an important role in the variations. The narrow coastal regions in the west of the State lie

[1]Forty-five percentage of its population live in urban areas (2011). Only 11% of its GSDP is contributed by the primary sector (Economic Survey of Maharashtra 2013–14).

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between the sea and the Western Ghats and get high rainfall. The inland areas in the State form part of the Deccan Plateau. Numerous rivers and streams flow from the west coast, towards the east, and the areas which lie in the river valleys are well irrigated. Areas of the plateau which lie in the shadow of the Western Ghats are very dry, as is much of the central part of the plateau. As one moves to the extreme east of the State, rainfall levels rise again. The general accessibility and the access to water, in particular, necessarily play a role in the variations in the levels of development across the State (Kelkar Committee Report 2013).

Maharashtra is largely Hindu (79.8%),[2] but also has a substantial proportion of Muslims (11.5%). A significant proportion is from disadvantaged communities. Scheduled Tribes are 14.6% of the population. These include a number of Nomadic Tribes (NTs) and Vimukt Jati (VJs) or Denotified Tribes. Scheduled Castes are 11.8% of the population.

This paper is based on a study of secondary schooling in Maharashtra done in 2015.[3] Inputs for the study were taken from many sources. Secondary data provided the broad scenario at State and region level. Primary data through quantitative and qualitative methods was collected from schools and villages/wards in selected districts, to provide insights at school/habitation level. The data from the different sources has been useful in understanding the situation from various perspectives—the school providers, the administrators, the teachers, students and their parents. It has been triangulated to provide a picture of the secondary education system in the State.

The paper is structured in four sections. In the first section, some key features of secondary education in Maharashtra, emerging from secondary data, and documents are presented. In Sect. 2, we present findings from the survey of schools across the State. Section 3 focusses on issues that are important for the adolescents and parents. In the last section, we highlight some critical areas that have contributed to the present scenario.

1 Key Features of Secondary Education in Maharashtra

Secondary data (UDISE, SEMIS, NSSO, education budgets and Board examination results), available at the State, region and district levels, was analysed. Other government documents on secondary education were also reviewed. Interviews with senior education functionaries in Mumbai and Pune provided insights into the current scenario. Altogether, there are 59 lakh students enrolled in Grades 9–12 in a total of

[2]Census 2011.

[3]The study was done by Collaborative Research and Dissemination in collaboration with UNICEF (Maharashtra) and the Government of Maharashtra. The authors wish to acknowledge the contribution of all those involved and particularly to the critical inputs provided by Shruti Patil and Rahul Sapkal.

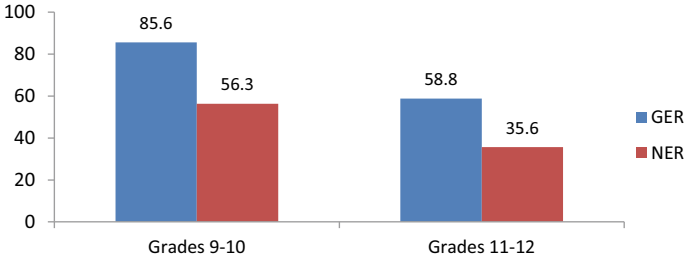

Fig. 1 Gross Enrolment Ratio (GER) and Net Enrolment Ratio (NER) at secondary and higher secondary stages of schooling. *Source* Secondary State Report Card (2013–14)

nearly 24,000 institutions.[4] Of these, 95% are co-educational, 4% are only girls' schools and 1% only boys' schools.[5]

1.1 Comparatively High GER at Secondary Stage, NER Much Lower

GER, at secondary stage, was 85.6 (and, at higher secondary stage, it was 58.8) in 2013–14 in Maharashtra, indicating that the State is quite within reach of RMSA targets,[6] particularly for the secondary stage. However, less than 60% of those in the 14–15 age group are enrolled in age-appropriate grades (i.e. 9–10). The situation is worse for students in the 16–17 age group, when the age-appropriate enrolment is less than 36% (see Fig. 1).

1.2 High Proportion of Girls Enrolled in Secondary and Higher Secondary Stages of Schooling

In contrast to several States in India, gender differences in enrolment in secondary stage are not marked. Proportion of girls in secondary enrolment is high at 45.6% and is still higher at higher secondary level (46.4%) (see Table 1). The proportion of girls enrolled is similar to proportion of girls in the population as a whole.

[4]Based on Secondary Flash Statistics (2013–14) and (2014–15).

[5]This does not take into account the colleges which provide higher secondary education.

[6]These are participation rates at secondary stage to be 90% and at higher secondary stage to be 75% by 2017, and universal retention by 2020.

Table 1 Proportion (%) of girls in secondary and higher secondary stage in 2013–14

Grades	% of girls
Grades 9 and 10	45.6
Grades 11 and 12	46.4
Proportion of girls in 14–17 age group	46.6

Source Secondary Flash Statistics (2013–14)

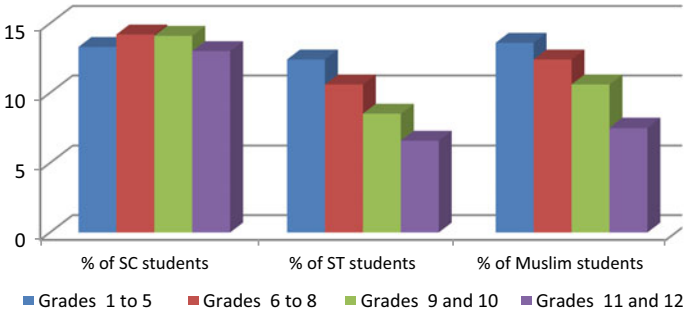

Fig. 2 Change in proportions enrolled over different stages of education among SC, ST and Muslims, 2013–14

1.3 Lower Proportion Enrolled from Disadvantaged Social Groups in Secondary and Higher Secondary Stage

If one looks at the enrolment of students from different social categories, a decrease in proportion enrolled is noted with increase in stages of education—mainly among the disadvantaged segments of population like the Scheduled Tribes (STs) and Muslims. The enrolment data of Scheduled Caste students, on the contrary, shows a more neutral picture—the proportion of SC students in total enrolment, at the primary stage, is similar to that in the higher secondary stage (Fig. 2). But the decline is very sharp among the ST students—a fall from 12.4 to 6.6%, and among Muslim students from 13.6 to 7.5% (Secondary Flash Statistics 2013–14).

1.4 Dropping Out During Secondary Schooling—Peaks After Class 10

Figure 3 shows the drop-out rates after Class 9, Class 10 and Class 11. We find that the drop-out rate in 2013–14 is quite sharp between Classes 9 and 10 (8.5%), and still sharper between Classes 10 and 11 (16.6%). The same pattern was seen in the previous year.

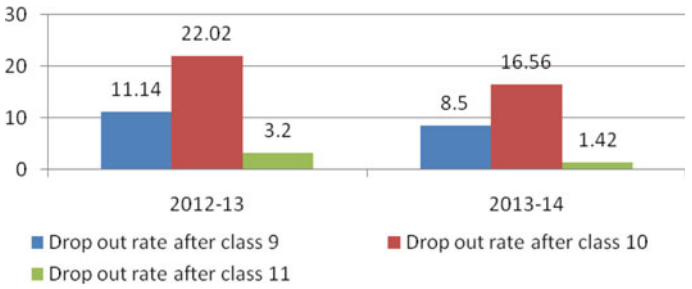

Fig. 3 Dropout rates after Classes 9, 10 and 11. *Source* Secondary Flash Statistics (2012–13) and (2013–14)

1.5 High Pass Percentages in the Board Examinations in Classes 10 and 12

Critically important for secondary education is the performance of students in the Board examinations[7] at the end of Class 10 and Class 12.

UDISE data shows that the pass proportions are very high at secondary stage (90% in 2013–14) (see Table 2. The pass proportions were already quite high in the previous year at above 80%. But there has also been a sharp increase. In both years, promotion rates are higher for girls than boys.

The pass proportion in 2013–14 at higher secondary stage (see Table 3) was reported to be similar to that at secondary stage—very different from the previous year when only 60% of those who appeared for the Class 12 examination were declared to have passed. The sudden improvement in performances may indicate a positive change, but the reasons behind the change need to be further explored to

Table 2 Pass percentages in Class 10 Board Examinations

	Boys	Girls	Total
2012–13	82.2	84.6	83.3
2013–14	88.7	91.5	90.0

Source Secondary State Report Cards (2013–14) and (2014–15)

Table 3 Pass percentages in Class 12 Board Examinations

	Boys	Girls	Total
2012–13	54.6	58.5	56.4
2013–14	87.8	91.6	89.5

Source Secondary State Report Cards data (2013–14) and (2014–15)

[7]Not all children appear for examinations conducted by Maharashtra State Board. A considerable number of children, particularly from elite private and government schools, appear for CBSE or ICSE Board examination.

Table 4 Pass percentage of students from different social groups in Class 10 Board examinations, 2013–14

Social category	Secondary board examinations	Higher secondary board examinations
General castes	92.8	91.2
Scheduled Castes	86.1	89.8
Scheduled Tribes	84.5	92.8
Other Backward Classes	89.4	91.5
Total	90.0	91.2

Source Secondary State Report Cards (2014–15)

arrive at a conclusion. There may have been a change in the manner assessments were made, rather than reflecting an actual change in students' learning levels.

As Table 4 shows, the pass percentages in Tenth Boards are lower for children from Scheduled Tribes and Scheduled Castes as compared to children from OBC and 'general' categories. It is interesting to note that such differences are not noticeable for Class 12 Board examination.

1.6 High Proportions Enrolled in Government-Aided Private Schools

Maharashtra has had a history of private participation in the provision of secondary education from colonial times, particularly in Western Maharashtra (lower in Vidarbha and still lower in Marathwada where secondary schooling is reported to have traditionally been provided by the government).

In 2013–14, of the 15,820 secondary and 7834 higher secondary schools in the State, a major proportion (60%) were private schools which received financial support from the government on grant-in-aid basis. These private-aided schools had more than three-fourths of students enrolled in Grades 9–12 (see Fig. 4a,b). The government schools accounted for a very small proportion of enrolment primarily run by local bodies/Zilla Parishads. There were also schools run by the Tribal Development Department and by the Social Welfare Department, as well as schools aided by these departments. Enrolment in the government schools was a higher proportion at secondary level (7%) than at higher secondary level (3%) (see Fig. 4a, b).

It is worth mentioning that while government schools were run by various departments, the private-aided schools were run by non-profit trusts, which varied in their size and resources and management capacity. Within each category of school management, there were considerable heterogeneity in management and organisation.

There were also a substantial proportion of unaided schools, 32% among secondary schools and 36% among higher secondary schools. However, they accounted

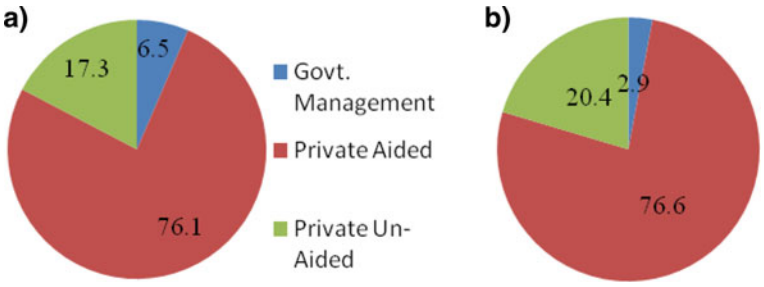

Fig. 4 **a** Distribution of secondary enrolment in Maharashtra by school management in 2013–14. **b** Distribution of higher secondary enrolment in Maharashtra by school management in 2013–14 *Source* Secondary Flash Statistics (2013–14)

for between 17 and 20% of student enrolment (see Fig. 4a, b). It is noteworthy that four-fifths of students enrolled in Grades 9–12 in Maharashtra are enrolled in non-fee-paying schools.

1.7 Cost of Schooling Increases Substantially at Secondary and Higher Secondary Stages

From the ninth grade onwards, parents have to cover the cost of textbooks, notebooks, stationery and uniforms in addition to other costs associated with schooling, though in the government and government-aided school, no fees are charged. Till the eighth grade, these are covered by the government (through Sarva Shiksha Abhiyan). Education department does not collect information on expenditure on education. But NSSO data, collected through reliable household surveys, indicates that average annual expenditure per student enrolled at secondary/higher secondary level in 2014 in Maharashtra was Rs. 13,053, of which more than half was being spent on private tuition (Table 5).

Costs at secondary stage were found to be much higher at 1.6 times costs at middle stage. Costs at senior secondary stage were found to be 1.7 times that at secondary stage.

Summing up, we note how the picture we get from secondary data is mixed. There are many positives—high enrolment at secondary level and high pass percentages in Board results at both secondary and higher secondary levels. However, the costs of schooling are high at secondary and higher secondary level, particularly on private tuition, and there is considerable drop-out after Class 10. GER is much lower at higher secondary level (59), and NER is as low as 36, indicating that there is a long way to go for universalisation of secondary schooling. In the next section, we focus on the primary data collected in 2015.

Table 5 Average annual expenditure per student by items of expenditure in 2014 (in Rs.)

Item of expenditure	At secondary/higher secondary level
Fees in school (miscellaneous)	4637
Books and stationery and uniform	2370
Transport	1990
Private tuition	6808
Other expenses	877
Total	13,053

Source Calculated from NSSO (2014) 71st round

2 Key Findings from the Field Research

The findings from the primary data come from a Statewide survey of 192 secondary and higher secondary schools in urban and rural Maharashtra. These were government and government-aided schools[8]—unaided schools were excluded. Insights into the working of the system also came through interviews with DEOs and BEOs in the districts selected for the survey.

Sampling for the school survey

The sample was selected through a stratified random process. Maharashtra has nine divisions for education administration.[9] Mumbai division was excluded (as schools were likely to be of a different character). Two districts were chosen randomly from each of the eight remaining divisions. Twelve secondary/higher secondary schools were chosen from urban and rural areas from each district and selected randomly from a list of all government and government-aided schools (offering Classes 9 and 10)[10], through a probability proportional to size (PPS). The sampling strategy made it likely that government and government-aided school of different managements in the selected districts are included.

The surveyed schools varied widely. Most schools were functional and were well attended. However, several shortcomings were also observed.

[8]Schools with only Grades 11 and 12 (also called junior colleges) were also excluded from the sample.

[9]Konkan; Pune; Kolhapur; Nashik; Amravati; Nagpur; Aurangabad; Latur; and Mumbai.

[10]All schools with secondary and higher secondary classes were included in the sampling universe, but those with only Classes 11 and 12 (referred to as junior college) were excluded.

Table 6 Student-classroom ratio in secondary and higher secondary schools

	Secondary schools	Higher secondary schools
Minimum	22	23
Maximum	80	118
Average	49.3	60.1

Source CORD survey 2015

2.1 Large Class Sizes at Secondary and Higher Secondary Level

The average student classroom ratio (SCR) in the surveyed secondary schools was as high as 49 and in higher secondary schools was 60.[11] However, the surveyed schools varied in size (Table 6). More than one-third of the schools were comparatively small—their enrolment in Grades 9–12 was not more than 200. At the other extreme, one-tenth of the schools were extremely large, with multiple sections in each class and more than 1000 children enrolled (in Grades 9–12). The higher secondary schools had higher enrolment per grade and were the ones more likely to have multiple sections. The maximum class size was 80 in secondary schools and 118 in higher secondary schools. Teaching such large classes was a difficult task and had implications on the level of engagement of teachers with students.

Enrolment in urban schools was usually much larger than in rural schools. The average enrolment in Grades 9–10 in secondary schools in the rural areas was only 65, while in urban areas, it was approximately four times that figure—257. The rural–urban differences were observed in higher secondary schools as well, but were less pronounced.

2.2 Basic Infrastructure in Place, but Critical Gaps Exist

Secondary data indicates that infrastructure and facilities in secondary schools are more than adequate. However, it is critical to find out how functional the facilities are, and whether they are sufficient for the students. Else, the problems the students and teachers face due to inadequate provision and lack of maintenance will remain invisible.

Some schools had well-maintained buildings. This was, particularly, in the case of urban schools run by large trusts. More generally, infrastructure was in need of maintenance. The availability and usability of facilities were, in general, greatly impacted by the availability of staff, or lack of it, to maintain the infrastructure and facilities that were in place.

[11] Our data excludes institutions with only Grades 11 and 12 for which SCR was reported to be particularly high. This explains why SCR at both secondary and higher secondary stages from UDISE, 2013–14, was as high at 51 and 66.

Schools, usually in the rural areas, had small buildings comprising a few classrooms. One government secondary school was in urgent need of repair: 'water comes into the rooms during the rains. There are not enough desks for students. Most of them were broken. The drinking water was reported to be not safe to drink. There were fans only in the office, the staffroom and the laboratory. The entrance gate was broken'.

The classrooms were usually large, with adequate benches and long tables. In some cases, there was overcrowding, particularly when there was very high enrolment. And there were schools where students had to sit on the floor. In several schools, there was evidence of construction of new classrooms while the present classes were being held in tin sheds or by sharing the building with another institution during school hours.

While basic infrastructure was available in a large number of the surveyed schools, the schools were not safe and secure. At least half the schools had no concrete boundary walls, or the walls were such that they could easily be scaled. Many had only a wire fencing around the school. This is a major problem in that students could come and go as they wished. The problems are aggravated by the fact that even when schools had gates, they were not usually locked. During the school survey, it was observed that the gates were locked in only around one-fourth of the cases, and only on very rare occasions was there a person manning the gate.

It is surprising that in a substantial proportion of secondary and higher secondary schools (22.4%), there were no lights and fans at all. In a few schools, lights and fans were functional in some rooms like the office and staff rooms, classrooms of higher grades, but not in others. At the other extreme, there were schools with all rooms equipped with lights and fans, and even speakers and video monitoring facilities.

While most schools had arrangements for drinking water, these were not adequate, especially in those schools with high enrolment. Students were observed to bring water from home.

The situation was more problematic with regard to usable toilets. Almost all schools had at least one toilet each for boys and girls—very similar to the data available from UDISE. Only in approximately three-fifths of the schools were these toilets functional. This was due to lack of cleaning and maintenance. Running water in toilets was, particularly, scarce. In addition, in nearly half the schools, there were only one toilet for boys and one for girls, and this was a major problem where enrolment was high.

In only half the surveyed schools (52%) was there running water in toilets. This made the toilets difficult to use. The drought-ridden districts were especially affected. In Jalna, the survey team observed that though the majority of the schools surveyed had many toilets, with some of them newly constructed, they were not used because of lack of water. Young people had to relieve themselves in the open, a sad indictment of the facilities provided to them (Table 7).

Less than half the schools had any ramp built for ensuring ease of access for CWSN. Nearly 40% of school buildings were double or triple-storeyed, but no provision was made for them to be accessible to CWSN. Accessibility of toilets was

Table 7 Availability and usability of toilets in surveyed schools

Toilet facilities	Proportion of schools where the following facilities are	
	Available	Usable
At least one separate toilet for boys	94.1	59.9
At least one separate toilet for girls	94.7	58.2
Running water in toilets	–	51.7

Source CORD Survey 2015

Table 8 School infrastructure in urban and rural schools

Proportion (%) of schools with	Rural	Urban
Usable lights	61.0	86.3
Usable fans	50.4	72.5
Running water in toilets	39.0	78.4
Usable toilet for boys	49.6	78.4
Usable toilet for girls	46.8	82.4

Source CORD Survey 2015

even more restricted. Only in less than 10% of the schools were the toilets accessible to CWSN.

Infrastructure and facilities were much better in the urban than in the rural areas. The table below compares schools on several parameters and indicates the enormous variations that exist. In general, urban schools were larger and better funded. They were, more often, run by the larger trusts. Among the surveyed government schools, those managed by the Zilla Parishads and the Tribal Development Department had poor infrastructural facilities, and these were more likely to be in rural areas (Table 8).

In urban areas, about one-fourth of schools had poor infrastructure on the selected parameters whereas in the case of the rural areas, this applied to at least half the schools.

2.3 Important Gaps in Library and Laboratory Facilities

Secondary schools are expected to have a library for the students, a laboratory for science classes and a computer laboratory. Secondary data indicates that there is a shortfall in facilities like availability of library, science laboratory and computer room. The survey confirms this and gives additional information on functionality of these facilities. It revealed that while nearly 70% of the surveyed schools reported having a designated library room and 78% a designated science laboratory, only in less than 50% of the schools were these rooms functional. In particular, the schools which had a shortage of rooms were seen to use the same space for multiple purposes.

In many schools, field investigators noted that science laboratories did not have adequate equipment and also were in no state to be used. Some examples indicating students' lack of access to these facilities are given below.

- In a school in Gondiya, the same room doubled as a science laboratory, computer room and sports room.
- The library or science laboratory was seen to be used as staff meeting rooms.
- In many schools, the library books were stored in the staff room or the principal's room.
- A school in Bhandara (Nagpur division) had no separate laboratory or library. Instead, the laboratory equipment was stored in cupboards located in a corridor. The library books were stored in a cupboard in the headmaster's room.
- In a poorly maintained Zilla Parishad school in Osmanabad, the students complained that even though the school had a science laboratory and a computer room, they were never used.

Overall, students were disappointed about the limited opportunity they had to do any science practicals as well as to make use of library facilities in their school.

The situation was more positive regarding computer laboratories. A large majority (83%) of surveyed schools had a computer room, and most of these (77%) were reported to be functional. Irrespective of whether the school had a separate computer room or not, more than 90% of the schools had computers, and they were observed to be used. This was a recent phenomenon, as in 60% of the schools, the computer room was built in 2010 or later. In several schools (24%), the computers were purchased with RMSA funds.

There were problems for students in this area too. The number of computers usually varied between 6 and 12—and, given the class size, this meant limited access for individual students. Nearly half the schools also did not have separate computers for staff. There were some schools where computer classes were not being held at all. In one such school, there were computers in all the classrooms but no teachers for the subject. The computers were also not in working condition and had not been in use for two years.

Overall, here too we found urban schools comparatively well equipped, with more than 70% of them having a usable library, a usable science laboratory and a usable computer room. In rural areas, only 37% of schools had a usable library and only 39% of schools had a usable science laboratory.

It is important to note that the usability of the library facilities and the science laboratories, in particular, was affected by the lack of sanctioned posts in both government and government-aided schools for this work. In their absence, the work fell on the teachers.

2.4 More Teachers Needed for Specific Subjects

During the school survey, very few principals talked of shortage of teachers as a major issue, with PTR being low in most schools. But in one-third of the surveyed schools, they did report a shortage of teachers for specific subjects like science, mathematics and English.

The grant-in-aid norm in Maharashtra is to finance salaries of all teachers and non-teaching staff in sanctioned posts. It was reported that schools faced a problem when additional teachers were required because of increase in enrolment or introduction of new subjects or on account of retirement of the earlier staff. The candidate chosen by the school management needed to be approved by the District Education Officer. The whole process was quite time-consuming. In the interim period, teachers were funded by the school management in aided schools.

The District Education Officers confirmed the difficulties brought up by the school with regard to lags in sanctioning of additional teaching posts. The DEOs spoke of many vacant teaching posts and said that no new posts had been sanctioned in the government and government-aided schools in recent years. Some schools had surplus teachers (specifically those in which enrolment had declined), while there were vacant teaching posts in other schools. Progress in rationalising teacher appointments was reported to be slow.

The schools dealt with these shortages in different ways. One was to allot more classes to each teacher, giving them less time for preparation, corrections and so on. The other was to appoint teachers on contract.[12] Four secondary schools had employed contract teachers.

At the higher secondary level, the difficulties in recruiting teachers were aggravated further, particularly for commerce and science teachers. When schools had only one section of a stream in Classes 11 and 12, with numbers too few for a full-time regular teacher's post to be sanctioned, teachers have to be recruited either on part-time or on contract basis. Qualified teachers, particularly in the commerce and science streams, were reported to find the approved rates for contract teachers too low. Several higher secondary schools had, however, employed contract teachers for some of the subjects taught only in Grades 11 and 12.

2.5 Language Issues: Introduction of Semi-English Medium Schools

The schools covered in the survey were primarily of Marathi medium (65%). There were a few Urdu medium schools. A significant development noticed was the significant number of semi-English medium schools (28% of the surveyed schools), where

[12]Teaching posts in government and government-aided schools are reported to be highly valued. The government has now put in place a policy where contract teachers will be regularised after three years, which is likely to make even contract teacher jobs very attractive.

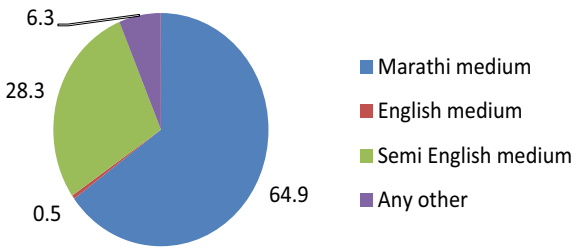

Fig. 5 Distribution of schools by medium of instruction

science and mathematics were taught in English, and other subjects in Marathi (or Hindi or other Indian languages).

This development was introduced by the Education Department in 2009.[13] Marathi medium secondary schools were encouraged to have at least one division in which science and mathematics would be taught in English in Grades 5–10. This would help the existing schools in two ways. First, it would stem the outflow of students to English medium schools, which had been rapidly increasing,[14] to the extent that an absolute decline in enrolment in Marathi medium schools had been reported.[15] Second, on account of this reported decline in enrolment, there were surplus teachers in many schools and these teachers could be retained if they were able to teach in the new semi-English sections (Fig. 5).[16]

2.6 Working Days and Working Hours Need Monitoring

While secondary schools are expected to function 230 days in a year, during the fieldwork, it was seen that apart from the official holidays declared by the State government, the schools in different locations were closed for various reasons. Besides, there were days when the schools were officially open but had very low attendance of teachers and students. These included days when local body elections were held in some districts—schools were disrupted for a week, as the teachers had to attend the training, and then make arrangements to hold elections in school. During Ganesh Puja, though only three to four days were officially declared as holidays, it was difficult to find students and teachers in school on the days preceding the official holidays

[13]Government Resolution SANKRIN 2009/(576/09)/MASHI-1, ibid.

[14]The state government allows the setting up of schools by private trusts or societies on a self-financing basis. This, along with parents' increasing interest in English medium education, has encouraged the setting up of fee-paying English medium schools.

[15]This is in spite of the fact that the government responded to parents' interest in their children learning English by introducing English as a subject in Class 1 in government and government-aided schools from the year 2000. See Government Resolution Supra 1099:180/99/PRASHI-5, cited in 'Policies of Maharashtra Government regarding English Teaching', at http://shodhganga.inflibnet.ac.in/bitstream/10603/9412/12/12_chapter6.pdf.

[16]Thakare (2012).

Table 9 Distribution of surveyed schools by number of shifts

Type of schools	Proportion of schools with	
	One shift	Two shifts
Secondary schools	80.4	19.6
Higher secondary schools	33.7	66.3
All schools	57.0	43.0

Source CORD Survey 2015

as well as some days after. There were considerable variations in the number of days the schools were actually functioning (Table 9).

There were also variations between schools in the number of working hours. A major reason for this was whether the schools were single-shift schools or double-shift schools. A study of the school timings showed that while a single-shift school, on average, functioned for around six hours, the hours were shorter for both the shifts in the double-shift schools. The morning shift, in particular, functioned for five hours or less.

There was a great difference between the secondary and the higher secondary schools. The majority of secondary schools were single-shift schools (80.4%). Only those with high enrolment and limited infrastructure functioned in two shifts. However, two-thirds of the higher secondary schools (66.3%) were functioning in two shifts. In these schools, Grades 11 and 12 were more commonly held in the morning shift and the secondary grades in the afternoon shift. The reason why the higher secondary sections, with larger curricular workload, are kept in the shorter morning shift is not clear. It is possibly related to norms that are required to be met at secondary and higher secondary stages of schooling.

2.7 Board Examination Results Good, but not Explained by School Quality

The results of the Class 10 Boards in the surveyed schools were very positive in the previous year—where more than 85% schools had a promotion rate higher than 80%. The average promotion rate was 90%. This appears to be an unusually high performance, given the variations in school quality and considering that not all schools were functioning well.

In several schools, it was noted that though the promotion rates were high in the Class 10 Board examinations, the promotion rates after Class 9 were quite low.[17] It is likely that this is done in order for schools to show better results in the Board examinations. This trend was observed particularly in the Zilla Parishad and other government-managed schools. However, it is reported to be an issue in

[17]In some private-aided schools, on the contrary, it was seen that the schools which had low promotion rates in the Board examination had a very high promotion rate after Class 9.

secondary schooling across the State, and the government is considering monitoring the examinations in Class 9 so as to avoid this phenomenon.

The very high pass percentages in the Class 10 Board examinations can be partly explained by the high marks scored in the internal assessment. Thirty per cent of all subjects are assessed internally by the school teachers. Thus, a student who scores high in the internals may pass the Boards even if she scores poorly in the external examinations. Further, students were reportedly being given high marks in the internals.

The Class 12 Board results were even better. This can be due to the fact that there is a selection process when admitting students to Class 11. First, all the students who had failed or had compartmentals in the Tenth Boards are likely to drop out from formal schools. Some drop out on account of this transition between schools. Choosing streams at the higher secondary level allows for further selection (and filtering out) to happen. The schools which have a better reputation have the option of getting students with higher marks. This process of gaining access to schools and streams of choice is not a smooth one, and some students, particularly from disadvantaged socio-economic backgrounds, do end up falling through the cracks and dropping out of formal schooling altogether. Here too, the Board results are impressive even though the schools vary in quality.

2.8 Critical Role of DEOs and BEOs: Multiple Responsibilities and High Workload

The district- and block-level education administration was organised differently. At the district level, separate District Education Officers were in charge of primary and secondary education. But at block level, the Block Education Officers are responsible for primary and secondary education as well as adult literacy. The BEOs, thus, have limited time to focus on secondary schools and to coordinate with the DEO of secondary education. Non-teaching duties, such as elections and the data collection during the decadal censuses, curtail their time further.

There were many vacant posts of DEOs and BEOs in the 16 districts covered in the survey. Often, they have to take on the responsibilities associated with more than one post. Recruitment to these posts is reported to occur extremely slowly. As these administrative posts serve as an important link between the schools and the Education Department, vacancies slow down the normal functioning of the education system significantly.

The DEOs and BEOs had multiple responsibilities. Their daily routine was reported to involve large amounts of bureaucratic paperwork. They are the government authorities at ground level who have to take forward the policies and schemes adopted at the State level by the Directorate of Education and the Board of Secondary and Higher Secondary Education. There are a large number of schools under their supervision, and in addition, there is the need to deal with applications for recognition

and/or aid by new schools. Much of their working time is spent on forwarding documents sent by the schools to the Directorate of Secondary Education and, similarly, forwarding to the schools the responses received from the department. Examination times are particularly busy for them as the Secondary Board of Education does not have its own staff below regional level.

All the DEOs and BEOs reported that they have to deal with problems related to litigation[18] on an ongoing basis. There are several hundred cases pending in each district, and the DEOs and BEOs have to spend a considerable amount of time being present at court proceedings. They also reported that responding to RTI queries takes up a good deal of their time.

While one of the main duties of the education officers is to ensure that quality norms are met by the schools under their jurisdiction, very limited time is available for school inspection. With large number of schools under the jurisdiction of each officer and the rapid expansion in the number of private unaided schools, only select schools could be visited. Apart from the new schools, much of their limited time was spent in visiting schools with low enrolment or poor results, or schools against which complaints had been received. The fact that the conveyance costs for these school visits have to be met by them was reported to act as a disincentive. To facilitate the process of monitoring, the schools are expected to submit regular reports of their activities and grade themselves. But the education officers said that this was not done by many schools.

3 Some Challenges Reported by Adolescents and Their Parents

A smaller qualitative study, involving visits to households in urban and rural sites in four selected districts, provided data on the experiences of adolescents during secondary schooling, as well as factors in their home environment which facilitate or impede their efforts to access secondary education. Interviews with parents and adolescents were conducted using a semi-structured schedule.

Selection of districts: Four out of the 16 surveyed districts were chosen for the qualitative research. To ensure geographical coverage, one district from each of four different education divisions was selected, based on district-level indicators such as male–female literacy rates and proportions of SCs, STs and minorities in the surveyed districts. Amravati, Nashik, Solapur and Jalna were the districts selected.[19]

[18]These are cases in which teachers have taken the trusts (which own private-aided schools) and the government to court on salary and appointment-related issues.

Selection of sites: Within the selected districts, one urban and one rural school from those surveyed were selected, and for household survey, a site in the vicinity of these schools was finalised. Between 15 and 20 households, with at least one child in the 14–18 age group, were selected purposively to ensure that households with adolescents who have dropped out, and those with adolescents enrolled in Grades 9–12, can be interviewed. As exclusion from secondary schooling is likely to be concentrated in lower income groups and/or marginalised social groups (Dalits/tribals/minorities), selection of such households was prioritised.

The household interviews were supplemented by discussions with groups of adolescents, where possible. The triangulation of information from different sources in each site has given an in-depth understanding of the situation with regard to secondary education in that context for children from different socio-economic backgrounds. This phase of fieldwork provides rich information on how, in spite of a relatively developed secondary education system, children from disadvantaged social and economic background struggle to complete secondary education.

3.1 Access to Secondary Schooling Is an Issue

In the rural areas, at the secondary level, young people had limited or no choice since there was mostly only one government or aided school in the vicinity which they had to select even if they were not particularly in favour of it. Urban areas, generally, provided more options to parents and students to choose from.

Respondents reported that higher secondary schools, in particular, were often not at convenient distances from their homes, and they had to spend a fair amount of time in travelling to get to school. This problem was acute in rural sites of all the four selected districts. In three of the rural sites, all the students needed to travel to the nearest town/city if they wanted to continue their education beyond Class 10. In one site, there was a higher secondary school, but it offered only the arts stream.

Students and parents often complained that transport facilities, which did exist, were not tailored to facilitate their reaching school in time or getting home at the end of the school day.

[19] Amravati is part of the Amravati division (Inland Eastern) and has a high Muslim population. Nashik is part of Nashik division (Inland Northern). It has a large Scheduled Tribe population which is as high as 40% in rural Nashik. It also has a high proportion of Muslims, in one of its urban blocks. Solapur is part of the Pune division (Inland Western). It has a high Scheduled Caste population of 15%. Jalna is part of Aurangabad division (Inland Central). It is economically poor and extremely drought-prone. Gender differentials in literacy rates are high (males 81.5% and females 61%) Maharashtra Human Development Report (2012).

- Irregular bus services, sometimes, meant that students missed their first classes. In the rural site in Amravati, students had to travel for an hour to get to their school where they were enrolled in Classes 11 or 12.
- Students from Jalna complained that they spent 2–3 h travelling to and from school, while accounting for the delay caused by waiting for buses.

In some cases, students had to walk substantial distances to get to the bus stop and this was a cause of concern for adolescent girls, especially during the evening hours. There were some costs associated with this travel though most students were availing of the discounted travel pass[20] provided by the government.

The need for setting up of more schools also comes through from the interviews with DEOs and BEOs, who reported that in the last five years, no new government or aided schools had been sanctioned in the areas in which they worked. Neither had any government and government-aided schools been upgraded to higher secondary stage.

3.2 Costs of Schooling Increase Substantially at Secondary and Higher Secondary Stages

Secondary data from households surveyed showed increased cost of schooling at this stage. The families interviewed for the study reported that this spike in expenditure after Class 8 posed a substantial burden. At this stage, expenditure on books and transport was high. Expenditure on private tuitions added to the expenses. Among our respondents, the amount spent per month on tuitions was reported to vary from Rs. 200 to Rs. 1000. Parents were apprehensive about the teaching in schools.[21] This fuelled the reliance on tuitions, study guides, model answer sheets, notes, etc. The problem was acute for families with more than one child in these stages of schooling.

3.3 Issues Related to Teaching and Learning Activities in School: Students Struggle to Cope with Curricular Demands

Students shared their views about different subjects taught in school. They needed a lot of preparation for the annual examinations in Classes 9 and 11, and the Board

[20]The pass needed to be renewed every 3 months. Getting the pass made and renewed was reported to be quite cumbersome. If there was any waiting period for the renewal, students reported that their costs increased substantially.

[21]Some parents are keen for their children to excel to increase their opportunities to get better employment opportunities. Some parents are apprehensive that their child may fail. They are concerned about the amount they spend during the Board examination years and are reluctant to spend this amount second time.

examinations in Classes 10 and 12. It appeared that much of this consisted of rote learning.

Most students enjoyed studying Marathi because they found it easy to understand and follow. However, English was difficult for a lot of students. While they expressed eagerness to speak English fluently, they experienced difficulties in comprehension as also grammar.

Students in Classes 9 and 10 reported struggling with the level of difficulty of the curriculum in mathematics and science, in particular. These were the subjects for which students resorted to tuitions and extra coaching. Many parents and students thought that this was imperative to get good marks in these subjects. One parent in Nashik was very worried that her son refused to take private tuitions because she thought that he could not do well without the extra help. An important concern for students was the way in which science was taught. Students reported that teachers demonstrated the experiments rather than allowing students to carry them out themselves. When asked how they cope with their practical examinations, students said that they either get some help during the examinations or simply manage somehow.

Computer education was of great interest, but students and parents complained that students were not given functional computer skills. Students get very little face time with the computer and said they were asked to use this little time to explore programs like Paint which they did not see as holding much value. From the responses gathered about computer education given in school, it appears that it might be difficult for students to complete the basic tasks listed in the Class 10 ICT textbook.

Most students were unaware of vocational courses. In schools where vocational education was available, it did not appear to be taken seriously. These courses required higher fees which made them unaffordable for many. The classes were often held at a centre close to the school, but not in school. This travel out of school meant that students often missed parts of their first or last class. Apart from this, students said they found little value in these sessions as they hardly got a chance to do any practical hands-on work. Instead, much of their time was spent in journal completion and in making drawings.

3.4 High Opportunity Costs of Schooling

As students move on from early adolescence, the opportunity cost of their time goes up, with expectations that they will contribute to the household economy in some way, whether through earning and/or household chores. There was a large proportion of students who were overage for their class (higher proportions in rural areas compared to urban areas). Being older made them more vulnerable to dropping out of school—boys would be under greater pressure to earn, and girls would be under greater pressure to get married as they turned 16 years and above. There were also pressures on girls to earn but far less than that on boys. The overage problem was particularly acute among those in rural areas.

Boys from poor families in urban areas are seen to be the most vulnerable to dropping out of school at this stage. It is likely that they are responding to pressures to earn coupled with opportunities to earn. In general, motivation for education was high among SC families, compared to other disadvantaged groups.

3.5 Demand for Secondary Education for Girls Varied

While secondary data did not show a major gender difference in enrolment, the household interviews indicated that the demand for secondary education for girls varied. There were some who wanted their daughters to take up a professional degree. Parents in the SC community[22] were particularly keen on educating their daughters. A parent from Nashik told us that their daughter had done her graduation, and they would insist that after marriage, her husband would let her continue her education. They were very keen that their child takes up a job and be self-reliant. Such sentiments were reflected in the fact that there was, generally, no marked gender differential in school participation. School participation was, in many cases, slightly higher among girls.

Pressure on girls to drop out to do household chores does exist even while parents and young girls are keen on education. Sunita, an 18-year-old girl from the urban site in Solapur, had to drop out of school to take care of household chores. She had an elder sister who carried the load, but, after her marriage, Sunita had to take up the responsibility of looking after the house and the her family livestock. Her parents spent most of their time on the farm and refused to allow her to study and attend school.

There were parents who were not keen on girls continuing their education after the 10th grade. An important concern for those who did not want their girls to study further was safety. Related to this were accepted community norms with regard to education. In some cases, these norms seemed to suggest that if a girl is educated beyond a certain grade, she would find it difficult to find an appropriate match for marriage. Community norms were also important because they indicated the appropriate age for girls to get married. Parents' aspirations for their daughters were tempered by these norms as much as by what was financially viable. There were instances wherein girls had dropped out because they were already married or were soon to be married. Some girls told us how their parents either were already looking for matches or had arranged for them to be married soon.

In general, the parents interviewed were reluctant to aspire for their daughters to go out to work and earn money. Some felt that it was wrong to take money from daughters, and that in any case their earnings should go to their husband's family. However, several parents were keen on seeing their daughters' learning skills to be

[22] SC and ST students were supposed to receive scholarships. Some students did report that they were accessing scholarships like Savitribai Phule for girls. However, not all adolescents from SC and ST families reported receiving these scholarships.

more independent. They were eager to enable them to fend for themselves after their marriage. Several parents had got their children enrolled into sewing classes because they felt this would enable them to earn money from the comfort of their homes.

3.6 Failure in Examinations a Critical Reason for Dropping Out

All these factors (lack of access to a functional school in their vicinity, high costs of schooling, curriculum-related issues, pressures to work, social norms) contribute in different ways to young people dropping out of school, particularly for those from disadvantaged groups. These students were also most likely to have difficulty in clearing the Board examinations.

Vishesh
Vishesh from Pandharpur had to quit school after he failed in the 10th grade because the family was too poor to allow him to continue with his education. His father had been jobless for 4 months because of the drought and could not pay for his schooling. Vishesh had to take up odd jobs to support his family. Vishesh, who is 18 years old, works as a farm labourer and does other manual tasks like digging wells. Vishesh also works on the family farm, looks after their cattle and sells milk to a dairy. He works for over 8 h apart from the time he spends in housework.

Out of our sample of 96 adolescent respondents, 24 had dropped out of formal schooling at some point after Class 8. The last straw in nearly all cases appeared to be failure to clear the annual examinations. Often, children were not even allowed to write the examination externally. Some parents asserted that if the child had not failed, she would have been allowed to study further. A corollary to this is that when parents were asked how far they would like their child to study, we frequently heard parents assert that they would keep the child in school as long as she did not fail. Girls were, particularly, vulnerable to being taken out of school as demand for schooling for them was weak and more so among Muslim families.

Sana
In a Nashik family, when a young girl failed in one subject in the Class 10 Boards, her father decided she should drop out. Neither the mother nor the daughter was in a position to go against his decision. This was in spite of the fact that the girl in question was extremely articulate and outspoken, and harboured dreams of joining the civil services. Her mother reported that she

had undertaken a lot of financial hardships to put her daughter through school. Now they were under pressure to finalise the girl's marriage.

3.7 Limited Information About Pathways to Better Employment Opportunities

The study involved discussion with students who were to pick their stream in Class 11 either in the next couple of months or in a year. However, most students were clueless about what they wanted to pursue. Often, they were confused about which stream they would have to select to secure a job of their choice. For instance, a Grade 10 respondent thought it best to choose the science stream to become a chartered accountant. This respondent was studying in a highly reputed private school in Solapur. This example provides an insight into the even greater need for information for students who were in less fortunate situations.

Students often did not know where to turn for advice about career choices and options, other than older siblings and parents. Students' aspirations also seemed to be restricted by their lack of information about possibilities. The problem is more acute in rural areas. A reason for concern is that many students believed that education up to Class 12 was enough to get them a job.

One restriction is that many options and subjects are not easily accessible to students. Children from rural areas seem to be very eager to move out of their village, one, out of necessity and two, to realise any possibility of fulfilling their ambitions. In urban areas, one heard of more varied choices of profession than in the rural areas.

4 Factors Which Play a Critical Role

In spite of major achievements, the challenges are many. Several systemic factors appeared to be at the root of these challenges and prevented their resolution. These are highlighted in this section.

4.1 Lack of Sufficient Resources

Much of the negatives in the schooling system have emerged from lack of sufficient resources. The overall government budget on secondary education has been increasing, but at a slow pace, while enrolment at this stage has increased rapidly. This has impacted the secondary schooling system in two ways. First, it is possibly the main

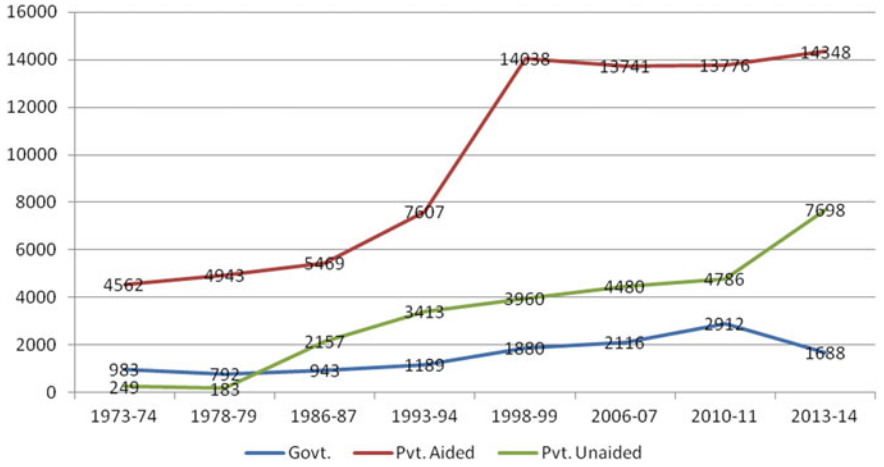

Fig. 6 Growth in the number of schools: government, private-aided and private-unaided. *Source* Data of 1973–74 to 2010–11 calculated from statistics of School Education; data for 2013–14 calculated from Secondary State Report Card

reason behind the variations in school quality. The composition of the budget shows that most of it is spent as a grant-in-aid to the private schools, and that too to cover primarily their salary expenditure. Very small amounts remain for other heads of expenditure.[23]

Second, the limited investment by the government in secondary schooling has led to expansion of the private unaided sector. In Fig. 6, we map the changes in proportion of government and private schools over the last 50 years. The number of government schools has remained more or less constant, and even declined in the last five years. Private-aided schools have dominated throughout. There was a huge spurt in aided schools between 1986–87 to 1998–99. However, over the last five years, the growth has levelled off. It is the private-unaided school sector which has been increasing since 1978–79, and in the last five years, there has been a huge spurt in these schools. All these changes are very much in keeping with the policy changes with regard to recognition and aid.

Third, the administrative set-up for secondary education is overstretched, with a surge in the number of schools and enrolment. At ground level, the administrative staff has not increased proportionately, and there are a large number of vacant posts. This has led to multiple duties for the district- and the block-level education officers, with very limited time allocated to inspection and monitoring of schools. A major part of their working hours goes into routine work, resolution of disputes and attending court cases.

Additional resources are available from the central government which has been providing finance for non-salary expenditure to cover several activities in government schools through RMSA. But the State was able to make only limited use as its schools

[23] Analysis of Budgeted Expenditure on Education (2010–11) to (2012–13).

were usually private-aided.[24] Over time, rules have changed and more RMSA funds have been allotted to private-aided schools but they are still quite limited.

Interviews with headmasters and education officers indicate that there have been frequent changes in the provision of aid to private schools. It is, thus, seen that aid for different private schools (which receive grant-in-aid) was not uniform and changed according to current government policies. At the two ends of the spectrum are those getting 100% aid (which includes those set-up decades ago) and those which get no aid and are entirely self-financing. Among the rest, there are schools with varying proportions of salary costs covered at different points in time. There are also some schools which can access a grant to cover non-salary expenses. Resource constraint is one of the important reasons behind these changes. This has led to a complex system in which identities of private schools change over time. Thus, schools which are unaided at a given point in time may be partially aided at another point in time. In addition to the fact that the identity of schools varies over time, we have variations within the same school even at a given point in time. Part of the school may be aided, partly unaided.

4.2 Multiple Institutions Involved in Secondary Schooling

Multiple departments are involved in administration of secondary schools, and lack of coordination among their activities has added to the variation in school quality. Apart from the State Education Department, the Tribal Development Department (TDD) and the Social Welfare Department (SWD) are actively involved in setting up and financing secondary schools, setting up hostels for students studying at secondary and higher secondary levels, and providing pre- and post-matric scholarships. At district, block and school levels, the Directorate of Secondary Education is responsible for all schools that are managed by the Department of Education, but has little to do with schools run by TDD, SWD or any other departments. The survey indicated that there is a need to have some level of uniform standards and norms across all schools to be monitored by a single body.

The Ministry of Human Resource Development plays a very important role through various centrally sponsored schemes, including RMSA. The Board of Secondary and Higher Secondary Education also plays a critical role in the secondary level, and all schools, run by different management, are under the Board to comply with guidelines on academic issues. While the Directorate of Secondary and Higher Secondary Education, the Board of Secondary and Higher Secondary Education and SCERT all have separate jurisdictions, there is some overlapping as well. For example, these bodies have introduced their own quality improving initiatives such as teacher training and monitoring and inspection activities. These different interventions are not coordinated by the directorate. The impact would be much greater

[24]The impact of RMSA contribution was not visible in the government schools covered in the survey.

if the initiatives were part of an overall and clearly defined plan to maximise their impact on the system. This is, particularly, important in the context of the crunch on resources.

The State has taken several steps to strengthen the system, but these need to be better coordinated. While GPS mapping has been successfully completed, new schools have not come up according to the plan. A new database, quite similar to but more comprehensive than UDISE data, was set up by the State government to help education administration in planning and monitoring. But there is little evidence that either data set is used at school level for actual planning and monitoring.

4.3 Variations in Quality of Education at Primary and Upper Primary Levels

The quality of schooling the students have had before the secondary stage plays a critical role in how students are going to fare at this stage. At the beginning of secondary schooling (in Class 9), there are students who are reported to have low levels of learning, and the curricular demands for the Board examinations are quite high. While education officials and teachers are very aware of this problem, there are no provisions in the current schooling system to deal with it in any way. Additional effort to bring these children up to the desired level of competencies is needed from the beginning of Class 5 itself and, at the very least, from the beginning of Class 9.

5 Concluding Remarks

As we have seen, the present education system has achieved a lot, but has not been able to provide good-quality secondary schooling for all. Children from tribal communities and Muslim families have the lowest participation in secondary schools. The schools, set up by the Tribal Development Department and the Social Welfare Department, or the Urdu medium schools set up for the Muslim children, are expected to address this exclusion, but they all face different issues, arising from lack of resources and lack of coordinated and focussed attention. While targeted interventions are required in order to address the problems of adolescents from these groups, there is also a need to ensure that the school system facilitates their integration into the mainstream, rather than marginalising them further. Major changes in policy and interventions are required to provide good-quality non-fee charging secondary education to students from disadvantaged groups that are falling through the cracks.

Whatever the shortfall in provision of secondary schooling, whether it is an issue of access or quality, the impact is felt particularly by adolescents from disadvantaged

groups. Their personal circumstances do not allow them to compensate for the deficiencies in the system, and they are the ones who are most vulnerable both to having low learning outcomes and to dropping out of the system without completing even Class 10.

Students' school experience differs with schools they get enrolled in. There are variations within the aided schools which form the majority of the secondary schools in Maharashtra. Run by trusts of different sizes, they vary enormously in their infrastructure, facilities and functioning. Similarly, there are major differences between urban and rural schools, and secondary schools and higher secondary schools. The few government secondary schools are mostly in specific regions in the State, are run by different departments and are generally underfunded and functioning poorly. The stratification is more acute at the higher secondary stage, where the unaided sector has grown in importance in recent years. Among the marginalised groups—SCs, Muslims and STs—it appears that students from SC families appear to be coping with the system and are most likely to complete secondary education. However, they may not be able to follow a pathway with good prospects. The choice of streams in Class 11 is determined by the students' learning competencies developed in earlier years. It is likely that many students from socially disadvantaged groups select arts because their marks were not good enough or the school they join does not offer any other stream or they themselves lack the confidence that they could cope with more difficult subjects. This works to their disadvantage in the long run.

Universalising secondary education in Maharashtra requires action from the multiple stakeholders involved—various government departments/trusts/teachers, parents and students. The government appears to be veering towards improving the prospects of those at the top of the social ladder by allowing for a greater role for the private-unaided sector. Such actions have grave consequences for those at the margin.

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Private Education, Equity, Quality and Justice in Secondary Education

Changing Public–Private Mix in School Education and Its Implications for Policy

Achin Chakraborty

1 Introduction

For long, quantitative expansion as indicated by increasing enrolment of children in schools had been the primary concern while reckoning progress in elementary education in India. In spite of the fact that the architects of Sarva Siksha Abhiyan (SSA) did qualify 'education' with 'quality' wherever the word appeared, the most visible indicator of progress in the past fifteen years has been increasing enrolment at the primary, upper primary and secondary stages, ever since the SSA was launched in 2001 as a massive programme to improve the public provisioning of school education. That the quantitative expansion has not been matched by improvement in quality is now a rather commonplace observation. However, even on the enrolment front, a significant achievement in the recent years has been bridging of the gender gap through a relatively faster growth in enrolment of the girl children.

The task of reckoning progress in elementary education in quantitative terms is far from straightforward. Serious measurement and data problems prevent one from making unambiguously conclusive statements. However, to make any evaluative statement—conclusive or otherwise—one has to depend on the available data on indicators that are widely accepted as 'standard'. The indicators for reckoning progress can be generally of two kinds—input-type and outcome-oriented. Even though ideally we should focus on the ultimate outcome, i.e. universalisation of school education with quality learning, the common practice is to look at gross and net enrolment ratios (GER and NER) and the rate of drop-out, which are taken as indicators of outcome, ostensibly for unavailability of time series data on learning. Examples of input-type indicators are pupil–teacher ratio, student-classroom ratio, percentage of schools with girls' toilet and so on.

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If universalisation with quality learning is considered to be the 'culmination outcome', percentage of out-of-school children might be considered as an intermediate outcome which would reflect non-enrolment and drop-out. The standard indicators of enrolment, such as the GER and NER, are obtainable from the District Information System of Education (DISE). Notwithstanding the massive data collection efforts of the Ministry of Human Resource Development (MHRD) and National University of Educational Planning and Administration (NUEPA), which have culminated in DISE and later U-DISE, estimates of even such basic indicators of enrolment as the GER and NER are rather unreliable.

The GER at the primary level has been exceeding 100 since the beginning of SSA. Since GER at the primary stage is defined as the ratio of the number of children enrolled in primary classes and the number of children in the age group 6–11, the numerator is likely to exceed the denominator if a good number of enrolled children are either below six or above ten. In other words, GER cannot be used to track progress towards universalisation of enrolment. Theoretically, NER should provide the information on out-of-school children as it takes the numerator as the number of children in the relevant age group who are enrolled. But actually, the NER figures based on DISE data show such unbelievable year-to-year movements at the national and state levels that any attempt to track progress based on these figures would be frustrated. For example, the latest DISE reports show that the average GER and NER at primary level are 105.98 and 90.78, respectively, which look reasonable. But the State Report Cards show rather absurd NER figures for the states, whereas primary NER in Chhattisgarh is 98, that in Himachal Pradesh is 86.7. In other words, while in Chhattisgarh, about two percent children in the age group 6–10 are out of school, in Himachal Pradesh, such children form 13.3%, which is clearly absurd because Himachal Pradesh is known to have moved much closer to universalisation vis-à-vis Chhattisgarh.

An alternative source of data has been the Annual Survey of Education Reports (ASER). Since 2005, Pratham, a reputed non-government organisation, has been conducting nationwide surveys every year on various aspects of elementary education and provides comparable time series data on a number of important indicators including estimates of out-of-school children and learning achievement. As expected, the percentage of children aged 6–14 who are out of school in rural India has declined since 2006, but in the past four years, it has remained sticky around 3.4 (Fig. 1). On the other hand, data from NSS 71st round (2014) shows that about ten percent of Indian children between the ages 6 and 13 were not attending school in 2014.

2 Resource Allocation Priorities: Equity and Efficiency

While charting out strategies to achieve universalisation of elementary education in India, the standard policy view tends to focus on the shortfall in physical and financial resources from certain normative standards and ends up recommending substantial enhancement of allocation of public resources to the sector in question.

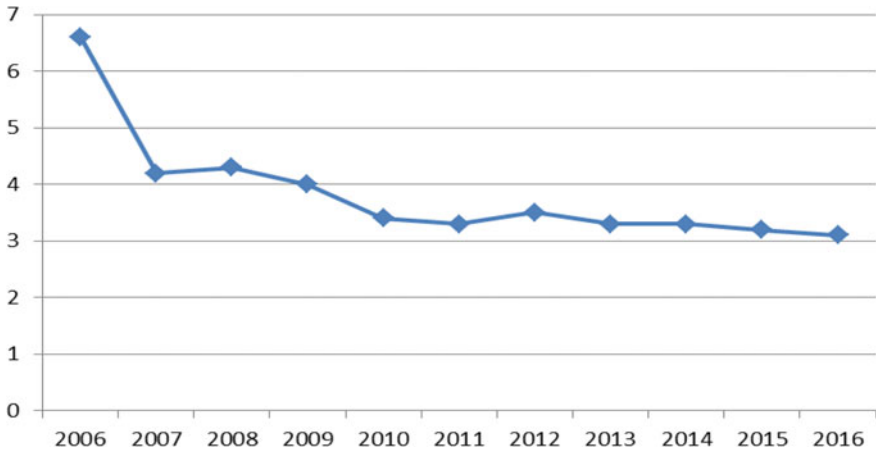

Fig. 1 Percentage of Indian (rural) children aged 6–14 who are out of school. *Source* ASER, various years

The proponents of this view, who might be called *supply wallahs* (Banerjee and Duflo 2011), seem to believe that it is the inadequate spending and inadequate physical infrastructure that is behind the poor education outcomes in India. They are often criticised by the *demand wallahs* who believe that unless there is enough interest among the parents to educate their children, there is no point in setting up schools. Even though it is generally acknowledged that the educational outcome is the result of the supply-side as well as the demand-side factors. Inadequate supply fails to generate adequate demand as the potential users remain unaware of the value of the service if the service itself is unavailable or of poor quality. Therefore, there is a strong case for improving the school infrastructure no matter how weak the demand appears to be. The *supply wallah* position can hardly be dismissed as there is plenty of evidence from the history of Europe and America which brings out most forcefully the role of the government in promoting mass education which in turn led to sustained economic and social development. Those experiences later inspired Japan to achieve universalisation of school education by the first decade of the twentieth century, largely driven by state initiatives. Later, South Korea, Taiwan, Singapore, Hong Kong and China followed more or less similar routes (Dreze and Sen 2013).

Table 1 presents a select number of indicators of school infrastructure for the past several years. Apart from the first indicator, which is the ratio of primary to upper primary schools, all other indicators refer to primary schools. As expected, there has been a steady improvement in all these indicators in the most recent years. What is to be noticed is that, while the overall pupil–teacher ratio has substantially declined between 2008–09 and 2015–16, the percentage of single-teacher schools has not declined as much. Most of these single-teacher schools are likely to be those with low enrolment. As a matter of fact, the last column shows that the percentage of schools that have enrolment less than fifty is not only substantial but also gradually increasing. This seems to pose a difficult problem of balancing efficiency of resource

Table 1 Trends in select indicators of primary school infrastructure in India

	Ratio of primary to upper primary schools	% single-teacher schools (primary)	% of schools with student-classroom ratio > 30	% of schools with pupil-teacher ratio > 30	Student-classroom ratio	Pupil-teacher ratio	% of schools having girls' toilet	% schools having enrolment < 50
2008–09	2.3	13.3	42.9	47.7	35.0	34.0	44.4	26.7
2009–10	2.2	12.3	40.6	45.8	32.0	33.0	51.0	27.1
2010–11	2.1	11.8	38.7	42.4	31.0	32.0	52.2	27.8
2011–12	2.1	10.8	37.2	40.8	30.0	31.0	65.4	28.4
2012–13	2.1	11.8	33.5	37.0	27.0	28.0	85.3	29.2
2013–14	2.0	11.5	30.4	32.0	25.0	26.0	84.2	31.3
2014–15	2.0	11.1	27.5	29.0	24.0	24.0	83.5	32.3
2015–16	2.0	10.67	25.7	26.0	23.0	23.0	97.0	33.5

Source DISE, various years

allocation with the goal of universalisation with quality. A lone teacher in a primary school with 4/5 classes cannot do justice to students even when total enrolment is as low as fifty or less. On the other hand, from resource point of view, allocating four teachers to teach less than fifty children would imply a high cost per child. The other notable aspect is that the country-level averages musk the fact that the indicator values increasingly deviate from these averages as we shift our focus from the country to states, districts and further down.

How sensitive have the resource allocation priorities been to these kinds of spatial disparities? In other words, do we generally observe that the districts with relatively low outcome achievement at the beginning of a period are also the ones that experience greater improvement in certain indicator during the intervening period? The answer, alas, is in the negative. In Andhra Pradesh, for example, the changes in the percentages of single classroom schools between 2003–04 and 2011–12 are in fact positively correlated with the district-level literacy rates in 2001, which means that the districts with low literacy rates in 2001 are also the ones in which the declines in the percentages of single classroom schools are the smallest (Fig. 2). This goes contrary to what is expected from spatial equity point of view.

In Bihar, for another example, there is high positive correlation between the decline in the percentage of schools without girls' toilet during 2003–04 and 2011–12 and female literacy in 2001 (Fig. 3). In other words, districts with relatively low female literacy in 2001 also experience smaller decline in the percentage of schools without girls' toilet, which is perverse from spatial equity point of view.

The evidence from other countries on the role of physical infrastructure in educational outcome is rather ambiguous. But in the Indian context, in a rather crude way, we find a positive correlation between a composite index of school infrastructure

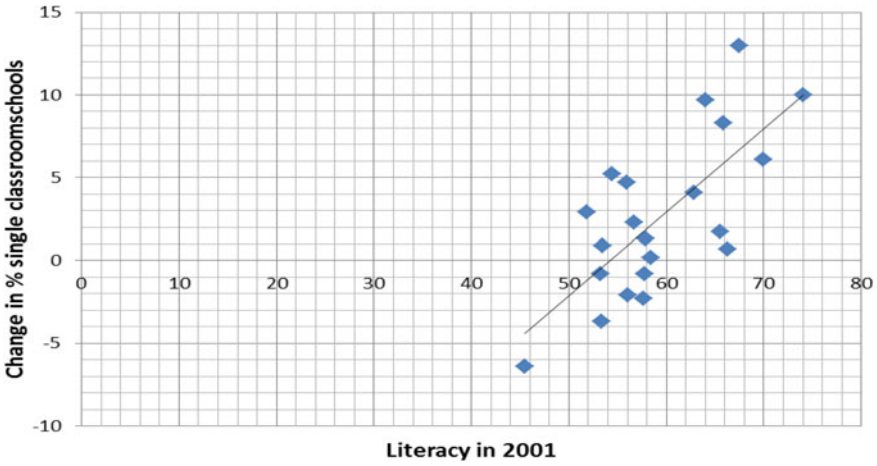

Fig. 2 Correlation between changes in percentages of single classroom schools between 2003–04 and 2011–12 and literacy rate in 2001 for districts of Andhra Pradesh. *Source* DISE and Census 2001

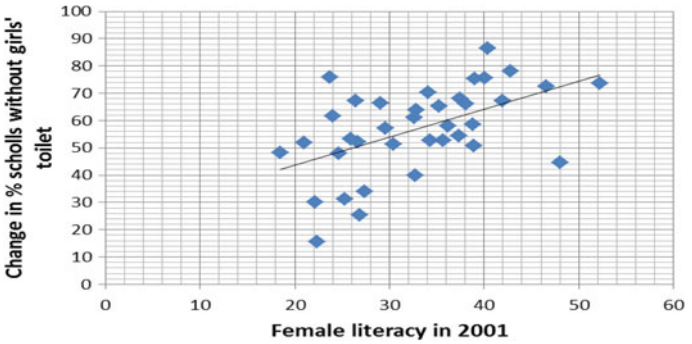

Fig. 3 Correlation between changes in percentages of schools without girls' toilet between 2003–04 and 2011–12 and female literacy rate in 2001 in districts of Bihar. *Source* Same as above

and the percentage of out-of-school children. Figure 4 presents the scatter plot of the two. While the former is taken as an indicator of resource inputs, the latter as an outcome indicator. The composite index has such components as the percentage of single-teacher schools, the percentage of single classroom schools, the ratio of primary to upper primary or secondary schools and so on. These indicators confine themselves to only the government schools. By and large, the states that are lagging behind others in terms of school infrastructure are also likely to have more out-of-school children. That the relationship is negative and strong enough shows that there is a strong case for improving infrastructure of government schools in states where the percentages of out-of-school children are high. This needs to be reemphasised since of late the SSA is being criticised for being excessively focussed on expansion of inputs with consequent neglect of the quality aspect. That the quality aspect is not being emphasised as much as it should be is no reason for ignoring the positive

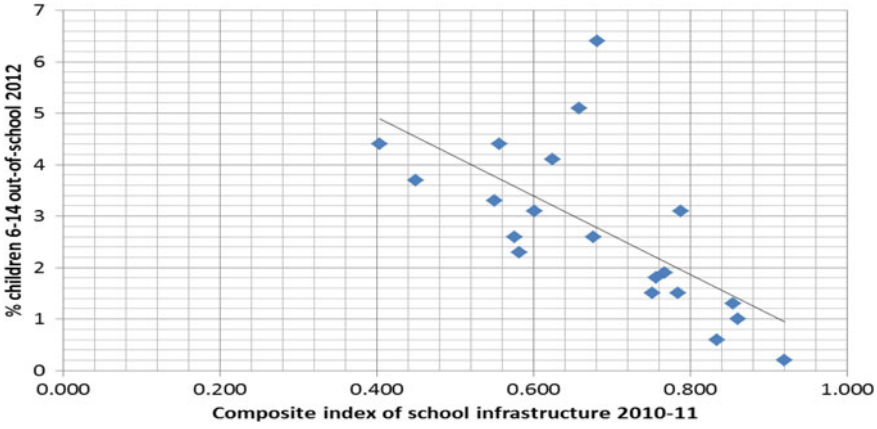

Fig. 4 Correlation between percentage of out-of-school children and index of school infrastructure. *Source* ASER and DISE

Table 2 Trends in learning achievement by children in government and private schools

	% children in Std III who can				% children in Std V who can			
	Read at least Std I level text		Do at least subtraction		Read at least Std II level text		Do division	
	Govt	Private	Govt	Private	Govt	Private	Govt	Private
2009	43.8	58.2	36.5	49.7	50.3	63.1	36.1	46.2
2010	42.5	57.6	33.2	47.8	50.7	64.2	33.9	44.2
2011	35.2	56.3	25.2	44.6	43.8	62.7	24.5	37.7
2012	32.4	55.3	19.8	43.4	41.7	61.2	20.3	37.8
2013	32.6	59.6	18.9	44.6	41.1	63.3	20.8	38.9

Source ASER, Pratham Foundation

contribution the school inputs make in attracting children to schools so that fewer children remain out of school.

3 And Quality of Outcome

At the all-India level, there are mainly two sources of information on learning achievement. Besides ASER, the other source is the reports based on occasional National Achievements Surveys conducted by NCERT. Contrary to what is observed about school inputs which have shown steady progress in the recent years mainly because of increased financial allocation through the SSA, there has been no sign of improvement in the learning outcome as reflected in standard test results As a matter of fact, according to ASER data, most indicators of learning outcome show a declining trend overall (Table 2). The declines are hard to explain. One possible explanation is that as the system progresses through quantitative expansion towards universal enrolment, the children with disadvantaged background find themselves in schools. As the schools become more inclusive, the average performance may deteriorate initially. What is really worrying is the relatively sharper decline in learning achievement in government schools.

4 Understanding Public–Private Mix

While agreeing with the view as we do that the supply side must be strengthened, we might still want to know how the enhanced expenditure would be translated into better outcomes. There is no unique pathway from expenditure to outcome, for it depends on the ‘system’ in place. By ‘system’, we mean all kinds of providers and consumers of services who interact as active agents. The increasing preference for

private providers in education and health care by a section of the population is a case in point.

One of the most significant aspects of school education in India is the growth in enrolment in private schools. Although the growth of private schooling in India is quite visible even in rural areas, the implications of this change remain poorly understood ostensibly because of data limitations. Official statistics obtainable from such sources as the DISE provide unreliable information on private enrolment. However, for the past couple of years now, ASER has been filling this gap. It is rather ironic that the exponential growth in private enrolment has hardly been affected by the enactment of the Right of Children to Free and Compulsory Education ACT 2009 which emphasises the state's duty to provide elementary education free of cost. Parents seem to continue to vote with their feet in favour of private schools.

We argue in this paper that we need to take into account the nature of the public–private mix as a system, while specific forms of supply-side interventions are envisaged, and without which, certain interventions may lead to unintended consequences. The lack of interest in understanding the role of the private sector while situating it in the overall context of the system may lead to unintended consequences of the policy. Although the growth of private schooling in India is quite visible even in rural areas, the implications of this change remain poorly understood ostensibly because of data limitations. Official statistics obtainable from such sources as the DISE provide very little information on private enrolment. However, at least for the past couple of years now, an alternative source of data called Annual Survey of Education Report (ASER) has been filling this gap.

From the viewpoint of the basic theory of choice, one can postulate that if parents are supposed to know what is best for their children, then by observing their choice, we come to the inevitable conclusion that private schools are of better quality than the existing public schools, at least in the parents' perception. If this perception turned out to be wrong, people would have learnt from it and revised their choice. The fact that enrolment in private schools is rising fast shows that people's belief is somewhat vindicated. However, the puzzle does not go away. The wide variety of small, unrecognised and unregulated private schools, frequently with poorly trained teachers, would hardly convince one about the superiority of private schools vis-à-vis the government schools.

In school education sector, the definition of 'private' is never clear-cut since many so-called private schools are heavily funded and regulated by the state governments, and there is no uniform pattern across the states. In some states, subsidies cover a large proportion of total expenses of private schools, and government control over hiring and firing of teachers, salaries, and student admissions criteria accompany these subsidies. Thus, in terms of the sources of funding and controlling of the decision-making like recruitment of teachers, public–private categories turn out to rather varied, instead of being bipolar cases of 'pure' private and 'pure' public. However, the data sources are not fine-tuned to capture this complexity. Figure 5 draws on the *Annual Survey of Education Report* (ASER) 2006 and 2012. Two points need to be noted here. First, private enrolment as a percentage of total enrolment varies from as low as 6.2 (Odisha) to 59.6 (Kerala). And second, in all the major states, except

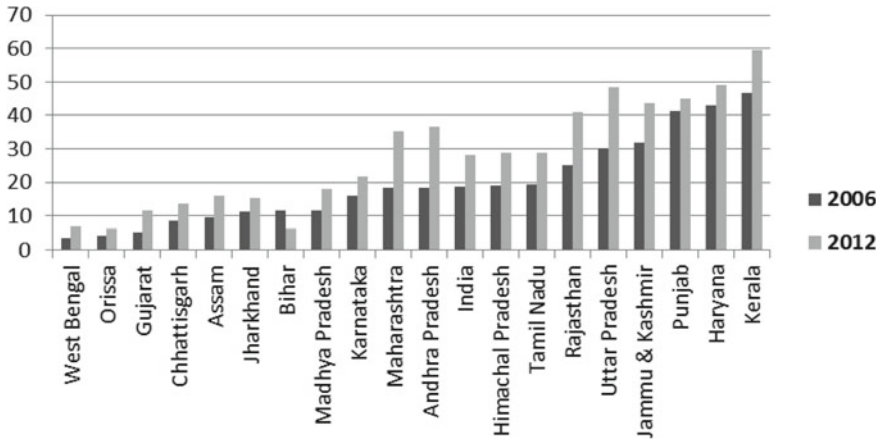

Fig. 5 Percentage of children age 6–14 years who are enrolled in private schools. *Source* ASER, 2006, 2012

Bihar, enrolment in private schools has increased between 2006 and 2012. In India, the percentage of children age 6–14 years who are enrolled in private schools has increased from 18.8 to 28.3.

It is often alleged that the growth in private schools is due to inadequacy of public provisioning, which in turn is the result of inadequate financial allocation to education (Jha and Parvati 2014). The vacuum created by the absence of public facilities is supposed to have been filled by the private sector which is essentially driven by the profit motive. In this view, the emergence and growth of the private sector in elementary education are the results of the failure of the public sector. As a consequence, most expert committees express the expectation that once the public provisioning improves following their recommendations, the importance of the private sector will automatically come down. However, the 'revealed preference' for private schools cannot be 'explained' by the supposedly low quality of government schools, as there might be a two-way relationship between the two. While low quality of government schools disappoints the quality conscious parents who in turn exercise their 'exit' option by opting out, the exit itself further deteriorates quality as it is likely that the first ones who opt out of the government facility are the most vocal sections of the population, leaving behind the parents who find it difficult to put pressure on the school management to improve quality (Hirschman 1970).

Figure 6 shows the scatter plot of rural poverty headcount ratios and the percentages of enrolment in private schools across major states. It roughly shows a negative relationship between the two. What it means is that lower percentages of people living in states with relatively low levels of rural poverty generally tend to 'choose' private schools for their children. In states with high rural poverty, the effective demand for private schooling is likely to be relatively low, and therefore, private schools have not spread as fast as in less poor areas.

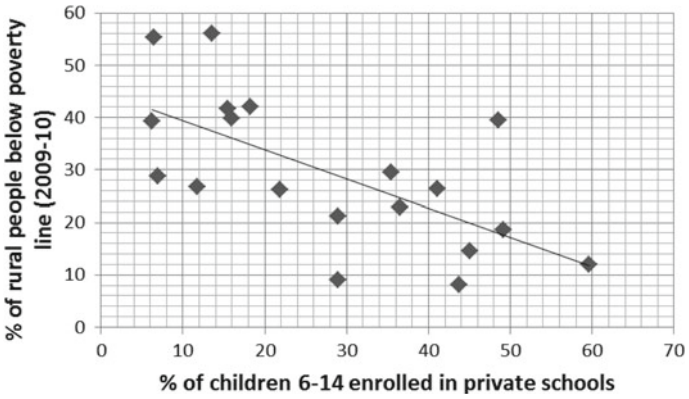

Fig. 6 Rural poverty and enrolment in private schools across Indian states. *Sources* ASER 2012 and Planning Commission

Economists have long been trying to understand the question of public provisioning of private goods, such as education. Why do the governments do what they do? In the normative literature, the reasons that are put forward for government intervention in the provision of education are externalities or other market failures such as imperfect information. Besides the market failure argument, one can bring in what Stiglitz calls 'ethical failure' as well, which roughly says that even if the market is efficient in the static allocative sense, there is still the possibility that a large number of children cannot access school education.

In the positive literature though, public provision of education is viewed as a form of redistribution. For example, Epple and Romano (1996) or Glomm and Ravikumar (1998) view it as redistribution from the rich to the poor since the poor do not have enough means to finance private education. In the context of higher education, Fernández and Rogerson (1995) show that public provision of education is actually redistribution from the poor to the rich, where the former are financially constrained from attending universities. Gradstein and Kaganovich (2003) perceive public education as redistribution from the old (who do not benefit from education) to the young (whose future income is positively correlated with education). Pritchett (2013) raises an even more fundamental issue with the state's 'desire' to provide schooling. He asks why did governments *produce* schooling rather than simply finance it, as they did with many other services? While schooling was expanding fast, why was there a deliberate elimination of citizen engagement and reduction in the local control of schools? While there were multiple factors behind direct provisioning by the government, the *decisive* element, according to Pritchett, was the desire of nation states (or state power) to control the socialisation of youth. He argues that, while all other goals of schooling can easily be achieved without government ownership, socialisation could only be achieved with direct ownership. Here, we are not going to discuss the merits of Pritchett's suggestion to make a separation between provisioning or direct production and the issue of finance. The idea of a kind of voucher system in

school education in India was put forward in the Approach Paper to the 11th Five Year Plan, and we made an extensive critique of the idea (Bagchi et al. 2006). We have not seen the idea to have resurfaced again in policy documents, though some experiments seem to have been conducted in a few states (Shah & Shah 2017).

5 Conclusion

In this paper, we have posed the issues of quantitative expansion and quality in elementary education against the backdrop of the changing role of the public provisioning of education vis-à-vis the growing private schooling in almost all the Indian states. In discussions of quality of elementary education, it is not usually seen that the issue is posed in a *systemic* fashion connecting it to the changing mix of public and private enrolment. Recent data showed that about ten percent of Indian children between the ages of 6 and 13 were not attending school in 2014 (NSS 71st round). On the other hand, enrolment in private schools has grown significantly in the past ten years (ASER). If increasing enrolment in private schools shows increasing demand for education and parents' willingness to pay for it, why are a good number of children not in school? In this paper, we threw some light on a little discussed aspect of the *system of organisation of education service delivery*. While charting out strategies to achieve universalisation of elementary education in India, the standard policy view tends to focus on the shortfalls in physical and financial resources from certain normative standards and ends up recommending enhancement of allocation of public resources to quantitatively augment the infrastructure (the *supply wallah* view a la Banerjee and Duflo 2011). A diametrically opposite view is commonly held by the financial press in India, which sees any government expenditure on the social services with suspicion and dubs such expenditures 'populist'. The supply wallah position can hardly be dismissed as there is plenty of evidence from the history of Europe and America which brings out most forcefully the role of the government in promoting mass education which in turn led to sustained economic and social development. Those experiences later inspired Japan, South Korea, Taiwan, Singapore, Hong Kong and China to achieve universalisation of school education (Dreze and Sen 2013). While agreeing with this view, one might still want to know how the enhanced expenditure would be translated into better outcomes. There is no unique pathway from expenditure to outcomes, for it depends on the 'system' in place. By 'system', we mean all kinds of providers and consumers of services who interact as active agents. In this paper, we have an attempt to identify certain features of the system that need to be taken into account whenever specific forms of supply-side interventions are envisaged, and without which, certain interventions may lead to unintended consequences. Certain empirical features of the education sector in India in the recent period are highlighted in support of our argument.

We have argued that while there is still a strong need for focussing on the supply-side issues that would further improve the equity aspect of both quantity and quality, any policy intervention has to be sensitive to the system in place, where, by system we

mean the entirety of the public and private providers on the one hand and the changing preferences of different classes of consumers of the services (here the parents of the children) responding to the supply side.

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Expanding Education Market and Parental Choice for Secondary Schools in India: Evidence from IHDS Data

Pradeep Kumar Choudhury

1 Introduction

The contribution of education to development and socio-political transformation of societies is widely recognised all over the world. In addition to direct contribution of education to economic growth and development (as discussed in human capital theory), it also produces many externalities that contribute to building a better society in terms of making an individual capable and self-reliant. It plays a critical role in human development and enables the development of human capabilities required for overall progress of the society. Education produces an array of social benefits such as reduction of poverty, improvement in income distribution, reduction in crime, improvement in the health status of the population and better life expectancy, rapid adoption of new technologies, strengthening of democracy, ensuring civil liberties (Tilak 1994a, 2004). Further, it has the effect of releasing the disadvantaged from the bondage of serfdom and inequality and help them achieve higher social mobility (Singh 2016: 1). Education is considered as an enabling factor for social prosperity and political stability and is, therefore, increasingly being viewed as an instrument of development, a foundation for the exercise of human rights and building human capabilities. It contributes to the prosperity and stability of democratic societies through creating well-informed citizens (Friedman 1955). Education is considered as a public good, as a merit good, as a human right and as an investment, a critical investment for individual as well as national progress. It works as a powerful instrument for socio-economic development of the nation and for building a strong and vibrant knowledge society (Tilak 2018). Therefore, education plays a critical role in accelerating economic growth, reducing inequalities, achieving socio-political transformation of societies, and overall prosperity of the nation.

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Secondary education is a crucial stage in the educational hierarchy as it serves as the gateway to access higher education and also prepare the youth to join the world of work (Mishra 2015). It is well argued that providing access to secondary education is essential to ensure the continuation of reforms, aimed at achieving economic growth and development and also in realising the goals relating to universal primary education as the children completing primary education expect to pursue secondary education (UNESCO 2013). It serves as a bridge between primary and higher education and is considered an important segment of the school education system. Further, access to secondary education is linked with economic and social development and is considered as one of the strongest instruments for improving health, gender equality, peace and stability in society. The study by Lewin and Caillods (2001) reveals that secondary education promotes the development of a skilled and knowledgeable citizenry through formal reasoning, critical thinking and problem-solving skills. It contributes to students mastering literacy, numeracy and acquiring an understanding of the world around them. Tilak (1989, 2007) has argued that secondary education has a significant effect on the redistribution of income, promoting growth and reducing poverty as compared to primary education. It plays a critical role in transforming the economy, fostering social justice and ensuring a higher quality of life, by increasing the social, occupational and economic levels of the households.

With the realisation that secondary education plays a crucial role in development of the society, India has witnessed a significant expansion of this sector in post-2000s. In 2016–17, there were about 249,089 institutions offering secondary (including senior secondary) education to around 62 million students in India. An important feature of secondary education in India is a high proportion of private schools—government-supported private institutions and, more importantly, private-unaided institutions as a proportion of all schools. The share of private-unaided secondary schools (Grade 9–12) is 33%, accounting for an enrolment share of 35% in 2016–17 (U-DISE Flash Statistics 2016–17, NIEPA 2018). The world's largest experiment in private education is being run in India today as large shares of its population are attending private schools (Tabarrok 2013: 11). The expansion of private schools in India is instrumental in its gaining popularity among poor households while challenging the hegemony of the middle class who used to monopolise these schools. Many poor parents use their scarce resources to send their children to private schools in India (Muralidharan and Sundararaman 2015).

In the era of growing incidence of private schooling, several studies have examined the determinants of private versus public school choice, both in the Indian and international contexts (Alderman et al. 2001; Tilak and Sudarshan 2001; Glick and Sahn 2006; Muralidharan and Kremer 2008; Nishimura and Yamano 2013; Yaacob et al. 2014; Kumar 2018). The parental preference is changing from just attending school to seeking quality education that works as a reliable conduit to higher education as also to enter the job market and this preference applies to even rural areas and among urban poor. The aspiration for English as medium of instruction among poor households is considered as a key factor that drives demand for private schooling in India. This is largely due to the linkage that such households associate between the English knowledge, middle-class jobs, social distinction and elite status

(De et al. 2002; Dixon and Tooley 2005; Nambissan 2012; Tabarrok 2013; Singh 2015). The study by Singh (2015) finds a substantial positive effect of private schools on English learning in the rural areas of Andhra Pradesh. Similarly, Thorat (2011) has pointed out that teacher absenteeism and negligence in government schools have led to this trend. The increasing popularity of fee-charging private schools in India is due to parental dissatisfaction with government schools (Desai et al. 2009; Karopady 2014). Kingdon (1996), in fact, argues that the rising income of the households and the breakdown in the quality of government schools are the two possible reasons for the growth of private schools. The importance of quality schooling on subsequent investments on education and labour market outcomes is well recognised in studies on the new economics of education. Parents believe that private schools can provide a better future for their children by providing quality education, which motivates them to make necessary investments in private school education for their children (Galab et al. 2013; Bhattacharya et al. 2015).

It is well observed that the proliferation of private schools, along with several other important policy interventions on school education, has brought changes in parental choice with regard to schools system in India. There is also changing institutional space within which households make decisions about the choice of schooling. The private schools, that were earlier catering to the needs of elites and the middle class, are now growing to meet the demand of poor households. Several studies reveal that low-fee private schools (LFPS) are considered as popular choice among poor parents in India as these are conveniently located within poor settlements and, hence, are easily accessible, especially for girls (Tooley and Dixon 2007; Srivastava 2008; Nambissan and Ball 2010; Harma 2011). Figlio and Stone (2000) have argued that parents, who send their children to LFPS, may care about other outcomes, such as discipline, extra-curricular activities, religious matters and strengthening the social capital by interacting with peer group. However, there is little empirical evidence to examine parental choice for schools in the complex social and institutional contexts, despite the availability of few studies on private schools in India. Until recently, the literature on private schools in India has been dominated by mapping its expansion across States; and studies on school choice and parental demand for private schools are quite limited. Though there are few works on expansion of private schools, choice between private and government schools is of relatively recent origin and needs further investigation. Also, available studies in these areas in India have largely focussed on lower level of schooling, and there is hardly any work on secondary schools. Using IHDS data, this paper seeks to address two important questions in this context. First, it examines the changing trend and pattern of demand for private secondary schools in India between 2005 and 2012. Second, the study explores the factors that parents consider important in making their choice for secondary schools. To capture the heterogeneity in parental choice for schools, I analyse here the effects separately for region (rural/urban), gender and economic status of the households. This study contributes to the existing literature by examining parental choice for schools at secondary level, as the available studies in this area have largely focussed on the lower level of schooling. From a broader perspective, the paper also relates

to the recent developments in the literature on private sector's intervention in school education in India and how it has changed the educational landscape in India.

The rest of the paper is organised as follows. Section 2 describes the data set and methodology used for the study. The results and findings of the study are discussed in Sect. 3. The descriptive analysis, in the first part, explains the changing trends and pattern of demand for private secondary schools in India between 2005 and 2012. Using probit regression, the second part of the discussion focusses on the determinants of parental choice for private secondary schools. Section 4 discusses major policy implications of the study and concludes.

2 Data and Method

2.1 Data

This paper has used individual-level unit record data from two rounds of India Human Development Survey, designed jointly by the University of Maryland, USA, and the National Council of Applied Economic Research (NCAER), New Delhi in 2005 (IHDS-I) and 2012 (IHDS-II). These are nationally representative, multi-subject surveys of the households located in both rural and urban areas covering 33 States and Union Territories of India, with the exception of Lakshadweep and Andaman and Nicobar. IHDS-I covered 41,554 households located in 1503 villages and 971 urban neighbourhoods. Similarly, IHDS-II covers 42,152 households residing in 1420 villages and 1042 urban habitats. This is a panel data set in which around 83% of the households covered in 2005 were re-interviewed in 2012, and the response rates were more than 90% for both the rounds. IHDS has broad spectrum of information on several socio-economic aspects such as education, health, employment, poverty, gender relations, social capital, etc. On education, IHDS rounds provide detailed information, both at household and individual levels. At the individual level, particularly for those in school/college, it provides information on household investment in education, study environment in institution, outcome variables like reading-writing-arithmetic skills, and, most importantly, choice of institutions by the households. Unlike other national level data sources (e.g. NSSO), IHDS offers a greater scope to study the dynamics of school choice by relating it with several other socio-economic and institutional characteristics.

2.2 Measure of Secondary School Choice

Since the primary interest of the paper is to understand the parental choice for secondary schools, we limit the analysis to the children who are currently enrolled in secondary education (Classes 9–12). This includes 9582 children in 2005 and 13,363

in 2012 with more than 90% of them falling in the age bracket of 14–18 years. The original IHDS data in both the rounds classify schools as EGS, government, government-aided, private, convent, Madrassa and other/open schools. The descriptive analysis takes into account the three broad types of schools that are available in the survey: government, government-aided and private. The private schools also include convent schools for the analysis. However, for empirical exercise, we do not differentiate between government and government-aided schools, instead we combine them as government schools and the rest as private school.

There are three different types of schools in India with respect to management: government schools, private-aided (also referred as government-aided private schools) and private-unaided schools. The government schools are owned, funded and managed by the government. Teachers are hired and allocated to individual schools by the department of education. The private-aided schools are essentially quasi-government in nature—run by private management, but have teaching staff funded by the government and follow Grant-In-Aid codes. They are akin to government schools in many respects, following the same curriculum, syllabi, textbooks, eligibility criteria for teacher appointment and many other rules and regulations of the government (Tilak 1994b; Mehrotra and Panchamukhi 2007). The private-unaided schools are fee-charging schools run by private management and receive no grants or aid from the State, but they might receive public subsidies in the form of tax concessions and concessions in tariffs covering land, building and electricity. These schools are entirely self-financing but are recognised by the State and follow regulations laid down by the State. The fully private unaided schools have complete autonomy in management, hiring of teachers and non-staff, etc. Besides these three broad categories, there are also private-unaided schools that are 'unrecognised' and do not comply with government regulations. Unlike earlier studies, this chapter makes a clear distinction on the state of private unaided schools in India as they seem to open school choices beyond public funded schools as well as a new destination of market for education.

3 Method

The parental choice for secondary schools and its variations across different socio-economic groups in India are examined in the paper, using both descriptive statistics and probit model. The probit estimations are based on unweighted data, while household level weights are used for the descriptive statistics. The descriptive figures are given for both 2005 and 2012 to understand the changing pattern of the choice for secondary schools while the probit results are estimated using the sample of 13,363 secondary school-going children obtained from IHDS II data. Whether the child has enrolled in a government or private secondary school (*Secschool_Choice*) serves as the dependent variable in the analysis. The *Secschool_Choice* is defined as a dummy variable, as follows:

$$Secschool\_Choice = 1, \quad \text{if the child is enrolled in a private secondary school}$$
$$= 0, \quad \text{otherwise.}$$

To understand the dynamics of school choice at secondary level, seven probit regression models are estimated: overall, gender (male/female), region (rural/urban) and economic status of the households (poorest/richest). The set of explanatory variables included in the probit model is gender, region (rural/urban), social category, household head's education, household head's occupation, household asset, current grade of the student, and number of male and female children (in the age group of 0–14 years) in the family.[1] The choice of these explanatory variables for the probit models is influenced by the availability of data, and the findings of the previous studies on demand and choice for schools, both in the Indian and international contexts. It is expected that socio-economic, demographic and institutional factors have considerable influence on choice of secondary schools in India, particularly with the increasing role of private sector in school education. Therefore, a few important variables are included in the probit models to capture the dynamics of school choice in the secondary level, and the estimation results are shown in Table 1.

4 Results and Discussion

4.1 Changing Pattern of Demand for Private Schools: Descriptive Results

This section discusses the changing pattern in the demand for private secondary schools between 2005 and 2012. To analyse this, the share of students enrolled in government, government-aided and private schools by important individual and household characteristics (gender, social category, region, household asset and household head's education) are calculated and shown in Tables 2, 3, 4, and 5 in appendix. Though the schools are categorised into three to get the picture better, the discussion here has focussed on the changing pattern of demand for private secondary schools vis-à-vis government secondary schools between 2005 and 2012. In 2005, around 27% of the students had enrolled in secondary school which has gone up to about 31% in 2012 (Fig. 1). Interestingly, the increase in the demand for secondary education in private schools varies with few important socio-economic characteristics discussed in the paper.

[1] For details on the variables used in the regression, see Table 6 in the appendix. Summary statistics of the variables used in the probit estimation is given in Table 7.

Table 1 Determinants of participation in secondary private schools: probit estimates

Variables	All	Male	Females	Rural	Urban	Poorest (Q_1)	Richest (Q_5)
Gender_female	−0.0388***	–	–	−0.0377***	−0.0386***	−0.0317	−0.0540***
	(0.00740)			(0.00876)	(0.0130)	(0.0208)	(0.0167)
Region_urban	0.107***	0.0987***	0.117***	–	–	0.0784	0.183***
	(0.0104)	(0.0145)	(0.0149)			(0.0568)	(0.0209)
HH asset quintiles							
Assets_Q_2	0.00175	0.00551	−0.00639	0.0153	−0.0333		
	(0.0146)	(0.0195)	(0.0217)	(0.0138)	(0.0658)	–	–
Assets_Q_3	0.00321	0.0174	−0.0125	0.0292**	−0.0274	–	–
	(0.0149)	(0.0205)	(0.0218)	(0.0148)	(0.0629)		
Assets_Q_4	0.0747***	0.1000***	0.0476**	0.0780***	0.0960	–	–
	(0.0159)	(0.0219)	(0.0231)	(0.0167)	(0.0625)		
Assets_Q_5	0.214***	0.243***	0.185***	0.202***	0.245***	–	–
	(0.0184)	(0.0252)	(0.0269)	(0.0214)	(0.0634)		
HH head occupation							
Agri_allied	−0.0285**	−0.0249	−0.0322*	−0.0191	−0.0586*	−0.105*	0.0126
	(0.0117)	(0.0163)	(0.0168)	(0.0143)	(0.0299)	(0.0588)	(0.0271)
Wage_labour_others	−0.0519***	−0.0516***	−0.0532***	−0.0479***	−0.0540***	−0.0257	−0.0530***
	(0.0100)	(0.0140)	(0.0143)	(0.0147)	(0.0142)	(0.0601)	(0.0191)
Social groups							
OBC	−0.0261**	−0.0380***	−0.0109	−0.0238*	−0.0236	−0.00320	−0.0804***
	(0.0106)	(0.0146)	(0.0154)	(0.0128)	(0.0183)	(0.0419)	(0.0214)

(continued)

Table 1 (continued)

Variables	All	Male	Females	Rural	Urban	Poorest (Q_1)	Richest (Q_5)
SC	−0.0995***	−0.106***	−0.0918***	−0.0847***	−0.118***	−0.0566	−0.224***
	(0.0115)	(0.0163)	(0.0162)	(0.0139)	(0.0202)	(0.0440)	(0.0264)
ST	−0.0888***	−0.109***	−0.0634**	−0.0781***	−0.0841**	−0.0802	−0.0580
	(0.0181)	(0.0253)	(0.0258)	(0.0205)	(0.0371)	(0.0488)	(0.0618)
Muslim	−0.0438***	−0.0390*	−0.0472**	−0.0427**	−0.0330	−0.0492	−0.0360
	(0.0146)	(0.0208)	(0.0205)	(0.0198)	(0.0223)	(0.0587)	(0.0309)
OMR	0.0720***	0.0498	0.101***	0.0965***	0.0208		0.0416
	(0.0260)	(0.0353)	(0.0384)	(0.0345)	(0.0396)		(0.0354)
HH head education							
Primary_UP	0.0174	0.0352**	0.000366	0.00394	0.0338	0.00922	−0.107**
	(0.0114)	(0.0155)	(0.0168)	(0.0122)	(0.0269)	(0.0237)	(0.0536)
Secondary	0.0441***	0.0394**	0.0513***	0.0288**	0.0492*	0.0726*	−0.0245
	(0.0132)	(0.0179)	(0.0195)	(0.0146)	(0.0290)	(0.0411)	(0.0534)
Higher_Secondary	0.0600***	0.0560***	0.0660***	0.0581***	0.0478*	0.0524	0.00470
	(0.0139)	(0.0190)	(0.0204)	(0.0160)	(0.0290)	(0.0464)	(0.0531)
Graduate	0.117***	0.120***	0.114***	0.0638***	0.153***	0.104	0.118**
	(0.0152)	(0.0210)	(0.0221)	(0.0186)	(0.0295)	(0.0710)	(0.0524)
NCHILDM	0.00380	0.00354	0.00632	−0.000479	0.00834	−0.00928	0.0350***
	(0.00434)	(0.00606)	(0.00635)	(0.00505)	(0.00806)	(0.0119)	(0.00987)
NCHILDF	−0.00456	−0.0150**	0.00283	−0.00747	−0.00206	−0.0132	−0.0104
	(0.00415)	(0.00671)	(0.00535)	(0.00471)	(0.00805)	(0.0111)	(0.0104)

(continued)

Table 1 (continued)

Variables	All	Male	Females	Rural	Urban	Poorest (Q_1)	Richest (Q_5)
Grade_level	0.00386	0.00590	0.00276	0.0135***	−0.0128**	0.00519	−0.0303***
	(0.00342)	(0.00485)	(0.00494)	(0.00405)	(0.00599)	(0.00982)	(0.00740)
Log-pseudo likelihood	−6629.0908	−3625.2864	−2966.3916	−3826.7442	−2674.0597	−448.2377	−1926.5537
Pseudo R^2	0.1829	0.1828	0.1848	0.1632	0.1851	0.1991	0.1305
Observations	13,005	6,960	6,024	8,203	4,788	1,129	3,215

Source Author's calculation from the unit-level record of IHDS II
Notes (a) Estimation gives the marginal effects and (b) figures in parenthesis are standard errors
*** p<0.01, ** p<0.05, * p<0.10

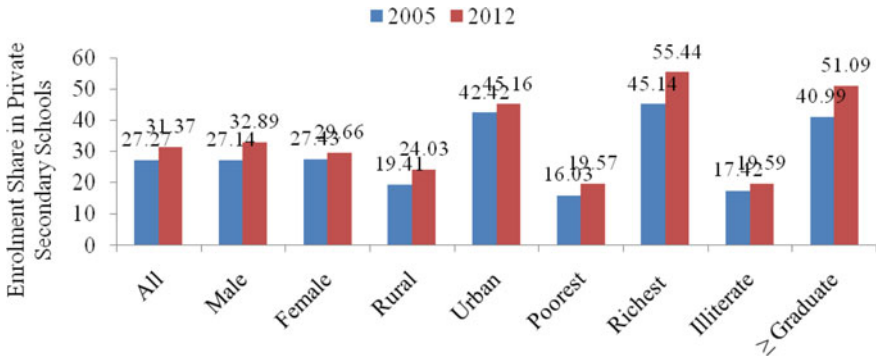

Fig. 1 Changing enrolment pattern in private secondary schools in India, by major socio-economic factors. *Source* Estimated by the author based on unit level of data available from IHDS (2005 and 2012)

There is six percent increase in enrolment in private secondary schools among male students (27.1–32.9%), while this is around two percent for females (27.4–29.6%) between 2005 and 2012. This confirms the pro-male bias in household investment on education (and, therefore, the choice of schools) as found in some earlier studies, particularly in the context of rural India (Himaz 2009; Azam and Kingdon 2013; Saha 2013; Kaul 2018). In 2012, close to half of the students were enrolled in secondary private schools in urban areas, while this was around 24% in rural areas (Fig. 1). However, it is quite surprising to note that the increase in the enrolment in private secondary schools between 2005 and 2012 is higher in rural areas (4.62%) as compared to urban areas (2.74%). This, perhaps, reveals the changing dynamics in the demand for schools in rural areas, as discussed in some of the recent works (Karopady 2014; Singh 2015). The other important household characteristic, that is associated with the variation in the demand for private secondary schools, is the educational level of the household head. Around 20% of the students, whose household heads education is below primary, have enrolled in private schools, while this figure is 51% for the households whose heads have completed graduation and above (Fig. 1).

Paying capacity of the households plays an important role in accessing private schools in India as they charge very high fees and also parents spend a significant share of their income on many other non-fee items such as transport, stationary and school uniform. This is significantly visible in the analysis, as the demand for private secondary schools has increased with the increase in economic status of the households measured in terms of asset quintiles in both 2005 and 2012 (Fig. 2). The enrolment of students in secondary private schools is 2.83 times higher for the richest households (top asset quintile) as compared to the poorest households (bottom asset quintile) in 2012, and this was 2.81 times in 2005 (Table 4). Further, the gap in the enrolment in private secondary schools has widened between 2005 and 2012 (10.3% among the richest households and 3.54% among the poorest households). Therefore,

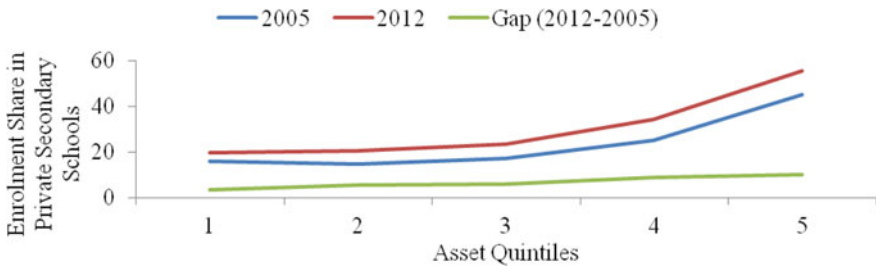

Fig. 2 Changing enrolment pattern in private secondary schools in India, by household asset quintiles. *Source* Estimated by the author based on unit level of data available from IHDS (2005 and 2012)

over the years, the private schools are accessible to rich in greater numbers, and this further widens the economic inequality in society.

The variations in the demand for private secondary schools by social category reveal some interesting pictures. The enrolment share in private secondary schools for the household belonging to HUC, OBC, SC and OMR has gone up between 2005 and 2012, while there is a very negligible increase for ST households. The highest increase in the enrolment is among OBCs (7.32%) followed by SCs (5.65%) and HUCs (4.45%). Quite surprisingly, the enrolment share in private schools among Muslim households has declined from 31.25 to 29.65% in this period (Table 5). The changing pattern in the demand for private secondary schools clearly supports the larger argument that the expansion of private schools in India is benefiting the households with better socio-economic and cultural capital.

5 Empirical Results: Probit Estimates

5.1 Choice of Secondary Schools by Gender

Gender inequality in private school enrolment is typically attributed to a selection bias towards boys wherein low-resource households that cannot afford to send all of their children to private schools choose to enrol boys over girls (Mcloughlin 2013). It is argued that parents may prefer to send boys to private schools for receiving quality education because of underlying socio-economic and cultural factors in India. Private schools are costly and, thus, may increase the discrimination against girls in India where preference for sons prevails widely. Several studies have examined the issue of gender disparity in overall access to schools, grade progression and household investment on education in developing countries, including India (Alderman and King 1998; Aslam and Kingdon 2008; Glick 2008; Azam and Kingdon 2013; Saha 2013; Sahoo 2017). However, there are very few studies on girl's access to private schools in India, despite their massive expansion in recent years. The literature on

gender-based discrimination in private schooling is limited in the context of India (Maitra et al. 2016). There is little empirical evidence on parental choice for schools by gender using national level household surveys in India. Furthermore, few recent studies on this (Woodhead et al. 2013; Sahoo 2017) have focussed on lower levels of school education. Therefore, looking at the choice of secondary schools by gender adds to a smaller set of recent research on gender gaps and private school enrolment trends in India.

The probit estimates find that female students are 3.8% points less likely to be enrolled in private secondary schools than boys; and this difference is more in the rural areas. The households belonging to rural areas are 3.7% points less likely to send girls to private schools as compared to 3.9% points in urban areas, accounting for an intra-regional gap of 0.2% points. This result confirms the descriptive statistics shown in Table 2, that is around one-third of male students access private secondary schools in comparison to 29.6% among females. Gender gap in attendance in private school was also evident in the study by Woodhead et al. (2013) in Andhra Pradesh. Azam and Kingdon (2013) find a difference in household expenditure on education by gender and have argued that boys are more likely to be sent to private schools and, therefore, households invest more on them to provide better quality education. Using World Bank's Living Standards Measurement Study (LSMS) in Uttar Pradesh, Sahoo (2017) shows that there is an intra-household gender bias (pro-male) of six percentage points in private school enrolment among children, aged 6–16 years, and, more importantly, it is rising over time. Socio-economic and cultural factors play a critical role in the pro-male bias in the matter of accessing private schools in India. Daughters receive less human capital investment than sons as parents inherently place a relatively low value on females in India (Kingdon 2005; Sahoo 2017). Besides, it is argued that parents have a preference for better quality education for boys (by investing more) over girls. These findings bring out 'gender equity' as a matter of serious concern in the access to private secondary schools, particularly in rural India.

Two probit models are estimated for male and female samples separately for a detailed examination of gender bias in private secondary school enrolment. For both male and female samples, urban households are more likely to send their children to private schools as compared to rural households. However, the effect is higher among female students (11.7% points) than male students (9.8% points). This reveals that pro-male bias in the demand for private secondary schools is quite strong in rural areas vis-à-vis the urban areas. Gender inequality in the secondary school choice between poor and rich households in India reveals that even the richest households (quintile 5) are 5.8% points more likely to send their male children to private schools than the poorest households (quintile 1). Similarly, the girls of Scheduled Caste (SC) and Scheduled Tribe (ST) households have less probability in getting access to private schools than the boys of the same social category. The girls of SC and ST households are doubly disadvantaged in being girls and also belonging to lower social groups. However, quite interestingly, the results find that the household head's education plays a critical role in minimising the intra-household gender bias in accessing private secondary schools in India. Households, with educated heads, have a higher

probability of sending their female children to private schools as compared to illiterate households. For example, household heads with secondary level of education are 5.1% points more likely to send their girl children to private schools than the illiterate household heads, while this probability is 3.9% points among males. This may be due to the increased awareness level among the educated parents towards providing quality education to female children and, therefore, minimising gender bias in the school choice.

5.2 Choice of Secondary Schools by Region

There is a striking difference in the choice for private schools among the rural and urban households. The findings show that urban households are 10.7% points more likely to attend private schools than rural households. This may be due to the fact that the parents in urban areas are well aware of the importance of education for their children (therefore ready to invest more on their children) as compared to households from rural areas. Also, private schooling is much more spread in urban than in rural areas, making physical access more challenging (Kingdon 2017). The study by Woodhead et al. (2013) finds that the largest single factor affecting a child's chances of attending a private school is living in an urban area.

The rich–poor gap in the probability of attending private secondary schools is found to be higher in urban areas than in the rural areas. The richest households in urban areas are 24.5% points more likely to send their children to private secondary schools than the poorest households, while in rural areas this is 20.2% points. Similarly, with the increase in the household head's education, students of urban areas have relatively higher chances of attending private secondary schools as compared to rural households. The children of households, with their heads' education level being graduation and above, have 15.3% points higher probability of attending private schools than the illiterate household heads, while this figure is 6.4% points in rural areas. The other important factor that plays a critical role in the dynamics of school choice between rural and urban households is the social groups. Though in both rural and urban areas, students belonging to SC and ST households have less chance to access private secondary schools, the effect is higher in an urban set-up. For example, students of ST households have 8.4% points less chance to attend private schools in rural areas, while this is 11.8% points in urban areas. This may be due to the fact that the cost of attending private schools in urban areas is very high and, as such, it becomes really difficult for SC and ST households to access these schools. However, the caste dynamics in the school choice between rural and urban regions is an important issue and need further analysis.

The relationship between current grade (may be considered as a proxy of age of the child) of the child and enrolment in private secondary schools in rural and urban regions reveals some interesting results. The increase in the student's grade reduces the probability of accessing private secondary schools in urban areas while it is positively related in the rural areas. This may be due to the fact that households

prefer to send their children to private schools at an early age in urban areas and continue there till Grade 12. However, parents in rural areas enrol their children in government schools at the secondary level (Grades 9 and 10) and transfer them to private schools as they reach the higher grade (Grades 11 and 12), as Grade 12 results largely decide the future career path, including access to higher education. A detailed analysis, particularly tracking the student enrolment by school type, may reveal some interesting results, which is, however, outside the scope of this paper.

5.3 Secondary School Choice Between Poor and Rich Households

Household wealth (measured by the household asset) has emerged as an important determinant in the choice of secondary schools in India. Probit results show that students from the richest families (quintile 5) have higher probabilities of accessing private secondary schools than those belonging to the poorest households (quintile 1). The students belonging to the richest households (top asset quintile) have 21% points higher probability of accessing private secondary school as compared to those from the poorest households, and the coefficient is statistically significant at one percent level. Similarly, students of fourth asset quintile households (second richest group) have seven percentage point higher probability of sending their children to private secondary schools as compared to the poorest households. In 2011–12, only about 19% of the students from the poorest households were sending their children to private schools, while it was more than 55% for the richest households (top asset quintile). In 2004–05, these figures were 16% and 45% respectively (see Table 4). The study by Harma (2011) concludes that private schools are by no means accessible to poor households due to the high fees charged by them. Similar result was also found in the study by Woodhead et al. (2013) in the context of Andhra Pradesh. But to address the expanded demand, private schools are extending their reach to lower and lower middle-income families by opening low-fee private schools. To understand the issue better, two separate probit models are estimated for the top and bottom asset quintiles (columns 7 and 8, Table 1). Interestingly, pro-male bias in accessing private secondary schools exists even among the richest households in India. Among the richest households, the probability of sending boys to private schools is 24.3% points as compared to 18.5% point for girls. Thus, females from the richest households are 5.8% points less likely to enrol in private secondary schools as compared to boys. Similar is the case among households belonging to asset quintile four (Q_4), though the difference in the probability of accessing private schools is relatively less (5.3% points). The findings reveal that with the increasing cost of private schools in India, a household's ability to pay plays a significant role in the parental choice for secondary schools, particularly in urban areas.

The intra-regional variation (rural-urban gap) in the probability of attending private school is 18% points among the richest households and seven percentage points for the poorest households. More clearly, though both rich and poor households in urban areas have higher chances to enrol their children in private secondary schools than in rural areas, the effect is relatively stronger among rich households. This reflects the difference in the affordability between rich and poor households in sending their children to private schools. However, given the heterogeneity in the private school market in recent years, it is important to examine the type of private schools accessed by the poor and rich households in urban areas. To what kind of private schools the poor households in urban areas are sending their children? Are these private schools too different from the kind of schools accessed by the children of rich households? These are some of the important questions that need further academic engagement and research. Looking at the schools as a binary construct (government and private) may not completely reveal the school choice dynamics in India though it helps in providing a broader context to the issue.

5.4 Other Important Covariates

The other important factor affecting the likelihood of attending private secondary school is education of the household head or, in this case, the highest education of the adults (more than 21 years old) in the household. The probit results show that households with the highest adult education level of graduation and above are 12% points more likely to send their children to private schools than households whose highest adult education is below primary. Higher educated parents may be concerned about the quality of education, and, consequently enrol their children in fee-charging private schools, on the understanding that private schools provide better quality education (Tilak and Sudarshan 2001; Muralidharan and Kremer 2008). Quite interestingly, educated parents and households do not have much gender bias in sending their children to private schools. This may be due to the increase in the awareness level of the household that minimises the discrimination in the choice of schools between boys and girls. Further, this matters more for urban households as compared to rural households. The descriptive results show that in 2011–12, around 51% of the children attended private schools from households having highest adult education level of graduation and above while it was 20% for the households whose highest adult education level was below primary.

Closely related to other household characteristics, social group (caste and religion) is also associated with the demand for private secondary schools in India. As private education is regarded as a symbol of social prestige, one can expect that higher the caste hierarchy, the higher would be the probability of demand for private schools and vice versa (Tilak and Sudarshan 2001). In a recent study, Bhattacharya et al. (2015) find that general caste students are more likely to attend private schools in India. Several other studies have also found that forward castes' households in India are far more likely to send their children to private schools as compared to Scheduled

Caste and Scheduled Tribe households (Desai et al. 2009; Woodhead et al. 2013; Singh 2015). The probit results show that students belonging to low socio-economic settings such as Scheduled Castes, Scheduled Tribes and Muslims are less likely to attend private schools than the upper caste Hindu students. However, students of other minority religions have fair chances to attend private schools as compared to upper caste Hindus. The effect of the social groups on the choice of secondary private schools is higher in urban areas than in rural region. In 2011–12, close to half of the students from OMR groups (40% among upper caste Hindus) were attending private schools, while this figure was only about 19% among STs (Table 5).

6 Conclusions

Using two rounds of IHDS data (2005 and 2012), this study analyses the pattern and determinants of parental choice for secondary schools in India. In particular, potential factors determining parental decision on school choice are examined by region (rural/urban), gender and economic status of the households. The probit results find that female students are 3.8% points less likely to be enrolled in private secondary schools than boys; and this difference is more in rural areas and among poor households. This finding suggests that households prefer to send their sons (than daughters) to private secondary schools that are more expensive and which they perceive to be better in quality. The analysis suggests a striking difference in the choice for private schools among the rural and urban households—urban households are 10.7% points more likely to attend private schools than rural households. We also find that the choice for secondary schools is strongly determined by the paying capacity of the households—students from richest families (quintile 5) have 21% points higher probability in access to private secondary schools than the students belonging to the poorest households (quintile 1), and this gap is higher in urban areas than rural areas. Further, the analysis suggests that probability of attending private schools increases with the rise in the highest level of education of adults of the household. The households, having the highest adult education level of graduation and above, are 12% points more likely to send their children to private schools than the households whose highest adult education level is below primary. This study, thus, shows quite conclusively that the expansion of private schools in India has made significant changes in the parental aspirations and choice for schools.

Secondary education is considered as a gateway to accessing higher education and preparing youths to join the labour market. Considering the importance of secondary education on socio-economic development, the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) scheme (a flagship programme for the development of secondary education) was launched and implemented across India in 2009–10 to enhance access as well as improve the quality of secondary education. It was envis-

aged to provide quality secondary education to all by 2020. Though there is fair progress in enrolment rates in secondary education, with the initiation of RMSA, it is important to examine as to who all are accessing what kind of schools and this study has made an attempt in this direction. However, the scope of this study is limited as it has examined the issue at all-India level while also not getting into many other important debates in the area of school choice. For instance, it is important to understand the expansion of private schools at the sub-national level—in the State, district and even in Talukas. Similarly, given the heterogeneity in the expansion of private schools in India, it is quite useful to examine parental choice for different types of private schools at secondary level. For a more nuanced understanding of the issue, attempt should also be made to discuss the dynamics of shifting of children from government to private secondary schools as it is happening very rapidly, even in the rural areas.

Appendix

See Tables 2, 3, 4, 5, 6 and 7.

Table 2 Distribution of enrolment by types of secondary schools and gender in rural and urban India

	2004–05				2011–12			
	Government	Govt. aided	Private	Total	Government	Govt. aided	Private	Total
Rural								
Male	67.64	12.37	19.99	100	63.98	10.30	25.73	100
Female	68.28	13.13	18.58	100	67.62	10.28	22.10	100
All	67.90	12.69	19.41	100	65.68	10.29	24.03	100
Urban								
Male	45.64	11.23	43.14	100	43.60	9.92	46.47	100
Female	44.96	13.35	41.69	100	47.04	9.26	43.70	100
All	45.30	12.28	42.42	100	45.23	9.61	45.16	100
Total ($R + U$)								
Male	60.84	12.02	27.14	100	56.94	10.17	32.89	100
Female	59.36	13.22	27.43	100	60.42	9.92	29.66	100
Total	60.18	12.55	27.27	100	58.57	10.05	31.37	100

Source Author's calculation from the unit-level record of IHDS I and II

Table 3 Distribution of enrolment by types of secondary schools and educational attainment of the head of the household

	2004–05				2011–12			
	Government	Govt. aided	Private	Total	Government	Govt. aided	Private	Total
Below primary	71.06	11.52	17.42	100	71.15	9.26	19.59	100
Up to upper primary	65.98	13.69	20.33	100	64.99	10.07	24.94	100
Secondary	56.97	11.21	31.83	100	57.66	10.63	31.71	100
Higher secondary	52.07	15.4	32.53	100	51.36	9.9	38.74	100
Graduate and above	48.27	10.74	40.99	100	38.5	10.4	51.09	100

Source Author's calculation from the unit-level record of IHDS I and II

Table 4 Distribution of enrolment by types of secondary schools and asset quintile of the household

Asset quintile	2004–05				2011–12			
	Government	Govt. aided	Private	Total	Government	Govt. aided	Private	Total
1	72.30	11.67	16.03	100	71.08	9.35	19.57	100
2	74.52	10.81	14.67	100	70.72	8.90	20.38	100
3	73.08	9.60	17.32	100	66.67	10.00	23.34	100
4	59.86	15.02	25.12	100	54.72	11.07	34.21	100
5	41.68	13.18	45.14	100	33.87	10.66	55.46	100

Source Author's calculation from the unit-level record of IHDS I and IHDS II

Table 5 Distribution of enrolment by types of secondary schools and social group

Social groups	2004–05				2011–12			
	Government	Govt. aided	Private	Total	Government	Govt. aided	Private	Total
Hindu Upper Castes	52.89	12.06	35.05	100	50.39	10.11	39.50	100
Other Backward Classes	60.12	13.54	26.34	100	56.05	10.29	33.66	100
Scheduled Castes	73.17	10.54	16.29	100	68.05	10.00	21.94	100
Scheduled Tribes	72.33	9.41	18.26	100	71.63	9.75	18.62	100
Muslim	57.57	11.18	31.25	100	63.42	6.93	29.65	100
Other Minority Religions	33.94	25.36	40.70	100	29.37	23.87	46.76	100

Source Author's calculation from the unit-level record of IHDS I and II
Note HUC = Hindu Upper Caste; OMR = Other minority religions—includes Christian, Sikh, Jain and others

Table 6 Notation of the variables used in the probit model

Notation	Name of variable	Definition
School_Choice	School choice	1, if an Individual has participated in private secondary school; 0, otherwise (dependent variable)
Gender	Male	0, if an individual is male
	Female	1, if an individual is female
Location	Urban	1, if an individual resides in an urban area
	Rural	0, if an individual resides in a rural area
Social group		
UC_Hindus[a]	UC Hindus	1, if an individual is upper caste Hindu, 0, otherwise
OBC	OBC	1, if an individual is OBC Hindu; 0, otherwise
SC	SC	1, if an individual is SC; 0, otherwise
ST	ST	1, if an individual is ST; 0, otherwise
Muslim	Muslim	1, if an individual is Muslim; 0, otherwise
OMR	OMR	1, if an individual is Christian/Sikh/Jain. etc.; 0, otherwise
Highest adult (>21 age) education of the HH		
HAE_BP[a]	Illiterate or below primary	1, if the HAE is illiterate or below primary; 0, otherwise
HAE_UP	Primary or UP	1, if the HAE is primary or upper primary; 0, otherwise
HAE_SEC	Secondary	1, if the HAE is secondary; 0, otherwise
HAE_HSE	Higher Secondary	4, if the HAE is higher secondary; 0, otherwise
HAE_Graduate	Graduate	4, if the HAE is graduation and above; 0, otherwise
HH assets index		
Assets_Q_1^a	1st quintile (poorest)	1, if the student belongs to HH asset quintile 1; 0, otherwise
Assets_Q_2	2nd Quintile	1, if the student belongs to HH asset quintile 2; 0, otherwise
Assets_Q_3	3rd Quintile	1, if the student belongs to HH asset quintile 3; 0, otherwise
Assets_Q_4	4th Quintile	1, if the student belongs to HH asset quintile 4; 0, otherwise
Assets_Q_5	5th Quintile (richest)	1, if the student belongs to HH asset quintile 5; 0, otherwise
Grade_level	Grade enrolled	The current grade of the student
HH head occupation		

(continued)

Table 6 (continued)

Notation	Name of variable	Definition
Salaried_employees[a]	–	1, salaried, regular and businessman; 0, otherwise
Agri_allied	–	1, Agriculture and Allied, rural labour; 0, otherwise
Wage_labour_others	–	3, Others; 0, otherwise
NCHILDM	–	Number of male child in the family (0–14 years old)
NCHILDF	–	Number of female child in the family (0–14 years old)

UC = Upper Caste; OBC = Other Backward Caste; SC = Schedule Caste; ST = Schedule Tribe
[a] used as reference category in the probit model

Table 7 Summary statistics of the variables used in the probit estimation

Variable	Observations	Mean	Stand. dev.	Minimum	Maximum
Sec School_choice (Dep. Var.)	13,028	0.3159	0.4649	0	1
Gender	13,363	1.4599	0.4984	1	2
Location	13,363	0.3694	0.4827	0	1
UC_Hindus	13,345	0.2374	0.4255	0	1
OBC	13,345	0.3422	0.4745	0	1
SC	13,345	0.2126	0.4092	0	1
ST	13,345	0.0698	0.2548	0	1
Muslim	13,345	0.1092	0.3119	0	1
OMR	13,345	0.0289	0.1674	0	1
HAE_BP	13,363	0.1635	0.3698	0	1
HAE_UP	13,363	0.3329	0.4713	0	1
HAE_SEC	13,363	0.1837	0.3873	0	1
HAE_HSE	13,363	0.1610	0.3675	0	1
HAE_Graduate	13,363	0.1589	0.3656	0	1
Assets_Q_1	13,358	0.0969	0.2958	0	1
Assets_Q_2	13,358	0.1956	0.3967	0	1
Assets_Q_3	13,358	0.2143	0.4103	0	1
Assets_Q_4	13,358	0.2443	0.4297	0	1
Assets_Q_5	13,358	0.2489	0.4324	0	1
Grade_level	13,363	10.3692	1.1178	9	12
Salaried_employees	13,362	0.2526	0.4345	0	1
Agri_allied	13,362	0.3531	0.4779	0	1
Wage_labour_others	13,362	0.3943	0.4887	0	1
NCHILDM	13,363	0.7252	0.8768	0	7
NCHILDF	13,363	0.6496	0.9190	0	9

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The Power Game: A Case Study of a Private School in Odisha

Amrita Sastry

1 Introduction

A child is initiated into the process of learning from the moment he/she is born. As the child grows up, the needs and desires keep step with him/her. These become diversified and complicated with time. Not every need can be met at home, around the family. Hence, the child steps out of home into the precincts of a formal institution called school. Thus, a school becomes the first 'other', the outside entity which a child encounters away from the gaze of family. Being the chief 'other', the school has immense potential and responsibilities in shaping the child into a responsible citizen. Hence, education in school is the child's introduction to 'formal' learning.

A typical day at school begins with the ringing of the school bell, children in uniform lined up for the morning assembly, the school gate closes, the late-comers rounded up in a separate group (an act of formal punishment for flouting rules), call of attendance-formal education begins with the introduction to the idea of discipline and punishment. Here, the question that requires attention is what is the purpose of schooling? Schooling is often considered as one of the most important agencies of socialisation. History, science, politics, language, literature, art, music, sports, morality, ethics-school opens up facts and stories about culture and human civilisation, about modes of behaviour and etiquettes, about universalism and particularism, about the untenable dynamics of 'us' and 'them' etc. Schools, as the formal agents of socialisation, are responsible for training the child in a manner that is quite different from training by the family. The school, being the most stable socialising agent, exercises strategic power relations on its members. It not only teaches the child about conformity to the societal norms but also inculcates the ideas of critical questioning.

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Thus, the school serves as a catalyst, wherein dynamism is valued, besides acting as a stabilizer by promoting the idea of obedience and conformity.

If one looks at the idea of schooling, it is born out of the necessity to perpetuate an established view of the society. It acts as a mediator between the 'particularistic values' of family and the 'universalistic values' of the world outside. Schools enable change of the diverse population into one society with a shared national identity while preparing the young generations for their future citizenship roles. School, as an organisation, has goals which are formally prescribed, membership, a hierarchical order and a lot of other informal goals, like getting a formal degree, orientation for higher goals, fostering competitive spirit, friendship etc. The school is seen as a hub for different kinds of activities and also a space where relationships of different kinds are constructed, constituted, maintained, contested and celebrated. From its inception, formal schooling has been designed to discipline the body, regulate the minds, and inculcate the values of punctuality. Some of the other functions have always been the shaping of conduct and beliefs, as well as the acquisition of a particular form of knowledge through a prescribed curriculum. Performances in the schools, in terms of writing an essay, tests, exams or the behaviour of the child in the classroom, is regarded as evidence of the child's intelligence. Formal schools not only have some kind of moral and patterned expectations from the children, but also from the teachers as well as the parents. And slowly, these expectations take the shape of school culture which is then regarded as the 'culture of learning'. Thus, the 'culture of learning' within the school set-up is not created in a day or two but it evolves over a period of time. It is reinforced by the day-to-day engagement with the process of schooling. Hence, it is not a finished product. The 'culture of learning' changes with time, space and actors and evolves continuously. Since schooling is a ubiquitous phenomenon in the world, a number of similarities are there in its patterns of relationship and functioning, but each school has its distinctive quality too while defining its 'culture'. The core elements of the school culture would comprise of: A shared sense of vision and purpose norms, values, beliefs and assumptions history rituals and ceremonies structure of relationship and trust.

Weaving the core elements of culture into an artistic tapestry is similar to inventing a magic word from the letters of the alphabet or stringing words together to create a poem. Juxtaposed with one another, the letters and the words form a meaningful expression. Similarly, by combining these elements of culture, a cohesive culture of learning takes shape. Since each 'culture of learning' has its distinctive existence, it is also important to look at it with a fresh mind. While societies and cultures are not the same thing, they are mutually related because it is only through society that culture is created and transmitted. Culture cannot be produced by just one individual; rather it is shared and is, thus, continuously evolving through the everyday interactions of its members in the society. It is shared by each member of the society. Thus, school, being a mini-society, also transmits the culture to the next generation.

2 Colonialism and Education

In the Indian context, if one looks at the process of schooling historically, it can be seen as one of the most favoured instruments of socialisation. The colonial interest in educating Indians was based on two reasons. The first was to produce cheap labour in order to assist them in their functioning while the second was to garner the unconditional support of the dominant sections of the Indian society for the establishment of the British Empire. For acquiring this support, the British very cleverly infused their ideas in the Indian education system through the process of schooling. As Avijit Pathak (2002), reflecting on colonialism and education, said,

> Colonialism is about power. It hierarchizes the world. It privileges the colonizer; enables him to suppress the colonized. And this violence is not just physical; colonialism is inseparable from moral/cultural/symbolic violence. The colonized are generally a demoralized lot. It becomes difficult for them to have faith in themselves. They tend to think that they are inferior and they associate qualities like strength, courage, education and civilization—in fact, all that is positive—with their colonial masters. Colonial education, needless to add, is an important component of this ideological apparatus. As one looks at the history of colonial education, one realizes how education played a key role in the process of legitimization. The meaning of English/modern education, (a gift from colonial masters) was primarily an exercise of cultural invasion. It condemned all our civilizational ideals and equated knowledge with Western ideas; it was not particularly sensitive to the history of our educational heritage. Besides, in a subtle way it legitimized colonialism, because the colonial masters looked like great school teachers (learned adults) from whom, as passive/ignorant children, we must learn the fundamentals of knowledge!

This shows that the socialisation through the schools, initiated during the colonial rule, compelled the natives into a different way of thinking and acting, primarily through a British lens. The British intellectual, Thomas Babington Macaulay, in his *Minutes of Education* (*1835*), cleverly deployed the funds of education to create a class of individuals in India who were Indians by blood and colour but English by opinion, tastes and ideas. Macaulay was a utilitarian and he could foresee the power of English education which would justify the Britishers 'civilising' mission. And he justified the very idea that English education was modern, a symbol of humanism and political altruism, and was given to Indians as a gift from the Britishers. Like Charles Grant, even Macaulay advocated cultural imperialism without having any respect for Indian culture and civilisation. The lure of English education was barely resisted by many Indians like Raja Rammohan Roy and many Bengali *bhadraloks*. For them, this English education was a promise of a new era. Poromesh Acharya has also reflected in his writing on Bengali *bhadralok* that none of the ambitious class of Bengal resisted this elitist English education. Many of them saw this as an important opportunity for lucrative employment and, hence, they ignored its negative effects. However, this attractiveness of English education did not help the Indians gain techno-scientific knowledge, with the knowledge remaining merely literary in nature. Thus, this colonial education was successful in creating a small section of English-educated *babus*, primarily from the upper castes who majorly joined the colonial government jobs like civil services. Despite these consequences, not everything was reprehensible about colonial education. It furnished a secular idea and a new kind

of critical consciousness among the people of India which, in turn, ironically, sowed the seeds for the process of decolonisation—a classic case of constructive effect of colonial education. Not everyone was happy with the agenda of colonial education and, hence, the dissenters saw a new possibility. Thus, the plan of the colonialist was not successful for a long period and their idea backfired on them with the emergence of revolt and vociferous criticism against colonial rule. The criticism of colonial education led to revivalism, which was based on glorification of the 'nationalist' Hindu past and this was problematic in nature. As Pathak (2002) observes, '*In a multi-religious society like ours, revivalism would always appear extremely hegemonic; it would like to destroy the identity of minority communities. In other words, it could prove to be a debacle in the freedom of the oppressed and marginalized sections of society…there was indeed a revivalist current in the 'nationalist' pursuits. Moreover, the lower castes needed their emancipation …Instead of viewing colonial education as alien; it sought to see great potential and possibility in it for the emancipation of India's marginalized castes*'.

There were many like Ambedkar, Mahatma Gandhi, and Rabindranath Tagore who resisted colonial education and wanted to develop an alternative perspective. Gandhi felt that English language has made us strangers in our own land. Ambedkar was apprehensive about the colonial apathy towards the lower castes where it came to educating them. Similarly, Tagore was critical about the disconnectedness of colonial education with the everyday life of the Indians. But slowly the dissent of these people was forgotten and as India gained freedom, a Nehruvian idea of education, paralleled with the idea of modernity and scientific temper, took shape. The Nehruvian agenda was a break as well as continuity since it tried retaining our culture with a blend of scientific modernity. '*In a way, Nehru was the child of modernity. He believed that India must modernize herself, overcome her fixation with the past, and enter the new era. He disliked the glorification of past… 'India' must break with the much of her past, and not allow it to dominate the present. Nehru was known for his celebration of scientific temper… His vision of modernity was essentially Western, with emphasis on industrialization, secularization and material well-being*' (Pathak 2002).

3 Post-Colonialism and Schooling

In post-colonial India, with the scientific temper of Nehru, schools continued to be the ideal agency of socialisation that paved the way for social change. For a new nation-state in the making, both modernity and science became an integral part of education, paving the way for change. For Kumar (1992/2004) '*schooling is 'as an agent of preservation and social transformation*'.

In post-Independence India, the *Radhakrishnan Commission* (*1949*) emphasised on science and technology. Similarly, Kothari Commission was appointed in 1964–66 for advising the Government on the national pattern of education in order to develop education in all aspects and at all stages. Dr. D. S. Kothari, who headed the commission as chairman, also articulated the need for scientific education. The

commission recommended that '*the destiny of India is now being shaped in her classrooms*'. After a thoughtful deliberation and nation-wide brainstorming on the Kothari Commission Report of Education, the Commission realised the absence of a concrete policy in the field of education and proposed a *common school system* of public education. This would create an egalitarian atmosphere with an urge to fight educational inequalities. This paved the way for the formulation of the National Education Policy in 1968. Based on the historical situation, the socio-cultural milieu and in order to meet the challenges in post-Independence India, the National Policy of Education 1968 marked a significant step. It tried to bridge the gap created by the colonial rulers and focussed on promotion of 'national progress', 'citizenship and culture' while emphasising on strengthening of 'national integration'. In 1986, the NPE was reviewed. It stressed the need for promoting technical/managerial education for the growth of industry. It also highlighted the need for equal opportunities for the marginalised sections and for the abolishing of inequality through the provision of various scholarships, with special reference to rural India. In order to improve the quality of primary education and primary schools countrywide, the NPE called for a 'child-centric approach' and launched 'Operation Blackboard'. In 1992, the NPE was revised again with the objective of keeping core constitutional values of democracy, socialism, secularism and professional ethics intact in India. The NPE (1992) made three commitments with regard to elementary education: universal access and enrolment, universal retention of children upto the age of 14, and improvement in the quality of education.

The NPE (1992) also favoured a national framework for curriculum in order to evolve a national system of education in keeping with the cultural and geographical diversity of India and, at the same time, ensure a common core of ideals and value system along with the academic components. The National Curriculum Framework (NCF) was, thus, formed to serve as a manual and a reference for the implementation strategy of curriculum, actions and benchmarks for pedagogy, monitoring and evaluation in the country as envisioned by the NPE. In 1975, the NCF was designed by the National Council for Educational Research and Training (NCERT), and was, subsequently, revised in 1988, 2000 and 2005. The recent NCF (2005) focusses on innovative pedagogy to be implemented in the classroom so as to make education more diverse and contextual. It also focusses attention on the plurality of textbooks and on overhauling of the examination system and imparting training to teachers in order to encourage critical thinking and holistic learning in schools.

Hence, post-Independence India has visualised an education system that is primarily oriented towards science and technology. Science promotes the idea of technology leading to development. Science encourages rationality and critical enquiry and, hence, it is problem-solving and practical in nature. However, the preoccupation with modern technologies and its negativity was also cited in all the commission and policies. Since it is only through education that there is a possibility of coexistence of tradition and modernity, education must bring about a synthesis of change-oriented tendencies with continuity of cultural traditions. The paradox in our educational policy lay at the level of implementation, thereby creating a gap between the ideal and real. For example, till date even after the introduction of economically weaker

section (EWS) quota, equal access to quality education remains a distant dream. Even though the numbers of government schools have increased in quantitative terms, qualitatively they languish. The pathetic state of affairs of the government school led to the emergence of a parallel system of private schools that brand themselves on the basis of quality education, AC buses and classrooms, swimming pools and English as the primary medium of instruction. This duality within the education system is the reality today wherein children from the affluent class can afford to attend private schools whereas those from the poor class takes the education route through government schools. And this leads to a 'sponsored upward mobility!' These private schools portray themselves as exclusive in nature since their selection is primarily based on 'merit' even as they charge hefty tuition fees which everyone cannot afford to pay. This creates categorically different class clienteles for such schools. Thus, the failure to implement egalitarian values in the process of schooling creates a huge gap, reinforcing the superiority of elite schools over the government schools. These so-called elite schools create their own symbols, imageries and behaviour patterns, that act as a mirage chased by all, but provide entry to only those who have social, economic and the cultural capital. Thus, the purpose of schooling gets defeated in the system of schooling and by the structure of schooling. In the process, socialisation through schools only reinforces and breeds class discrimination.

4 Aspiring Middle Class in the Cosmopolitan City of Odisha

Rourkela, as a city, saw the emergence of the middle class through the process of educational development and industrialisation. Education provided an important means to enhance their social standing or class position. The obsessive desire in middle-class parents is to see their child as different from others. This idea of 'different' and 'otherness' can be understood as a projection of cultural capital through which these middle-class families seek to assert their liberal credentials and secure their class position. The ability to move in and out of spaces marked as 'other' indeed became part of the process through which this particular faction of the middle class come to know themselves as both privileged and dominant.

Although they would have preferred their child to be sent to a government school, they eventually realise that there is a dearth of good government schools. Since the aspirational middle class wants their children to be happy in an environment that will also provide them with necessary skills and a quality life, they prefer private schools over the government ones. One can see a growing demand, in post-colonial India, for English medium private schools among the middle class which regards the cultural capital as an indispensable component to expand and validate their cultural assets. Another important development, that changed not only the country as a whole but also affected the cosmopolitan cities, was the introduction of post-liberalisation policies. Post-1990 s the country, as a whole, witnessed a structural change in its economy,

that had its ramifications in the education system. A new market for private English medium schools, along with various coaching centres, mushroomed in a short span of time and this fuelled the aspirations of the growing middle class to give their children the best 'cultural capital'. The forces of liberalisation, privatisation and globalisation have ushered phenomenal changes. Anthony Giddens (1990), in his book '*The consequences of Modernity*', drew attention to 'time-space distantiation'—the ways in which space and time shrink and compress, distances annihilate and a progressive inter-dependent approach begins—as a phenomenon attracting every one. This neoliberal era led to the emergence of a different kind of thinking which is positively related to material wealth, comfort, luxury, and is driven by market forces and dominated by consumption. It is here that the middle class gives in to these market forces and wants to see their children develop independent attitudes and provides them with cultural (linguistic competence, general and specialised culture) and social capitals. These needs of the middle-class parents are not vital ones; rather, they are '*socially created needs*', as stated by Herbert Marcuse (2012) in his book '*One Dimensional Man*'. Marcuse expressed the view that these socially created needs have nothing to do with basic needs and, hence, they are 'false needs'; so unnecessary in nature. But the middle class, in order to satiate these false needs, represses the genuine needs, sacrifices life, misses the opportunity to enjoy life in its true sense and goes to the extent of depriving others of their basic needs. The middle class, with their aspirational goals, are carried away by these superimposed goals either by the media or market forces. They become mere consumers in the market-driven society and also seek to define others on the basis of their consumption. People start recognising themselves on the lines of the commodity that they possess. In this consumption-dominated society, education has become a consumer good and schools its institutional variant. And to keep the system going in the present modern era, we should keep consuming. Hence, the world 'out there' is not a material to be shaped by the human skills but becomes an item to be purchased. As individuals, we feel free to choose from among a surfeit of options, but, in reality, our choices, determined by our needs, are actually the creation of the system and, thus, we end up being 'trapped' by market forces without our knowledge.

Sancho (2016) has also highlighted, in his classic ethnographic study of Kochi (Kerala) city, as to how the emergence of private international schools is meeting the middle-class aspirations in the city Sancho is of the opinion that the rapidly growing Indian middle class has a different consumption pattern, aspiration and lifestyle. Hence, one may questions: who are these middle classes and who claim to be middle class. This has become a contested field especially post-liberalisation India. Thus, any attempt to define this class in an 'objective' manner would not only be impossible but would also be a foolish endeavour. He explored through his paper that

> the middle class emerges as a constantly renegotiated cultural space that is always at odds with itself and where the terms of inclusion and exclusion are being transformed in globalizing India. While the school boasted about its efforts to keep up with the time and make students internationally competent, their everyday activities were most crucially focused on satisfying the core aspirations of the bulk of its middle-class students—centered very much on India and on gaining access to reputed higher education institutions. However, in

> promoting a demand for internationalized forms of education, and with it particular kinds of ideal practices, aspirations, embodied behaviour, and subjectivities, as a form of unified middle-class aspiration and marker of distinction, the school ultimately summoned legitimacy for projects and desires that favors a dominant minority. After all 'the historically specific models of the educated person encouraged in schools often represent the subjectivities which dominant groups endorse. What we may be seeing here is the emergence of internationalized schooling as a middle-class aspiration and a marker of class status, by which the internationalness of private schools will become a marker of 'superior' educational quality to that which would be experienced in local schools.

This shows how the middle class is looking for the private schools and, eventually, as consumers getting trapped. The private schools also try to promote their schools as per the requirement of the system, by showcasing an all-round, emotionally balanced education, which the middle-class parents are increasingly in search of. For the rising middle-class parents, having enough money at their disposal to spend on the education of their child, these skills are easily pursued by sending their child to the private schools where academic drive is taken as given. For the parents, who regard the government school as a risk that is not providing them enough options, private schools provide the answer. The private schools take advantage of this opportunity by branding their institutional identity with a good packaging that caters to the dreams of millions of parents with an aspiration to give their child the best education. All this leads to the emergence of 'international', 'public' schools mania among the growing middle class and the pseudo internationalism tag gives a feeling of being 'branded' which distinguishes and pushes their status to a higher notch.

In Rourkela too, a wide array of private English medium schools have mushroomed in a very short span of time. The most important reason behind this sudden upsurge is the place's industrial township character and increasing urbanisation. These private English medium schools are treated as consumer goods and, thus, are hierarchically superior for the consumers in terms of prestige and status. These schools function as vehicles of class segmentation which can also be seen in the works of Bourdieu and Paul Willis. While focussing on the 'class' as culture and the hegemonic nature of middle-class culture, they have shown how children from working class backgrounds feel alienated at school. The various ways to reinforce this hegemonic power in the cosmopolitan city of Rourkela can be seen in the fancy names of the various playschools, to begin with, such as '*Little garden school*', '*Bachpan play school*', '*Merryland International play school*', as well as the specifications listed in the admission criteria. In this process, class segmentation is strengthened and becomes a stark contrast to the ideals of education for all and, in reality, it runs two parallel processes of schooling viz. government as well as private schools. Government schools are considered as below par (compared to private school) in terms of hierarchy, and where hardly anybody wants to send their kids. The educated elite of Rourkela, identified in terms of its large service sector professionals, were not sending their kids to the Government school. Thus, the English medium private school acted as a class determinant in Rourkela city. One can easily see the reproduction of this class-cum-language divide which has eventually led to the emergence of a dual educational system, with the government schools using the vernacular—'odia'

as a medium of instruction and the so-called English medium private schools. This shows a clear shift of choice of the middle-class parents wherein factors like caste, sub-caste and lineage are no longer playing a decisive role in choosing the school.

5 Power Game in the Everyday Life of Schooling

As Beteille (1992, p. 17) would argue that '*the family among middle-class and upper middle-class Indians is changing its orientation away from lineage, sub-caste and caste, to school, college and office and that parents are not willing to leave the future of their children to caste and karma'*. Educated middle-class families in Rourkela have a good knowledge of the reputation of various schools and have their own priorities in their choice of school. And this choice of the school by the parents depended on their own socio-economic backgrounds. Sometimes parents also consult their peer groups and the recommendations they get from the latter enables them make the 'right choice' in so far as the school is concerned. Thus, in this manner, the choice of the school also indicates the families' social position while heralding the beginning of social power in the larger society. And once the kids are admitted to the school, the parents as well as the children get an exclusive brand label that the school represents. The school, in turn, also uses the names of the parents as part of an informal branding to influence others and create an image for itself. The end result is a circular process of mutual symbolic capital exchange between the schools, on the one hand, and the students and their families, on the other. Both create and help in sustaining the identity by generating a different 'class' category. This reinforces Bourdieu's argument that class is more than economic capital and it should be understood in terms of *social and cultural capital* as well. The private schools, thus, become 'sacred space' and goods for consumption for the middle-class families.

The school, being a 'sacred space', looks at the manifestations of power in various ways, depending upon the context. And, sometimes, there is a coexistence of both positive and negative power. Here, I am reflecting on two aspects viz.:

1. How power controls, enables, awakens or isolates its member in the creation of the culture of learning?
2. The normal practices by the members of the institution to negotiate with power in their day-to-day functions, and how they engage with the imposed structure, strategise or try to modify them.

The nature and form of everyday practices will help us in critically appreciating the various cultural codes that exist in the school set-up and how these codes are processed by the school through various power dynamics. There are a lot of unstructured, unwritten codes that are also unconsciously getting created everyday and move along this route by forming a part of the culture of learning. An example that can be cited in this context is the daily practice in the classroom (in the absence of teacher), the corridors, the playground, the staff room, the recess time etc. What I understood over the period of my research is that even though for the majority of them power was

enabling and they had internalised it, for many others, it was still like mending their ways in a hard way to deal with it. Keeping the context in the background, I will now focus on the narratives to understand the diverse articulations of power in the school through the lens of the actors/stakeholders, such as the students, the teachers, the principal and, to some extent, the parents also.

Considering the fact that the students spend much of their time in school, their opinion was significant in shaping the foundation of the school culture as also to assess the power dynamics. The classroom dynamics is, generally, egalitarian in nature and students, through their participation, create a 'peer culture' which is informal in nature. Unlike the other school processes, such as educating the students, following the fixed curriculum, prescribed medium of instruction, the routine practices of following the timetable, etc. which are formally laid down, the dynamics of the peer culture has an informal element about it. However, this does not mean that the peer culture is not in the control of the school authority but, nevertheless, it is that space of the students where they have their own criteria and judgement of good and bad. In the absence of the teacher, the classroom turns into an informal space for bonding and interaction. A visible example of this can be seen in the immediate change in the sitting arrangements of the students after the teacher has left the classroom. In the absence of the teacher, the body language becomes informal, the bonding increases with informal talks, taking a quick bite from the tiffin etc. The classroom culture can be interpreted in the presence and absence of the teacher. As Thapan (1991) would say, '*Pupil culture is not some kind of entity in itself but exists only in relation to many components of school life; in fact, it is an ensemble of relationships*'.

During the informal conversations and observations in the classroom set-up, it was evident that the moment the teacher leaves the class, the sub-groups within the classroom emerge. The basis of these sub-groups have various parameters, like being cotravellers in the same bus, residential proximity, sharing of interest/hobbies like dance, music or painting, long-term classmates since nursery and many more. But these parameters were the prominent ones; the hidden parameters of the formation of the sub-groups were based on their ranks and intelligence. If one examined the sub-groups within the class from close quarters, the pattern that emerged was, 'all-rounders' constituted one group, 'average student' another, students, who were more into sports, had their own sub-groups, 'silent studious ones' in another and so on. Not everybody could be a part of every group and it seems an informal membership into these sub-groups also had some criteria to be fulfilled before their membership was accepted into that group. These informal group dynamics were also known to the teachers and it was prevalent in all classes. As the students move to higher classes, these divisions become more evident since they start understanding the cut-throat competition outside the school. From Class VIII onwards, the divisions start intensifying, as slowly the students start getting oriented towards the Board exams they would have to face in the future. According to the teachers, the sub-groups within the classroom culture were functional to the extent that they created an atmosphere of 'healthy competition' among the students. For instance, the students wanted to do well in their weekly tests, craved for good marks, wanted to be in the good books

of the teacher, etc. Those students, who lagged behind also, wanted to be part of the groups of the good students.

The teachers also felt that these kinds of groupisms were healthy for the classroom dynamics, though my observations revealed things to be quite contradictory. I found a boy very shy in the class, hardly talking to even his bench mate and not part of any group. In the school parlance, he was in the 'slow learner' category and was also admitted through the 'economically weaker section (EWS) quota in the Right to Education Act'. In class since he was a 'slow learner' (not good at studies), he had no 'good friends'. My interaction with him began with a 'God Promise' (by swearing in the name of God, not to share his secrets with anyone) and while he was travelling with me in the school bus, he confided, '*All of my classmates are good to me; it's just that I don't fit into their group. So I stay in my own world. They help me when I am absent and show me their class work copies and guide me before the exams. I want to be like them, so I study hard on my own way. During exams I fear a lot as I have a lot of pressure at home. I am not that good at studies as my friends are and so I have to study more. They are good in studies, I am not… so I don't feel bad if no one talks to me. But when teachers in the class tell my friends to help me, I feel bad, because then everybody looks at me. I feel as if I have done something wrong*'.

While the perception of the student showed a positive view, it was evident that he wanted to be a part of the reference group—'good students'. He did not want to be labelled by the teacher. In the classroom dynamics, labelling the student had a negative effect as it led to *'self-fulfilling prophecy'* for the student. It was evident that in the classroom, there was lot of competition among the students in terms of getting a good rank and good marks. For many other students, who were bright in their studies, 'slow learners' were not their competitors as they knew that these students could never move up the hierarchy since they had already been typecast. As one student shared, '*I don't have any problem helping friends who are not very close to me in the class and, especially, who are little slow, because in any case they are not my competitors. I don't see them as a threat to my position in the class*'.

These constructions and deconstructions of relationships at various levels, perceptions of interactions and working of power dynamics among teachers, between teachers and parents, between students and parents, were all done in the name of the child. Here, the child becomes a silent observer and also learns to internalise this process just like learning lessons in classrooms. There is no doubt about the fact that the child's mind is 'schooled' and whatever the teachers say in the class becomes the gospel for him. It is evident in the process of schooling, the power dynamics operating within the classroom makes some students create their own self-image which is, actually, a reflection from others (in this case, to some extent, it is both from the teachers as well as from their own peer groups). This takes us to the idea of C. H. Cooley's (1902) theory of 'Looking Glass Self', where the perception of the society affects the construction of self-image. One can say power can be positive to strengthen the in-group (intra) solidarity, but, at the same time, this solidarity can plant the seed for 'ethnocentric' biases and create a hierarchy in the classroom set-up. Teachers acted as the role models for students, student's mind being *schooled*—idea of discipline was cherished by them, and examinations acted as motivation for many. Power

was seen everywhere in the everyday rituals of schooling, it was omnipresent and, hence, seen as normal. Routines became rituals; it got aligned with the organisational flow of the events in school and everybody was dancing to the music and celebrating it without any explicit resistance. Teachers were rational with their power, the principal was authoritative in his isolation, students were strengthening the culture of learning by following the social facts and parents were emotionally concerned with their particularistic values.

After viewing the entire process of schooling from close proximity, the deeper questions that pervade my thinking as a researcher/teacher/mother are—'Are we really getting educated for grades?', 'Does the existence of the student in the classroom get defined only on the basis of the information he/she has acquired and reproduced in the examination?', 'Is there any way one can think of providing any alternative to the power game in the process of schooling?', Can we diffuse the notion of power in the everyday lived experience of the child in the classroom?' I know it may sound very utopian, poetic and, indeed, many may term me as philosophical, but as a researcher I have to speak my mind and provide an alternative. By virtue of this research work, I realised problematising everything is easy; looking at the everyday functioning of the school from a critical perspective is even easier. After all, a trained sociologist cannot take things for granted. But what I realised as the biggest problem for a researcher is to evolve a new method, to provide an alternative which might not look very ambitious now but, over a period of time, it can become an everyday practice—a '*social fact*'.

Hence, the alternatives that I am trying to suggest will focus majorly from the perspective of the students, since in the ladder of hierarchy, they are the bottom, the most 'powerless' and 'vulnerable'. As a researcher, I know that to do away with 'power' is a 'utopia' but to possess 'power with sensitivity' is a possibility. My extensive engagement and everyday interaction in the process of schooling has enabled me to look at some innovative possibilities through which the notion of power can be sensitive in the culture of learning.

The school should recognise that everyone is a learner. The basic aim of schooling is not to 'sort out' students based on their apparent learning capability, rather it is to bring out and increase their inherent ability to learn. If one picks any student in the class, he/she would say that he/she wants to learn. The reason behind the process of schooling is learning new things. The desire of every student will be to have a successful and rewarding life, and it is the onus of the school to mentor them virtuously in that search. Student's belief in their 'self' begins with the teacher's belief in them. They perceive the teacher as the larger societal reflection. As C. H. Cooley (1902) would say, '*I am not what I am, I am not what you think I am, I am what I think you think I am*'. Thus, it is very important for the teacher to empower each student in the class for strengthening their 'self-perception'. Hierarchy will eventually disappear if each student is placed under one category i.e. 'learner'. The moment the teacher categories the students in the class as 'slow learner', 'bright', 'intelligent', 'lazy' etc, sorting begins and hence sub-groups emerge in the classroom dynamics. 'Intelligent' and 'bright' ones feel more powerful and others are powerless. This leads to labelling of the child and, eventually, the slow learner goes unnoticed

and, finally, gives up in the race. On the contrary, if each teacher in the classroom makes it clear from the beginning that 'everyone is a learner' in the class, including the teacher himself/herself, then the question of 'power' does not arise. Everyone is equally learning in the class, the students are not only learning from the teachers but also from their fellow friends, the school gatekeeper, the gardener, the sweeper, the bus driver and many others. Similarly, the teachers are also learning from their students, fellow teachers and various other members of the school. The reason why the students will start learning from everyone is that they see their teachers are also learners and the teachers are learning from them. Thus knowledge, being a powerful product only possessed by the teacher, is not there and everyone is learning. Hence, in this process of learning where everyone is a learner, no one is superior and no one is inferior. Hierarchy disappears and the idea of learning is cherished.

The assessment should be made part of a learning system and not hierarchising the students. Assessments done through examination are important activities within the process of schooling as it is only through this process that the institution can showcase the progress in a formalised manner. The school notice board proudly displays the rank holders and their photographs. No doubt, it is a matter of pride for the school and that is how these private schools attract their future customers. The present system of assessment is based on the principle of standardisation. Each child will be assessed on the parameter which is already fixed by the system. The uniqueness and speciality is not taken into account in this process. For example, a student in the class may not be good at studies but may be a very nice keyboard player, or singer or any other activity. But since the assessment system is standardised and based on academic subjects; the student is categorised as a 'failure'. Thus, we need to introspect on the mechanism of assessment in terms of its place in learning activity along with the potential and real audiences. Innovative ideas should be flouted within these social practices and with people having different interests and who can negotiate the content, process and meaning of assessments.

Thus, by proposing these changes, and in this journey to empower the students, I feel the role of a teacher is vital. It is the teacher who, at the micro-level, can make this suggestive possibility a 'reality'. The teacher, as a facilitator, helps the student to unfold his or her creativity. Creativity is a kind of limitless expression, which is present in every child. It is the experience the child is exposed to which decides whether it will develop or not. After all, it is ultimately the teacher who will plant the seeds for change. It is not important for the teachers, 'what they know', but it is more important to see 'what they do with it'.

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Regional Diversity, School Leadership and Quality of Education in North-Eastern States

N. Mythili

1 School Leadership and Regional Diversity Influencing Student Learning

School leadership is the second most important factor after teacher quality (Leithwood et al. 2004). It constitutes 25% of the total effects on student learning (Robinson et al. 2008, 2009) as it has 'compositional effect' (Martimore 1998) with 'social mix' of right attitudes (Thrupp 1999). Such attribute allows the leader to ask right questions, instead of providing answers to followers, to consider issues on how to ensure staff, school structures, external links and resources for effective learning (Tie 2011) by creating conditions for teachers to teach effectively (Dinham 2008). School principals build teams, translate vision for successful learning of all students, cultivate leadership in others, help teachers upgrade their skills and use data to foster school improvement (Mendels and Mitgang 2013). They focus on knowing what is happening with teaching and learning and even find ways to release creative energy of teachers and students (Sackney and Mitchell 2008, p. 126). They mediate in student learning by effecting improvements in school climate, academic capacity of teachers and their professional learning, school culture, besides managing instructional programmes, staff participation in decision-making and data-informed decision-making on school processes (Hallinger and Heck 1996; Leithwood et al. 2006; Shen et al. 2016). Therefore, leading a school is a specialist occupation requiring specific preparation and development (Bush 2008). Indeed, many teachers perceive that their leadership practices and teaching skills have improved after they have undergone well-structured university courses on school leadership even though such a course is not a prerequisite for leadership purposes (Strevig et al. 2013).

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Transformational leadership practices make a small but practically important contribution to overall student achievement (Leithwood and Jantzi 1999; Marks and Printy 2003) including the internal state of individual teachers (Leithwood and Sun 2012; Ross and Gray 2006). Pedagogical leadership is nearly four times more effective than transformational leadership for student learning outcomes (Robinson et al. 2008, 2009). Collaborative leadership builds capacity for academic improvement of teachers (Hallinger and Heck 2010, 2011), whereas distributive leadership contributes to overall school improvement (Gronn 2000; Spillane 2006).

Notwithstanding these merits, core leadership practices must be commensurate with school's immediate context to lead change (Klar and Brewer 2013) because these practices are influenced by culture (Safran et al. 2014). For example, a study by Hallinger and Murphy (1985) shows that school heads, working in poor urban areas, nurture strong personal vision of education for creating positive learning environment to support teachers and students. In another study, Louis et al. (2010) found that the role of the school head is crucial for schools to come off their low base under challenging circumstances. These two studies confirm the observation made by Leithwood et al. (2006) that it is not the leadership practices, by themselves, but the manner in which leaders apply the same in concert with their unique environment determines the degree to which they influence student learning.

Stevenson and Stigler (1992) concluded that cultural variations in beliefs ultimately explain differences in the organisation of schooling and in the practice of learning in East Asian cultures. Chinese and Japanese societies allow no excuses for lack of progress in school, regardless of one's current level of performance since opportunities for advancement are always believed to be available through more effort. High scores in a test are interpreted as a sign of diligence (Cheng 1998). This is due to surface-level differences, reflecting visible dissimilarities, and deep-level dissimilarities, reflecting basic values (van Vianen et al. 2004). These influence social integration of individuals into new settings (Harrison et al. 1998). Differences in ethnic identity, historical background, geographical characteristics (e.g. seaside or mountain regions) may cause significant cultural differences between the regions (Kaasa et al. 2014). Most important cultural differences can be characterised by four dimensions: power distance, uncertainty avoidance, individualism–collectivism and masculinity–femininity (Hofstede 1980). Hence, it is important to study how school leadership paths differ from region to region to address regional diversities of contexts and why they differ?

In India, until recently, the role of school head was not considered distinct from that of teachers. Only in senior secondary schools, principals spend more time on management, administration, staff management, finances, etc. Raising concerns about the quality of school leadership in India, Govinda (2006) and NUEPA (2010) emphasised the need for improving working conditions of school heads, with several systemic constraints inhibiting them from performing effectively. The school head, in particular, is removed from his/her primary responsibility of academic activities such as teaching–learning process, development of teachers professionally, ensuring student learning, etc. Most of the responsibilities are shifted to new academic structures such as cluster resource centres and block resource centres, created under Sarva

Shiksha Abhiyan (SSA), leaving the school head with record maintenance, civil works and so on. Sujatha (2011) found that only self-motivated school heads could ensure school success. Therefore, there is a shift in the roles of the school heads from leading schools to day-to-day management of activities. It is coupled with the government's policy of reducing their participation in the academic activities. In spite of reduced academic responsibility, principals emphasise on teacher development to connect with other leadership practices such as shared vision, school climate and child focus (Mythili 2017), especially when state- and district-level leadership leads education through network governance and good governance to improve school quality (ibid, 2019d). Mythili also traces the path by which women leaders traverse to succeed and legitimise their leadership roles. Women's ladder for school leadership consists of five steps—'aspire' to become leaders, 'acquire' the leadership position as school heads, 'achieve' by gaining acceptance as leaders from teachers, community and staff, 'ascend' through their hard work to excel and 'transcend' the limitations of the system to serve the cause of children's education (Mythili 2019b). They emphasise on academic leadership to excel besides being relationship oriented, people centred and building trust, yet exercise restrained neutrality to navigate gendered notions (Mythili 2019c). So, legitimacy of women's leadership varies due to the interaction between the perception of power differentials, status attribution and negotiation to get different degrees of acceptance (ibid, 2019a).

Despite a series of systemic reforms since 1990s, lower levels of learning among students persist since 1990s (first study was reported by Agarwal 1995) in India. The recent report by World Bank (2017) observes that there is a crisis in learning among students in developing countries such as India. Recent reports of National Assessment Survey (NAS) by National Council for Educational Research and Training (NCERT) in 2017 also reveal that there is a cumulative learning deficit among students as they progress from lower to higher standards, i.e. from Standard 3 to Standard 8 and, thereafter, to Standard 10 in Indian schools. These lower learning levels get accentuated as regional variations further add to the already existing challenges. The responsibility ultimately falls on the school leadership to improve student learning. If the influence of school leadership is neglected, then the significance of all other important factors influencing student learning would be adversely affected. The 12th Five Year Plan aptly recognised the role of school leadership as one of the four pillars for improving school quality (Government of India-Planning Commission 2013, p. 54). Since then, school leadership development has begun under the Flagship programmes, Sarva Shiksha Abhiyan (SSA) and Madhyamik Shiksha Abhiyan (RMSA) and now continued under Samagra Shiksha. Just as other important variables such as teachers, community, education policies, educational interventions, and school physical environment have been examined since long, exclusive attention to school leadership influencing student learning is required at least now in Indian context especially considering the impact of regional diversity on ways of leading by school heads in different states.

The research proceeds to develop a conceptual framework for school leadership in the Indian context, based on studies across the globe and, apply it for studying school leadership in two States. Hitherto, we do not have a broad conceptualisation of

school leadership in the Indian context. Based on the conceptual framework, tools for studying the leadership practices have been developed and data collected in the two States. Subsequently, analysis of school leadership processes and practices has been carried out. Based on the results obtained, different paths of school leadership have been derived for the two States from the north-eastern region of India. Conclusions have been drawn along with policy suggestions.

2 Building a Conceptual Framework for School Leadership in Indian Context

The conceptual framework for school leadership has been developed by reviewing the studies in the global context consisting of three major steps. Step1 one refers to recognising the broad dimensions of school leadership. Step 2 engages in identifying the major leadership factors that are found common as well as relevant to the Indian context. In Step 3, other minor factors are positioned within the matrix of broad dimensions of leadership and major factors.

2.1 Step 1: Identifying the Broad Dimensions of School Leadership Practice

School leadership, essentially, involves influencing other people to perform at levels which generate organisational improvement, effectiveness and efficiency (Leithwood and Riehl 2003). Most discussions also carry the assumption that leading involves a social influence process whereby intentional control is exerted by one person (or group) over other people (or groups) to structure activities and relationships (Bush 2008). This influence is admixed with intentional control through legally sanctioned authority and positional leadership in educational bureaucracy that perpetuates in the hierarchical system in India. But a social influence is present when there is a common purpose that gives direction for people to engage willingly and subject themselves to influence. Thus, it is important for the leader not only to veil influence but to supplement it by directing them along the accepted common lines defined by purpose. This would provide legitimacy to his leadership rather than mere authority. As such, the first dimension of school leadership is 'influencing others'.

Leadership, necessarily, engages with others and through others for achieving goals of the organisation (Spilliane 2005). It means that leadership can be spread to others for working together and refers to distributed leadership (Spillane et al. 2007). Distributed leadership compels creating a vision for the organisation towards which others can work in tandem with each other (Bush et al. 2011), seeking a reasonable level of agreement in the collective action about aims, mission, vision or goals. It is provided through direction in the form of understanding, asserting and/or aligning

with the vision, mission, goals of the organisation (Drath et al. 2008). Leithwood and Jantzi (2008) refer to it as direction setting, based on goals and motivation. Thus, the second dimension is 'directing others'.

Leading functions can also be accompanied by the charisma of the school leader. But charisma does not sustain if the leadership is not driven by vision and professional competency. As such, instilling enthusiasm, triggering curiosity and encouraging innovations are different manifestations of leadership for learning, among others, things which are meant to move beyond routine day-to-day works to transform schools into learning organisations. It requires the school leadership to engage with teachers and students, on the one hand, and community and parents, on the other. Leadership is expected to provide them with new directions, avenues for thinking out-of-the box, reflect and metacognise the nature of working to move beyond the normative framework. Thus, leadership involves empowering others to work towards the commonly accepted organisational goals and achieve them too (Leithwood et al. 2006). So, the third dimension is 'empowering others'.

Leader's actions, per se, do not mean much to colleagues and stakeholders, when compared to meaningful interaction in a relational framework, which can transform the quality of actions with a sense of commitment as well as for people's empowerment. Nonetheless, school improvement depends on a large number of people because innovations, teachers' capacity building, student-centred learning and knowledge creation are concurrently promoted (Harris 2003). Therefore, any empowerment initiative necessarily involves demonstration, role modelling and bringing about change through actions. Hence, it is imminent that working with others constitutes a necessary dimension, the fourth dimension for school leadership perspective.

Four types of people closely interact with the school leadership across these four leadership dimensions. They are: teachers, students, parents/community and education officials in the department of education from different leadership positions starting from school, cluster, block, district and State levels. Four dimensions of leadership, together with four types of people positioned at different leadership levels with whom school leadership engages, constitute the core of conceptual framework for school leadership in the Indian context (see Fig. 1).

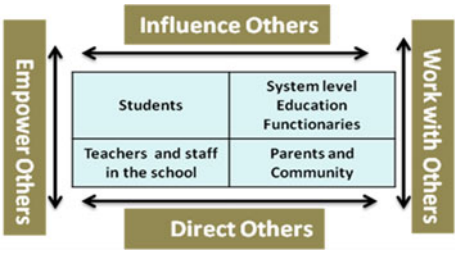

Fig. 1 Major dimensions of school leadership practice stakeholders

2.2 Step 2: Identifying the Most Relevant School Leadership Practices for Indian Context

Second step refers to identifying critical and major leadership practices by reviewing research studies. Edmonds's study (1979) proved that effective schools almost always have leaders focussed on instruction. It is a major landmark study in school leadership that took the shape of instructional leadership in later years. Collins (2011) proposed five qualities of a leader whose school is at level five in the diagnostic framework called 'good to great' schools, viz. rely on high standards as primary vehicle for attaining goals, choose right people to work with, create a culture of discipline, honestly look at facts and entertain difficult questions.

Cotton (2003) identified 25 leadership behaviours that positively affect outcomes, attitudes, behaviours of teachers and students. Some of them are: safe and orderly environment; vision and goal focussed on high level of student learning; high expectations for student learning; self-confidence; responsibility and perseverance; visibility and accessibility; positive and supportive climate; communication and interaction; emotional and inter-personal support; parent and community outreach and involvement; rituals, ceremonies and other symbolic actions. Other leadership behaviour traits include shared leadership, decision-making and staff empowerment; collaboration, instructional leadership; ongoing pursuit of high levels of student learning; norms of continuous improvement; discussion of instructional issues; classroom observations and feedback to teachers; professional development opportunities and resources and so on.

Leithwood et al. (2004) identifies four leadership practices by reviewing studies, viz. setting direction, directing people, redesigning the organisation and improving instructional programme. Marzano et al. (2005) identified 21 leadership behaviours which they termed as responsibilities. Some of them are: affirmation, change agent, contingent rewards, culture, communication, flexibility, focus, ideas and beliefs, intellectual stimulation, involvement, knowledge, outreach, monitoring and evaluation, etc. Shannon and Bergeson's (2007) nine characteristics of high-performing schools provided the basis for school improvement in USA which are embedded in three broad categories such as decide what is important; establish processes and implement what is important; monitor and support implementation plans. They are: clear and shared focus; high standards and expectations for all students; effective school leadership; high levels of collaboration and communication; curriculum, instruction and assessments aligned with State standards; frequent monitoring of learning and teaching; focussed professional development; a supportive learning environment; high levels of family and community involvement.

Leithwood et al. (2006) made seven strong claims about school leadership. These claims include school leadership which is the second most important factor influencing student learning; the way in which leaders apply basic practices, found commonly among all leaders, matters rather than practices, by themselves; school leadership demonstrates responsiveness rather than dictation; leadership considers the context in which they work; it improves teaching–learning indirectly through

staff motivation, commitment and working conditions; practice distributed leadership; and practice handful of personal traits that significantly influence leadership effectiveness.

Robinson et al. (2008, 2009) found that five leadership practices influence student learning. They are: establish goals and expectations; resource strategically; plan, coordinate and evaluate teaching and learning; promote and participate in teacher learning and development; and ensure an orderly and supportive environment. Organisation for Economic Cooperation and Development (OECD) observed that, among the conditions that support teacher learning, school leadership stands first. Others are: shared vision, relationships that build school culture and a positive climate which are fundamental to staff development, logistical and social support (OECD 2010). It also asserted that school principals can shape teacher professional development, define school's goals, ensure that instructional practices are directed towards achieving goals, improve teaching–learning process, solve problems and so on.

Leadership also features in the hierarchy of factors, specifically focussing on teaching, that are strongly related to school improvement and successful schools: mission and goals, safe and orderly environment, climate of high expectations, strong instructional leadership, time-on-task, frequent and learning-directed assessment, and home–school relationship (Townsend 2011). Maringe and Molestone (2015) identified six other factors that drive success and resilient schools against all odds under conditions of multiple deprivations to be those of leadership, especially teams. They include commitment to teaching and learning, a safe and orderly environment, a culture of concern and a desire to improve the life chances of learners, working with communities and parents to improve conditions of learning, and creating strong ties with local and national education departments.

Recently, school standards and evaluation framework developed in India (NUEPA 2015) considered school leadership as an important domain in self-evaluation of schools. It considers school's vision and mission statements, school development plan, management of day-to-day functioning of the school by school head, identification of developmental needs of the school, management of change for continuous improvement, utilisation of financial, human and material resources by the school head, leading improvement in teaching–learning process by the school head, and relationship with staff members in the school. Adopting a self-effacing approach to meet the needs of people consists of promoting positive values, fostering citizenship, personal, economic and social outcomes as important capabilities like student academic outcomes (Day et al. 2016).

In short, school head is the central source of leadership even though there may be many other sources of leadership in the school. It is, especially, true for creating a learning environment in the school and ensuring student learning. For, Leithwood and Sun (2012) preferred to include internal states of organisational members that are critical to their performance and classroom instruction. Maringe and Molestone (2015) emphasised that leaders also need to understand what drives the human actions rather than focus on actions themselves, and to look for underlying causes. Besides these, teacher leadership (Harris 2003), distributed leadership (Gronn 2000), instructional leadership (Hallinger and Heck 1996), transformational leadership (Bass 1990) and

servant leadership (Maringe and Molestone 2015) styles are considered to be having an impact on schooling processes.

2.2.1 Insights from Metareviews and Independent Studies

While the review was highly informative, it was also confusing because it highlighted a vast number of styles, processes, factors, practices and perspectives as relevant without arriving at a convergence. Many studies also were of the nature of prescriptive rather than evidence-based practices. Many independent studies were largely pertaining to micro-analyses of minute actions or micro processes.

Though the studies reviewed above have widely used the four dimensions that are discussed in Step 1, they are not explicitly referred, either directly or indirectly. As a result, factors identified in nine metareviews and several other independent studies were seen dispersed widely ranging from four to 25 factors. Though significant factors were brought forth by these studies, including some claims, they fail to provide a comprehensive and a coherent perspective to understand and apply in schools. It has resulted in discrete statements with factors dispersed and overlaps between different factors, creating confusion while studying different reviews. All these have rendered school leadership as lacking a systems view for conceptual understanding and meaningful practice. In counting the factors, a broad-based conceptual understanding of school leadership is lost. Therefore, there is a need to align four aspects in a comprehensive manner that is identified in step one and within which certain pertinent factors can be made relevant. It enables us to arrive at a perspective for school leadership for the Indian context.

See Table 1 for comprehensive presentation of the review of literature on school leadership discussed so far. While the descriptive review has been carried out using a chronological sequence, the summary given in Table 1 is presented according to a number of factors identified.

The process adopted to arrive at a comprehensive perspective for school leadership is going to be described, now. Firstly, seven important factors emerge as common and most relevant for school leadership in schools across the globe from the review of the studies discussed in Step 2. They are: vision building including shared vision, goal-setting, school improvement, improving school conditions, commitment to teaching–learning processes, achieving goals and student learning. These seven leadership practices, when adapted to the Indian context, got reduced to five important areas of school leadership practice. They are: vision building and creating a shared vision (VB), goal-setting (GS), commitment to teaching–learning process (TLP), improving school conditions for creating a favourable school climate (SC) and achieving goals for student learning (AG). Other minor factors, found to be similar and/or common across these studies, were also positioned suitably within the matrix or rubric of five factors chosen for Indian context, spread across four major dimensions of school leadership, that is discussed earlier. This matrix constitutes Step 3 which is described forthwith.

2.3 Step 3: Positioning Other Minor Factors in the Dimension-Factor Matrix on School Leadership

The four dimensions of the school leadership vary in their subtlety. Influencing others can be subtler than the other three dimensions. Directing others may be more direct,

Table 1 A summary of the review of related literature

Metastudies	Factors identified	No. of factors
Leithwood et al. (2004)	Setting direction, directing people, redesigning the organisation, improve instructional programme	4 factors
Robinson et al. (2009)	Establish goals and expectations, resource strategically, plan coordinate and evaluate teaching–learning process, promote and participate in teacher learning and development, ensure supportive and orderly environment	5 factors
Collins (2011)	Rely on high standards for attaining goals, choose right people to work with, create a culture of discipline, honestly look at facts, entertain difficult questions	5 factors
Townsend (2011)	Mission and goals, safe and orderly environment, climate of high expectations, strong instructional leadership, time-on-task, frequent and learning directed assessment, home–school partnership	6 factors
Maringe and Molestone (2015)	Leadership of teams, commitment to teaching and learning, safe and orderly environment, culture of concern, improve life chances of learners, working with community and parents, create strong ties with local and national departments	6 factors
Leithwood et al. (2006)	School leadership is the second most important factor influencing student learning; the way in which leaders apply basic practices matters rather than practices by themselves; school leadership demonstrates responsiveness rather than dictation; leadership considers the context in which they work; it improves teaching–learning indirectly through staff motivation, commitment and working conditions; practices distributed leadership; and practices handful of personal traits that significantly influence leadership effectiveness	7 strong claims

(continued)

Table 1 (continued)

Metastudies	Factors identified	No. of factors
Shannon and Bergeson (2007)	Clear and shared focus, high standards and expectations for all students, effective school leadership, high levels of collaboration and communication, curriculum, instruction, assessment aligned with State standards, frequent monitoring of learning, and teaching, focussed professional development, supportive learning environment, high levels of family and community involvement	9 factors
Marzano et al. (2005)	Affirmation, contingent rewards, involvement, knowledge, outreach, intellectual stimulation, monitoring and evaluation, change agent, culture, communication, discipline, flexibility, focus, ideas and beliefs, input, optimiser, order, relationships, resources, situational awareness, visibility	21 factors
Cottons (2003)	Safe and orderly environment, vision and goal focussed, high expectations for student learning, self-confidence, positive and supportive climate, communication and interaction, emotional and inter-personal support, parent and community outreach and involvement, rituals, ceremonies and other symbolic actions, shared leadership decision-making and staff empowerment, collaboration, instructional leadership, ongoing pursuit of high levels of student learning, norms of continuous improvement, discussion of instructional issues, classroom observation and feedback to teachers, support of teacher's autonomy, support for risk-taking, professional development opportunities and resources, protecting instructional time, monitoring student progress and sharing findings, use of student progress for programme improvement, recognition of achievement of students and staff, role modelling	25 factors

yet it calls for using influence subtly to get expected response from others, especially subordinates. Similarly, empowering others is accomplished through interaction, understanding and practicing empathy with others. Empowering others remains rhetoric unless it is associated with influencing others through intellectual conviction and role modelling. Working with others uses all the other three dimensions as well as an internal conviction in the leader to create a people-centred approach to leadership forming a social glue, with a 'we-we' connect and 'I-we' connect. The intellectual stimulation, driven by leadership knowledge and practices, embeds working with others in a more meaningful manner.

As a leader, he/she influences, directs, empowers and works with all four types of people–students, teachers and staff, parents and community, and system-level functionaries. In turn, the school leadership is influenced, directed and empowered by the four types of people. Hence, these four dimensions are not serial in nature but interact organically as an open system in a relational framework between the influencer-influenced, director-directed, empower-empowered and work-worker. They correspond to four critical aspects on leadership knowledge, namely knowledge for understanding, knowledge for reflection, knowledge for action and knowledge for practice (Bolam 1999). All these are dynamic in nature. Building a conceptual model for Indian context, therefore, acknowledges the evolving nature of understanding school leadership, especially because it is in the nascent stage of development. The various other factors, which interact across four dimensions and major five factors, are mapped suitably. All three steps, together, complete the exercise of conceptual framework for understanding school leadership in the Indian context (see Table 2).

3 Methodology

3.1 Sampling and Sample

Purposive sampling was used as it was felt essential to understand as to what works well in the system besides discussing the challenges and issues. The intent is to recognise the best efforts of school leadership, that have worked well, and utilise the same in improving student learning and overall school quality. Sikkim and Manipur States, situated in the north-eastern region of India, were the sites of study. Even though anthropological and sociological studies are conducted considering these regions, research in school education is yet to get the attention of scholars and academic discourse.

The process and path traversed by school heads as leaders were investigated during the time of implementation of school leadership development programme (SLDP) by administering the tool developed for the study. School heads who proved successful making a difference to school quality were nominated by the education department to be participants and also as members of state resource group to undergo 10 days' training on SLDP. SLDP provided appropriate space, giving adequate time

Table 2 Conceptual framework of school leadership for Indian context

Core school leadership practices	School leadership dimensions			
	Influence others (I)	Direct others (D)	Empower others (E)	Work with others (W)
Vision-building (including shared vision) (VB)	Model organisational values Personal values of school head Professional values of school head	School culture—A climate of high expectation Leading learning process	Need to understand what drives human actions rather than a focus on the actions themselves	Establish strong partnership with communities and parents Self-effacing approach to meet the needs of people Create strong network and ties with education departments
Goal-setting (Setgols)	Demonstrate high-performance expectation	Facilitate teachers in setting individual goals	Challenge performance standards of teachers and students	Involve SMC/parents and teachers in goal-setting for the school
Improving school conditions for creating a favourable school climate (Schl improve)	Transformational leadership	Look for underlying causes for Teacher behaviour	Develop structures to foster participation in school's decisions Create teams for collaborative working environment Development of community/parents	Safe and orderly environment A culture of concern Home–school relationship Offer individual support Create a productive school culture Distributed leadership
Commitment to teaching–learning process (TLP)	Provide intellectual stimulation	Principal's instructional leadership	Facilitate teacher professional development	
Achieving goals (achvgols)	Student motivation Promote positive values	Learning-directed student assessment	Desire to improve the life chances of learners Foster citizenship Personal, economic and social capabilities	Ensure student engagement in learning

to these participants to self-reflect on their leadership practices as well as think critically about the underlying meaning of core leadership practices during different sessions. Hence, collection of data on school leadership practices was carried out more meaningfully.

3.2 Construction of Tool

A four-point rating scale was constructed, based on the conceptual framework developed for the study. Neutral statements of action on all five core leadership practices were constructed across all four dimensions into which the roles of teachers, students, parents, community and system-level functionaries were juxtaposed. School heads self-reflected on their leadership practices and ticked one of the four options for each action statement. These four options were: never practiced, sometimes practiced, mostly practiced and always practised which carried 1, 2, 3 and 4 scores, respectively. Likert's five-point scale was not used to avoid the effect of averaging.

Descriptors of leadership practices, considered for item construction under the four dimensions of school leadership practice in the Indian context, are briefly mentioned. These descriptors have been comprehensively presented in Tables 3, 4, 5 and 6 and are self-explanatory. Since the rating scale is treated as a self-reflective exercise, a broad description of the minor factors is more relevant instead of adopting the operational definition. Statements of action provide flexibility for the respondent to interpret the action and reflect upon one's own leadership practices for self-rating.

Basic features and presentation about broad dimension, major factors and minor factors are already detailed in the conceptual framework. In the first major dimension 'influencing others', critical but essential factors were chosen that ranged from *practicing personal values to promoting positive values among teachers* for which school heads established trust and provided intellectual stimulation. Extent to which these were practised is captured by constructing 12 action statements. Table 3 presents the descriptors on the first dimension of school leadership practice 'influencing others'.

On the second major dimension 'directing others', critical and essential factors chosen ranged from *creating a culture for teaching* to *encouraging innovations in teaching–learning processes*. These included school head's support for teachers to set their goals, lead teaching–learning processes and create a climate of high expectations. These were captured through 16 statements of actions.

The third dimension on *empowering others* begins with practical orientation for vision-building and ends with improving chances for student learning. Empowering others is carried out by means of teacher professional development, creating collaborative environment for teaching–learning processes and creating systems and structures for decision-making as necessary tools to traverse between orienting for vision-building and improving chances for student learning. Altogether, 23 statements of action were constructed to study this dimension.

Table 3 Descriptors of the dimension 'Influencing others' in school leadership practices

Major factor	Minor factors selected for constructing the Rating scale	Description of the minor factors
Vision-building including shared vision	Practicing personal values of school leadership (I-VB)	This variable seeks to know whether a vision is conceived for the school; school head's vision aligns with the teachers' vision for school development; the extent to which the school head reflects about his/her own performance and sharing with teachers in the school and, at the same time, encourage self and group reflections among teachers about their performance (four statements)
Goal-setting		Goal-setting is a hands-on exercise in which school head must involve personally. The perspective, influencing others, is subtle and does not engage with hands-on exercise. Rather influence to set the goals happens indirectly through empowering, working and being directed by the superiors. 'Influencing' for goal-setting does not, necessarily, involve explicit statement of actions. Hence, no items were included in this dimension (0 statements)
Improving school conditions for creating favourable school climate	Trust-building (I-schlimprov)	Building trust is an important aspect in creating favourable school climate and cultivating an environment of mutual interaction to understand each other with teaching and non-teaching staff. It means as a leader one is sensitive to people, effectively managing them using minimal formal rules and regulations to ensure that everyone performs (two statements)
Commitment to teaching–learning processes	Provide intellectual stimulation (I-TLP)	School head adopts different/unique methods so that teachers openly share their insights and reflection about their work and achievements with others. He/she personally designs suitable plans, holds workshops, conducts various sessions to address the needs of teachers, ascertains that new initiatives have produced noticeable changes in teacher quality, develops a vision statement for the school along with teachers, and performance of students in the previous year is studied before setting the goals for the next year. In the changing times, school head takes special efforts to see that all teachers use computers, ICT and new technology in their teaching and other academic works. (four statements)
Achieve goals	Promote positive values among teachers (I-achvgols)	School head ensures that morning assembly is well-attended and participated in actively by teachers as it sets the tone for the day's work. She/he insists that teachers encourage innovations among students so that children participate actively for learning (two statements)

Table 4 Descriptors of the dimension 'Direct others' in school leadership practices

Major factor	Minor factors selected for constructing rating scale	Description of the minor factors
Vision-building including shared vision	Creating a culture for teaching (D-VB)	It is equally essential to build capacity of teachers in school administration as they are being engaged to support the school head in many administrative tasks. This brings synchronisation between the academic and administrative functions of the school. School head ensures that there is a balance between time spent on academic and administrative works by teachers along with effective coordination between the two. In this way, teachers' teaching time is not lost out to administration duties in the school. The same is applicable for school heads as well (two statements)
Goal-setting	Facilitating teachers for goal-setting (D-setgols)	In the light of the previous year's performance of students, goals are set for the current year, and discussions are held with teaching staff about the common objectives to be achieved every year in the school (two statements)
Improving school conditions for creating favourable school climate	Setting a climate of high expectations (D-schlimprov)	A climate of high expectations is set when there is timely intervention to solve problems, initiate discussions to understand teacher's complaints, emphasise on quality of classroom processes and look for amicable solutions to improve quality of schooling processes. He/she is ready to take classes when some teachers are on leave or no substitute teachers are available. But, as a head of the school, he/she would also consider the disruptive behaviour of teachers seriously. School head supervises administrative staff to ensure efficiency in school administration (5 statements)
Commitment to teaching–learning processes	Leading teaching–learning processes (D-TLP)	It refers to providing opportunities and spaces for teachers related to academic discussion on various topics and pedagogy in different subjects, to reflect on how innovatively one can use/apply the knowledge received from different training programmes and also professionally support each other as colleagues in teaching practices, exercise openness in the staff meetings and conducting other school activities. Nonetheless, school head also receives feedback from students and observes the relationship between teachers and students (five statements)

(continued)

Table 4 (continued)

Major factor	Minor factors selected for constructing rating scale	Description of the minor factors
Achieve goals	Encourage innovations for learning and its assessment (D-achvgols)	Leading innovations is one of the important leadership practices of school head. He/she ensures that suitable environment for students to experiment, generate new ideas and innovate, and insist teachers to identify talented students and encourage them to innovate and share on various platforms. Learning-directed assessment provides more opportunity for directing the trajectory of learning as moving beyond marks and pass percentage of students (two statements)

Table 5 Descriptors of the dimension 'Empower others' in school leadership practices

Major factor	Minor factors selected for constructing Rating scale	Description of the minor factors
Vision-building including shared vision	Practical orientation to vision building (E-VB)	A school head reflects on his/her own performance and shares with all teachers. Both of them come together to develop common goals for the school every year during summer vacation (two statements)
Goal-setting		As empowerment comes through hand-holding, teachers can be directed to set the goals. School heads empower teachers to set the school's goals by engaging with them. Hence, the two dimensions, such as empowering and working with others, overlap in setting the goals by teachers. In the present study, therefore, goal-setting is not considered under empowering others and influencing others, but it is considered under working with others and directing with others (0 statements)
Improving school conditions for creating favourable school climate	Creating a collaborative environment for teaching (E-schlimprov1)	A collaborative environment moves beyond the school to engage with community and parents to participate in schooling and classroom teaching. Important matters related to students are discussed to find solutions that has group's consensus. Teachers are free to suggest alternative solutions and strengthen the ideas already suggested by others. They brainstorm in the meetings about possible array of solutions, ideas, processes to improve teaching and learning (three statements)
	Structures and systems for decision-making (E-schlimprov2)	Structures and systems refer to providing opportunity for teachers to share and participate with school head freely on matters related to school that is critical for school transformation. There is a need for building a high level of mutual respect, cooperation between school head and teaching staff, freedom for all to express their opinion openly without fear or hesitation, disagree with other's views and own their views related to professional matters in a cordial manner. Teachers carry out the work in the same way with or without principal or when there is a change of principal in the school. Community and parents actively participate in schooling processes. All these require conscious efforts to put certain commonly agreed upon systems and structures in the right places (seven statements)

(continued)

Table 5 (continued)

Major factor	Minor factors selected for constructing Rating scale	Description of the minor factors
Commitment to teaching–learning processes	Teacher professional development (E-TLP)	School head tries to understand teacher's professional needs on an annual basis to improve teaching–learning process and student learning. He/she examines the initiatives taken up earlier for suitable changes facilitating teacher quality, observes classroom teaching–learning processes, creates opportunities for teachers to work together in teams, provides spaces for teachers to plan and organise school events by exchanging and sharing ideas as well, and encourages teachers to exchange knowledge and practices. A climate is created for students to freely and easily approach any teacher to discuss and express their doubts, ideas and share their new learning. As a school leader, he/she strongly encourages innovative teaching practices by teachers (six statements)
Achieve goals	Improve chances for student learning (E-achvgols)	A facilitative environment is created where students feel free to talk to their teachers; parents to meet school head, whenever they want, to discuss about their child; opportunity for children to participate; showcase their achievements and demonstrate success; and win competitions in the school. School head also talks to adolescent students regularly to address their emotional, social, physical and intellectual needs. School leader creates opportunities for students to learn and use ICT for learning various curricular subjects on their own/as additional efforts beyond what is taught in the classroom (five statements)

Table 6 Descriptors of the dimension 'Working with others' in school leadership practices

Major factor	Minor factors selected for constructing Rating scale	Description of the minor factors
Vision-building including shared vision	Participation in goal-setting (W-VB)	Before developing annual goals, school head tries to understand the aspirations, challenges and issues of students, involves non-teaching staff to understand the hind-sight issues in developing goals and vision for the school and also tries to know the home background of vulnerable children in the school (three statements)
Goal-setting	Effective school administration (W-setgols1)	It is highly favourable for the school head if he/she clearly knows the rules, regulations, acts and their applicability. It boosts confidence as a leader to carry out school administration as well as ensure good relationship with department and SMCs. School head can nurture teachers in learning the basics of school administration. It is also important that school head consults respective class teachers to cater to the needs of adolescent students while carrying out school administration (five sentences)
	Mutual interaction to understand each other (W-setgols2)	School head tries to know and ensures that teachers are comfortable with his/her style of working and to get continued support from teachers in most of the school matters. Mutual interaction to understand each other implies teachers participate and express freely and openly in staff meetings on all matters, including their disagreements related to school. Also, school head seriously considers the disruptive behaviour of students in the classroom (six statements)
Improving school conditions for creating favourable school climate	Building collaboration for teaching–learning process (W-schlimprov)	School head initiates to bring experts from outside to specially address the professional needs of teachers. She/he also seeks support from block and district-level officers in the matters of teacher professional development (two statements)
Commitment to teaching–learning processes		None. It is important to influence, direct and empower teachers and leave them to themselves to work in their classrooms and among other teachers (0 statements)
Achieve goals	Ensure student engagement in learning (W-schgols)	An important aspect of ensuring student engagement in learning is to begin from morning assembly. A good planning and execution sets the tone for rest of the day in the school for learning. More emphasis on academic matters disregarding cocurricular activities and sports and games is not a good sign for children's learning and development. Morning assembly addresses these aspects (three statements)

The fourth and the last dimension 'working with others' begins with participating in goal-setting and ends with ensuring student engagement in learning. In order to ensure the smooth traverse between these two ends, school head works with others to bring about effective administration, building collaboration for teaching–learning processes, and provide opportunities in the school for mutual interactions to understand each other. In all, there are 19 statements of actions which capture the dimension on working with others, covering various areas.

3.3 Method of Data Collection

In all, 78 school heads from Manipur and 80 school heads from Sikkim took up the self-reflective exercise on their leadership practices in the year 2017. The reflective exercise was administered in two batches of school heads in Manipur and three batches in Sikkim within a gap of 10 days and one month, respectively, in both the States.

Rating scales were distributed to participants giving necessary instructions. As school heads are mostly directed to follow orders and circulars from block, district and State-level administration, SLDP implementation space provided adequate opportunity to guide them to engage in self-reflective exercise. Sufficient time of about five days was also given to them to ensure that they self-reflected appropriately before rating themselves. Profiles of school heads such as age, caste, educational qualification and experience as teachers and school heads were also collected.

3.4 Method of Analysis and Interpretation of Results

The data was analysed using Pearson's Product–Moment Correlation. Many other factors were related having significance levels at 0.01 or 0.05 but their 'r' coefficients were lesser than 0.5. Such factors were not considered in the interpretation of results. In other words, not only significance levels but also higher correlation coefficients were considered to trace the path and identify the critical practices for successful school leadership.

The connections between various school leadership processes were established diagrammatically using the correlation results for both the States, separately. From the diagrammatic representation, the path traversed and critical leadership practices were derived. The two States were compared, based on commonalities and differences in the approaches adopted. Impact of regional diversity between the two States, variations in the paths, critical leadership practices and the reasons, thereof, have been discussed along with results and policy implications.

4 Analysis and Discussion of Results

4.1 Relationship Between School Leadership Practices and Student Learning

Results of the correlation tests, conducted for both the States, show that some variables are significantly related to each other whereas others are not related. Most importantly, students' pass percentage is not significantly related to any other school leadership practice concurring with the well-known fact that school leadership does not directly impact student learning but through various other processes at school and classroom levels (Robinson 2008).

Correlation coefficients between different factors arrange themselves into a kind of a pattern to reveal the leadership process in the State. A description of the same is attempted here with the help of mapping those relationships in a diagram to uncover the pattern and nature of school leadership process (refer to Figs. 2 to 5 for details), using correlation coefficients (see Appendices 1 and 2). Unless otherwise mentioned, in the rest of the discussion and interpretation of results, correlation coefficient between two variables is significant at 0.001.

A small description about the method designed to draw the figure is described before discussing the results for both the States. A leadership practice, to which a few other practices are correlated, is referred to as 'Node' in this study. Each Node represents a critical leadership practice influencing several other leadership practices and processes in general. Sometimes, it may influence only one practice but may be significant enough to influence an outcome or many other practices. For example, trust building and providing intellectual stimulation is one such Node in case of Manipur. Similarly, I-VB is considered as the Node instead of E-VB since influencing others through personal leadership values is rather vital for any successful school leadership and achieving goals.

4.2 School Leadership Practices in Manipur

4.2.1 The Context of School Education

Manipur borders Nagaland in the north, Assam in the west, Mizoram in the south and Myanmar in the east. The State is rich with invaluable herbal and medicinal plants. It has the biggest freshwater lake called Loktak which has floating vegetation and the only floating national park in the world. Its geographical feature is characterised by hills and valleys. The districts are also categorised into hill districts and valley districts. People inhabit both hills and valleys. Earlier, there were nine districts. Recently in 2017, the State has created seven more districts to these nine for the ease of administration, especially in the hills. These 16 districts cover 22,327 km^2 of area. Its population is 2,721,756. It has a literacy rate of 68.87%.

According to Census, 2011, ethnically Manipur has a heterogeneous population. Different tribes and other sects are present in the State. These are Meiteis, Nagas and Kukis tribes, and other Hindus. In all, there are 29 types of tribes inhabited in the State of which Nagas and Kukis are the dominant tribes in the State. Most of the tribal population is converted to Christianity. Tribals mostly live in the hills and constitute 28% of the population. There are also converted Hindus and Sanmahi who are Meiteis. They are inhabited mostly in the valleys constituting nearly 60% of the population. Pangan is the local name given to Muslims who have settled long ago in Manipur and have acculturated Manipuri's customs, traditions and culture.

Manipuri women enjoy higher freedom and participate actively in combating social evils such as drugs, substance abuse, alcoholism, protests to protect their rights and dignity as well as protection of their menfolk from harassment by security forces. They are, thus, an important unified political force in the State especially demanding human rights that is due for all citizens of the State (Devi 1998).

Prakash (2007) discusses severe issues related to insurgency, identity politics and governance which have been hit adversely, leading to deterioration of human rights, democracy, and rule of law. The infighting between Nagas and Kukis, and insurgency have severely crippled the State politics as well as economic and social development of the State. Cultural heritage has been affected adversely significantly due to deadly drug addiction and dreaded AIDS disease. World Health Organisation (WHO) identified the State as an AIDS-prone State in Southeast Asia. The State has been a victim of international drug trafficking via Myanmar and narcotic money influences the politics and social life of people in the State. AFSPA, 1958 (Armed Forces Special Powers Act, 1958), has also affected the life of people in the valley and hills in a big way (Singh 2017). Insecurity in the lives of the general public, arising from it, has caused damage to the peaceful fabric of life in the State. The fight against it is continued even to this day by the people of Manipur, and the tribal population has taken to underground activities.

In short, the social life in the State is a complex unholy mix of insurgency, AFSPA, drugs and narcotics and AIDS. Lack of social and economic development has severely affected the peace and security in the State. There was an increased the sense of alienation creating a threat perception among the general public in the State due to insurgency till recently. Manipur is also marked by high levels of political instability despite Indian National Congress ruling the State since its merger into the Indian Union in 1949. It is one of the strong reasons for some of the major failures in the State as it could not assert its position and right effectively with the central government in Delhi.

4.2.2 Education System in Manipur

Administration of School Education is handled by the Directorate of Education (Schools) Govt. of Manipur from Primary to Higher Secondary stage (from Class I to

XII). In the hill districts, Autonomous Hill District Council also runs primary education (from Class I to V). However, these councils are perceived as weak to ensure good education. There are also schools under CBSE and Tribal Welfare Department.

There are 4865 elementary schools and 1042 secondary schools. According to UDISE 2016-17 (NIEPA-MHRD 2018), school education in Manipur has 58.44 primary schools (Standards I–V), 17.9 elementary schools (Standards I–VIII), 2.11 higher secondary schools (Standards I–XII) and 14.34 secondary schools (Standards I–X). The percentage distribution of enrolment of students in these schools is 16.40%, 14.75%, 16.15% and 40.62%, respectively. In all, there are 4978 schools in the State out of which 2335 schools are run by Department of Education (DoE), 956 by Tribal and Social Welfare Department (TWDS), 607 are government-aided (GA), 2274 are run by private-unaided (Pvt U) and remaining by various other departments.

There are 10,994 regular teachers out of the total 19,063 in government schools who are professionally qualified. Similarly, 761 out of 1725 teachers in Government-aided schools and 2127 out of 6305 teachers in private-unaided schools are professionally qualified in Manipur. Percentage distribution of Head Masters/Head Mistress in primary schools (I–V standards), elementary schools (I–VIII standards), higher secondary schools (I–XII standards) and secondary schools (I–X standards) are 52.85%, 56.83%, 83.53% and 68.81%, respectively.

The gross enrolment ratio (GER) of students in primary schools (I–V standards) is 120.57, GER in I–VIII standards is 120.16, and GER in IX–X standard is 86.52%. Manipur follows its own State syllabus. According to the announcement made on the official website of Manipur State,[1] 73.18% of total students passed the X standard examination, conducted by the State's high school board in the year 2018.

National Achievement Survey (NAS), conducted in 2017, shows that Manipur performed above the national average in Classes 3 and 5 in all subjects. Even in Class 8, it nearly equalled the national average in all subjects except in the regional language. Even in class X, it scored higher than the national average in all subjects except modern Indian languages (see Table 7).

4.2.3 Profile of School Heads Who Participated in Self-reflective Exercise on Leadership Practice

Out of the school heads in Manipur participating in the study, 60.6% were men and 39.4% were women in Manipur. The average age of school heads in Manipur is 52.3 years. Sixty percent of them were secondary HMs, and 40% were principals at senior secondary schools. Their average teaching experience is 23.1 years, while the experience as school heads is 4.1 years. Seventy-five percent of school heads are graduates having basic university degree with B.Ed. The remaining 25% school heads have post-graduation degree with B.Ed.

[1] http://manresults.nic.in/.

Table 7 National Achievement Survey-Mean score for Manipur State: 2017–18

	Class 3		Class 5		Class 8		Class 10 (Cycle 2)**	
Subject	Manipur	All India	Manipur	All India	Manipur	All India	Manipur	All India
Modern Indian Language	71	68	59	58	58	57	33	49
Mathematics	68	64	56	53	42	42	31	34
EVS	70	65	61	57	–	–	–	–
Science	–	–	–	–	43	44	35	34
Social Science	–	–	–	–	42	44	40	39
English	–	–	–	–	–	–	48	36

Source NCERT-UNICEF (2017a)
** http://www.ncert.nic.in/programmes/NAS/pdf/SRCX/14_Manipur.pdf. Accessed on 17th May 2020

4.2.4 Relationship Between Different School Leadership Practices

There are six Nodes in the school leadership practices in Manipur. Boxes with gray shade in Fig. 2 are the Nodes. The first Node refers to influencing others for vision-building (IVBMN) indicates leadership values practised by the school head. The second Node is about working with others to set the goals (WSGOLSMN2), referring to mutual interaction to understand each other. The third Node is empowering

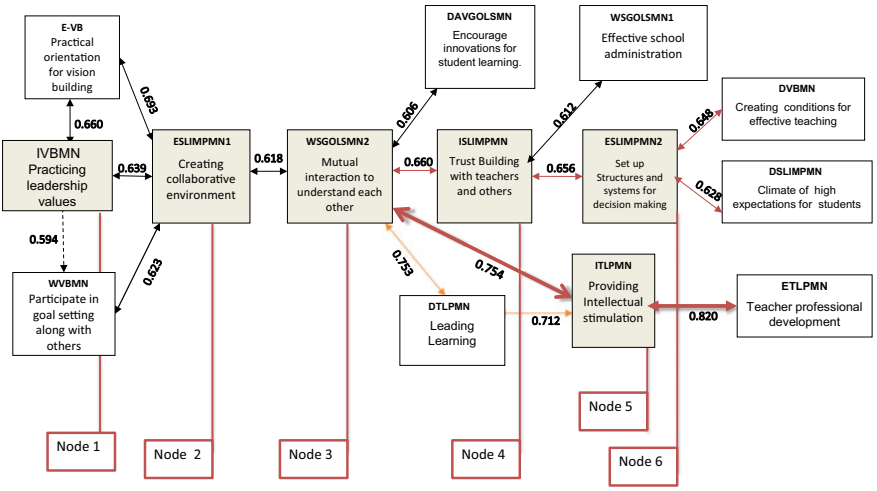

Fig. 2 Relationship between different school leadership practices in Manipur

others for school improvement (ESLIMPMN1), referring to creation of a collaborative environment by school heads. Fourth Node is influencing school improvement (I-schlimprov), indicating trust-building. Fifth Node deals with empowering others for school improvement (ESLIMPMN2) which implies setting up systems and structures for decision-making. Sixth Node is influencing teaching–learning process (ITLPMN), referring to providing intellectual stimulation for teachers. The manner in which other leadership practices are related to these Nodes is discussed hereafter with the help of correlation coefficients '*r*' obtained from the analysis. From these relationships, thereafter, school leadership paths are derived.

Node 1: Relationship between leadership values, vision-building and creating collaborative environment

Personal leadership values (IVBMN) of school heads in Manipur are closely related to practical orientation to vision-building (E-VB), with '*r*' = 0.660. Leadership values (IVBMN) are related to creating collaborative environment (ESLIMPMN1), with '*r*' = 0.639. Practical orientation to vision-building (E-VB) is related to creating a collaborative environment (ESLIMPMN1), with '*r*' = 0.693. Correlation between participating in goal-setting (WVBMN) and creating collaborative environment (ESLIMPMN1) is 0.623. In this way, practising personal leadership values of school heads, creating collaborative environment, practical orientation to vision-building and participating in goal-setting are related to each other. WVBMN is indirectly related to personal values of the school leader (IVBMN), mediated through ESLIMPMN1 as '*r*' between WVBMN and IVBMN is 0.594, which is less than the cut-off point of '*r*' = 0.6 (indicated through dotted lines). Thus, practising leadership values constitutes Node 1 as it is connected to all other factors.

Practicing personal leadership values is a critical factor that influences rest of the schooling processes and leadership practices (Hallinger 2011). In Manipur, it is positively correlated with practical orientation to vision-building (E-VB) as well as creating a collaborative environment (ESLIMPMN1). It means that values of school leadership have a potential to create shared vision through collaboration and practical orientation to vision-building. Even though vision-building is something to dream about as a long-term perspective, it needs to be nurtured in the school among all members, requiring an element of practical orientation too.

Node 2: Relationship between creating collaborative environment and mutual interaction to understand each other

Creating a collaborative environment (ESLIMPMN1) is Node 2, which is an important node to which Node 1 and Node 3 are connected. In other words, creating a collaborative environment is associated with values of school head, practical orientation to vision-building and participating in goal-setting, along with others, on one side; and mutual interaction to understand each other (WSGOLSMN2), on the other. Results of correlation analysis show that creating a collaborative environment (ESLIMPMN1) is directly related to mutual interaction to understand each other (WSGOLSMN2), with '*r*' = 0.618. It implies that school leaders not only empower teachers, staff, parents and students to create a collaborative environment, but also engage directly

by working with them, *i.e.,* providing opportunities for mutual interaction to understand each other. It aptly indicates that creating a collaborative environment brings people together, based on a common purpose, which is an opportunity for mutual interaction without losing the leadership focus, vision for the school and goals to be achieved by individuals.

Node 3: Relationship between Mutual interaction to understand each other, trust-building and other practices

Mutual interaction to understand each other (WSGOLSMN2) refers to school leadership dimension related to working with others for goal-setting. It is an important node (Node 3) that is connected with a maximum number of school leadership practices in Manipur. These leadership practices are: encourage innovations for student learning (DAVGOLSMN), trust-building (I-schlimprov), leading learning (DTLPMN) and providing intellectual stimulation (ITLPMN). Among these practices connected, trust-building is Node 4. Thus, Node 3, referring to mutual interaction to understand, is deeply significant within the school and is also difficult to achieve. It noteworthy to observe that Manipur is able to achieve this step.

A collaborative environment, driven by personal vision leading to mutual interaction for understanding each other, is an apt space that is readily available for encouraging innovations. Correlation is between mutual interaction to understand each other (WSGOLSMN2) and encouraging innovations for learning among students (DAVGOLSMN), and r is 0.606. It is about building a culture of innovations in the school, characterised by informality in dealing with people, to move beyond the normative framework, to think creatively, to question the traditional and existing practices freely, to experiment, accept failures positively as lending scope for deeper thinking and creativity, and celebrate success with all, and so on.

Mutual interaction to understand each other (WSGOLSMN2) is directly correlated with three other leadership practices, referring to building trust with teachers and others (I-schlimprov), with 'r' = 0.660; leading learning (DTLPMN), with 'r' = 0.753; and providing intellectual stimulation (ITLPMN), with 'r' = 0.754.

Node 4: Relationship between trust-building, structures and systems for decision-making, and other practices

A series of leadership practices, beginning with personal leadership values, collaborative environment and mutual interaction to understand each other, which are the first three nodes, is supported by feeder factors, such as practical orientation to vision-building, participating in goal-setting with teachers and others, creating a culture of innovation. These set of practices, when consistently practiced for a length of time, lead to building trust among teacher, parents, community and students.

Building trust with teachers and others (I-schlimprov) is directly correlated with mutual interaction to understand each other on one side with 'r' = 0.660, the Node 3 (WSGOLSMN2). It is directly related to effective school administration (W-setgols), with 'r' = 0.612, and structures and systems for decision-making (ESLIMPMN2), with 'r' = 0.656 on the other side. It is, indeed, a robust relationship between these

two subtle factors that are difficult to realise in the school. It is important to notice that school heads in Manipur practice these two components of leadership effectively.

Building trust is also indirectly related to encouraging innovations among students mediated through mutual interaction for understanding others (Node 3). Similarly, it is also indirectly related to leading learning and providing intellectual stimulation mediated through Node 3.

Node 5: Providing intellectual stimulation and outcomes

Providing intellectual stimulation (ITLPMN) is an important Node as it paves the way for an important outcome of preceding leadership practices called teacher professional development (ETLPMN). It is a teacher-focussed outcome. Providing intellectual stimulation (ITLPMN) is related to mutual interaction with each other, the Node 3, as 'r' = 0.754. It is also related directly to leading learning (DTLPMN), with 'r' = 0.712. It is a crucial Node that provides the required professional competence for the school head in teaching–learning processes. Correlation coefficients are also high for this Node 5 when compared to any other node, which indicate the emphasis that school heads give to teaching–learning processes in Manipur.

Node 6: Relationship between structures and systems for decision-making and outcomes

Building trust among teachers and others (I-schlimprov) is a gradual process that lays the foundation for a significant shift to create systems and structures for decision-making in the school (ESLIMPMN2), which is Node 6. It is positively correlated with two leadership processes, which are also outcomes for Manipur State. These are: creating a culture for learning in schools (DVBMN) and setting a climate of high expectation for students (S-schlimprov). Correlation coefficient between ESLIMPMN2 and DVBMN is 0.648; and between ESLIMPMN2 and DSLIMPMN is 0.628. These two outcomes of preceding school leadership practices are student-focussed.

4.2.5 Leadership Path Traversed in Manipur

Figure 3 indicating the relationships between different leadership practices also provides scope to trace the leadership path/s traversed by school heads. These paths are discussed herewith.

Path1—School leadership for teaching and learning

The first path starts from practising personal leadership values, moves on to creating a collaborative environment, encouraging mutual interaction to understand each other, trust-building with teachers and others, setting up systems and structures for decision-making to result in creating a) conditions for effective teaching and b) climate of high expectations for students (see Fig. 3, path 1). This leadership path is meant for both teachers and students for learning. Hence, it is called school leadership path for creating conditions for teaching and learning.

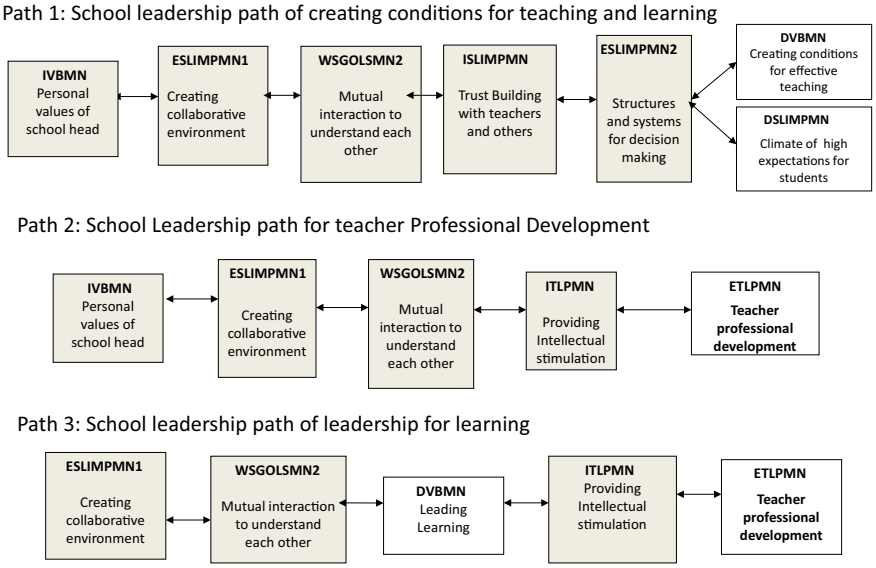

Fig. 3 School leadership paths in Manipur

Path 2—School leadership path for teacher professional development

The second path once again starts from practicing personal values of leadership (IVBMN), creating a collaborative environment (ESLIMPMN1), mutual interaction to understand each other (WSGOLSMN2) and, then, deviates to take the route of providing intellectual stimulation for teachers (ITLPMN) to result in teacher professional development (ETLPMN) (see Fig. 3, Path 2). Hence, the second path is called school leadership path for teacher professional development.

Path 3—Path of leadership for learning

The third path is formed from creating a collaborative environment (ESLIMPMN1), mutual interaction with each other (WSGOLSMN2) and, then, moves on to leading learning (DTLPMN) and providing intellectual stimulation (ITLPMN), to result in teacher professional development (ETLPMN). The correlation coefficient between providing intellectual stimulation (ITLPMN) and teacher professional development (ETLPMN) is the highest among all relationships, with 'r' = 0.820 (see Fig. 3, path 3). Since this path emphasises on a combination of leading learning, intellectual stimulation and professional development of teachers, it is called the path of leadership for learning.

There is a twofold approach to teacher professional development by school heads in Manipur. These are firstly, providing intellectual stimulation directly for teacher professional development and, secondly, providing intellectual stimulation as well as leading the teaching–learning process for teacher professional development. Thus, teacher professional development (ETLPMN) is the most important outcome of

school leadership practice in Manipur. This is at the heart of school leadership practices as a host of research literature also emphasises on role of school head in teachers' professional development in different ways, *namely* instructional leadership (e.g. Hallinger 2011; Hallinger and Heck 1996), lead learner (Fullan 2008), learning organisation (Senge et al. 2001) and so on.

The three paths indicate that mutual environment to understand each other is meaningful when intellectual stimulation is given adequately to lead learning for accomplishing teacher professional development as well as creating conditions for effective teaching. The high correlation coefficient of 0.820, significant at 0.01 level, clearly indicates that providing intellectual stimulation for professional development of teachers is critical leadership practice in the school, as practised by school heads in Manipur. Similarly, there are two other outcomes of school leadership practices which are student-focussed and teacher-focussed, *namely*, creating school culture for teaching (DVBMN) and setting high expectations for student learning (DSLIMPMN). These two sets of outcomes arise as a consequence of interrelationships between different Nodes to which various other factors are connected. It is interesting to observe that these Nodes are mainly aimed at readying a favourable socio-emotional climate for effective teaching and learning in the schools of Manipur State.

4.3 School Leadership Practice in Sikkim

4.3.1 The Context of Schooling

Sikkim is situated in the inner ranges of Himalayas. It has a population of 610,577. It has a literacy rate of 82.2%, well above the national average of 74.4% (Census of India 2011). The State underwent a transition from erstwhile Lamaist theocratic polity, ruled by Bhutias for 333 years, to the liberal democratic society of today (Sinha 2017). Its social structure was based on ascribed social status or inherited through tribal affiliations (Sinha 1975). However, the socio-political movement has abolished the feudal privileges, landlordism and private courts. Competitive party system and bureaucracy has emerged, reflecting the emergence of a new power structure in Sikkim's society. Accordingly, new political institutions, social foundations have emerged, having a bearing on Sikkim's transition from theocracy to democracy through a process of integration of tribalism, the Lamaist traditionalism and liberal democracy. The anti-feudal and anti-colonial movements, unleashed in the Indian plains, were influenced by Indian National Congress (INC). The administration was dominated by Buddhist Lamas and aristocratic Kazis. The traditional elite are identified with ethnic, religious and feudal forces, whereas the modern emergent elite derives their legitimacy from positions of bureaucracy, political parties, professions or voluntary organisations. In addition, the merger of Sikkim with the Indian Union

in 1972 is an important event that has further led to restructuring the entire socio-political complexities in Sikkim. Majority of its population is Nepalese caste and tribal social complexity (Sinha 2017).

Sikkim's education system revolved around the tradition of Literati of Tibetan pattern under the guidance of monks in which students were taught paper-making, printing, and other related arts to prepare the future monks. For the common man, education facilities were scarce. A private secondary school, started in early twentieth century, marked the beginning of the modern education system (Sinha 1975).

Bhutias and Lepchas are the major tribal groups in the State. Other backward classes in Sikkim are Magar, Gurung, Rai and Limbu. Chattris, Sharmas are the upper caste Nepali community found predominantly in Sikkim. Sikkim is also in the same context of ethnic revivalism as Nepal beset with conflicting relationships between castes and tribes within the wider distinction between Mongol population and Indo-Aryan population (B. Steinmann, as quoted by Sinha 2017). Almost half of Sikkim's territory is snow-bound in North and north-west Sikkim. North Sikkim is a reserved district for Lepchas community, and settlement by outsiders is not allowed by law.

There is a marked social distance between the elite Aristocrats such as Khazis, ministers in the Sikkim erstwhile monarchy rule, who, later, took up various positions in the bureaucracy, landlords including estates owned by five major monasteries (p. 48). Since 1994, previous chief minister, Mr. Pawan Kumar Chamling, has scaled new political heights in the State by ruling Sikkim as chief minister for 25 years. This provided near perfect political stability in the State and facilitating its economic, educational and social progress. It made Sikkim as one of the top-ranking States in the country, today, with high levels of prosperity and progress, and also being known as a peaceful State. It has also been declared as the first organic State in India, has near 100% electrification, toilet facilities for all, adequate water and sanitation, while being powered by many innovations, with 48% of women in the State being employed, the highest in India (Human Development Report-Sikkim 2014). Though the State is circumscribed by three international borders with China, Nepal and Bhutan, its relationship with them has been considered fairly well maintained.

4.3.2 Education System in Sikkim

According to UDISE 2016-17 (NIEPA-MHRD 2018), school education in Sikkim comprises 55.96% primary schools (I–V standards), 26.58% elementary schools (I–VIII standards), 6.07% higher secondary schools (I–XII standards) and 10.48% secondary schools (I–X standards). The percentage distribution of enrolment of students is 13.33%, 22.65%, and 23.53% for primary, elementary and secondary schools, respectively (percentage not available for higher secondary schools). In all, there are 1274 schools in the State out of which 766 schools are run by Department of Education (DoE), 79 by Tribal and Social Welfare Department (TWDS), four are government-aided (GA), 439 are run by private-unaided (Pvt U) and remaining by various other departments. Percentage distribution of Head

Table 8 National Assessment Survey mean scores for Sikkim State, 2017

Subjects	Class 3		Class 5		Class 8		Class 10 (Cycle 2)**	
	Sikkim	All-India	Sikkim	All-India	Sikkim	All-India	Sikkim	All-India
Modern Indian language	60	68	50	58	51	57	38	49
Mathematics	55	64	42	53	30	42	28	34
EVS	55	65	45	57	–	–	–	–
Science	–	–	–	–	38	44	35	34
Social Science	–	–	–	–	38	44	40	39
English	–	–	–	–	–	–	48	36

Source NCERT-UNICEF (2017b),
** http://www.ncert.nic.in/programmes/NAS/pdf/SRCX/11_Sikkim.pdf. Accessed on 17th May 2020

Masters/Head Mistress in primary schools (I–V standards), elementary schools (I–VIII standards), higher secondary schools (I–XII standards) and secondary schools (I–X standards), respectively, are 71.90, 72.32, 60.70 and 69.29%.

There are 4914 regular teachers out of the total 7496 in government schools who are professionally qualified. Similarly, 71 out of 153 in Government-aided schools, 823 out of 2917 teachers in private-unaided schools are professionally qualified in the State. There are no single-teacher schools in Sikkim, unlike in other States. All schools have designated HMs. Hence, overall condition for practicing effective school leadership is favourable in the State.

The gross enrolment ratio (GER) of students in primary schools (I–V standards) is 91.98, GER in I–VIII standards is 106.91, GER in IX-X standard is 111.96%. Sikkim follows CBSE's central syllabus. Pass percentage of students at 10th standard board examination was 80.88 in 2014–15. However, data was not available for the year 2015–16. However, the State had low scores in National Assessment Survey at elementary as well as secondary levels, compared to the national mean scores (see Table 8).

4.3.3 Profile of School Heads Who Participated in Self-rating on Their Leadership Practices

In Sikkim, 56.4% of males and 43.6% women participated in self-reflective exercise of school needs. Out of the total respondents, 48.2% of school heads were secondary school heads and 51.8% were principals in senior secondary schools. The average age of school heads, who participated in the exercise, was 45.58 years. Among them, 55.4 percent of school heads were graduates with B.Ed. qualification, while the remaining school heads were post-graduates with education degree/s. The average teaching

experience for school heads was 20.26 years, and 5.5 years as heads of school. In general, there were younger principals, with higher average years of experience as school heads in Sikkim, as compared to Manipur.

4.3.4 Relationship Between Different School Leadership Practices in Sikkim

There are three Nodes for school leadership practice in Sikkim, *namely*, teacher professional development (ETLPSK), mutual interaction to understand each other (WSGOLSSK2) and setting up systems and structures for decision-making (ESLIMPSK2). The diagrammatic representation of the relationships is presented in Fig. 4. Nodes and their relationships with other leadership practices are explained with the help of Fig. 4.

Node 1: Relationship between teacher professional development and other leadership practices

Teacher professional development (ETLPSK) is connected to leading learning (DTLPSK), providing intellectual stimulation (ITLPSK) and building academic collaboration for TLP (W-schlimprov). The coefficients of correlation 'r' between these three factors and Teacher professional development (ETLPSK) are 0.746, 0.668, and 0.635 respectively. It is also connected with practising leadership values in a moderate manner with 'r' = 0.497. Further, teacher professional development (ETLPSK) is associated with Node 3 which refers to mutual interaction to understand each other (WSGOLSSK2) having coefficient of correlation 'r' = 0.626. Node 2,

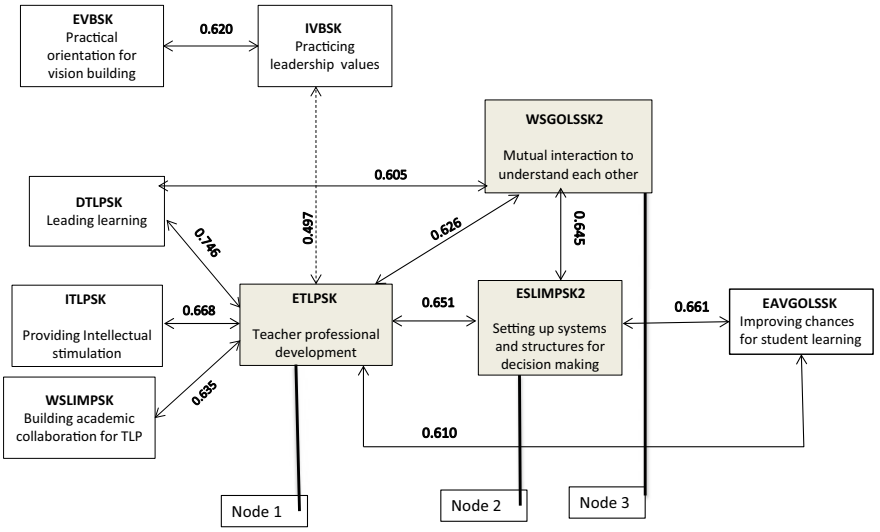

Fig. 4 Relationship between different school leadership practices in Sikkim

referring to setting up systems and processes for decision-making (ESLIMPSK2), is again correlated with teacher professional development, ETLPSK with 'r' = 0.651. In short, teacher professional development is a critical Node which is connected to all other leadership practices in Sikkim.

Node 2: Relationship between setting up of systems and structures for decision-making and other variables

Setting up of systems and structures for decision-making (ESLIMPSK2), i.e. Node 2, is related to Node 3, which refers to mutual interaction to understand each other (WSGOLSSK2) whose 'r' = 0.645 on one side and teacher professional development, i.e. Node 1 on the other side. As such, all three Nodes are directly connected with each other in Sikkim. In other words, the three critical leadership practices pertaining to teacher professional development, systems and structures for decision-making and mutual interaction to understand each other are directly related to each other. This alignment between critical leadership practices is the most important strength of school leadership practice in Sikkim. Hence, we can see that there is only one outcome which is student-focussed, referring to improving the chances of student learning.

Relationship between nodes and outcome of leadership practices

The correlation in Node 2 between setting up of systems and structures for decision-making (ESLIMPSK2), and the outcome relating to improving the chances of students learning (EAVGOLSSK) is 0.661. Correlation between teacher professional development (ETLPSK), Node 1, is also directly correlated with improving chances for student learning (EAVGOLSSK), with 'r' value 0.610. It shows that critical leadership practices in Sikkim can directly improve chances of student learning through influencing and empowering teachers as well as setting up of systems and structures for decision making.

Relationships between other leadership practices

On the overarching perspective, practical orientation for vision-building (EVBSK) and practicing leadership values (IVBSK) are related significantly to each other having 'r' = 0.620 (see Fig. 2). Correlation between practicing leadership values (IVBSK) and teacher professional development (ETLPSK) is 0.497 significant at 0.000 levels (dotted lines).

Influence vision-building, referring to school leadership values (IVBSK), and empower vision building, referring to practical orientation to vision-building (EVBSK), though connected with each other, are not connected strongly with the rest of the leadership practices. Nonetheless, it can be considered that IVBSK definitely builds into it mediated through ETLPSK, i.e. teacher professional development, with 'r' coefficient of correlation being 0.489 that is significant at 0.001 level.

In this way, School leadership values indirectly influence rest of the school's leadership processes through teacher professional development (ETLPSK). ETLPSK is the primary node to which all other leadership practices are connected, with the exception of practical orientation to vision-building (EVBSK), in Sikkim. Leading learning

(DTLPSK), providing intellectual stimulation (ITLPSK), and building academic collaboration for TLP (W-schlimprov) constitute one set of practices related to teacher professional development (ETLPSK), which is the primary node. The second set of practices, correlated with teacher professional development (ETLPSK), is setting up of systems and structures for decision-making (ESLIMPSK2) and mutual interaction to understand each other (WSGOLSSK2).

4.3.5 School Leadership Paths Traversed in Sikkim

Three main school leadership paths emerge from the relationships between different leadership practices which are explained with the help of Fig. 5.

Path 1: Balancing academic and administrative leadership practices

The outcome of leadership paths in Sikkim is improving the chances of student learning. There are three ways in which other leadership practices lead to this end-in-view. The first path begins by providing intellectual stimulation (ITLPSK) for teacher professional development (ETLPSK) and also engages in setting up of systems and structures for decision-making (ESLIMPSK2) for improving chances for student learning (EAVGOLSSK) (see Fig. 5, path 1). It implies that setting up of systems and structures for decision-making also facilitates different teaching–learning processes to improve chances for student learning. This is unique to Sikkim State.

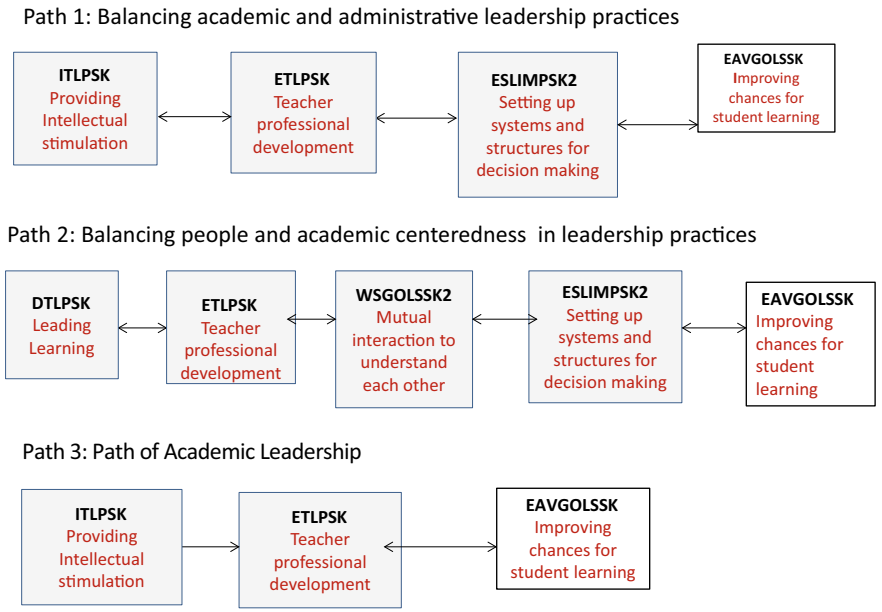

Fig. 5 School leadership paths in Sikkim

Path 2: Balancing people and academic centered leadership practices

The second path begins with leading learning (DTLPSK) instead of intellectual stimulation (ITLPSK), teacher professional development (ETLPSK), then moves through mutual interaction to understand each other (WSGOLSSK2) and reaches setting up of systems and structures for decision-making (ESLIMPSK2) to improve chances for student learning (EAVGOLSSK) as outcome (see Fig. 5, path 2). In the second path, all the three Nodes are connected to each other to reach the end-in-view of the leadership processes. Therefore, this path may be considered as a robust path as almost all leadership practices converge to this path for improving chances of student learning.

Path 3: Path of Academic leadership

The third path begins from intellectual stimulation (ITLPSK) and traverses through teacher professional development (ETLPSK) to improve chances for student learning (EAVGOLSSK). This path is the shortest and most direct. It means that providing intellectual stimulation leads to teacher professional development for improving chances of student learning (see Fig. 5, path 3).

To sum up, school leadership practices ensure that proper systems and structures are set up for decision-making along with mutual interactions to understand each other so that there is teacher professional development propelled by intellectual stimulation and leading learning. For this, building academic collaboration and practicing leadership values provide the required support. All these would improve the chances of student learning in Sikkim.

4.4 Comparison Between School Leadership Processes in Manipur and Sikkim

In Manipur, critical leadership practices, as revealed from the Nodes, are personal values of school head, creating collaborative environment, mutual interaction to understand each other, trust-building with teachers and others, structures and systems for decision-making, and providing intellectual stimulation. In Sikkim, the critical leadership practices are only three, viz. teacher professional development, setting up of systems and structures for decision-making, and mutual interaction to understand each other. So, while six school leadership practices are critical to Manipur, only three are critical to Sikkim.

Among these critical leadership practices, the ones common to both Manipur and Sikkim are: mutual interaction to understand each other, structures and systems for decision-making and providing intellectual stimulation. Critical leadership practices are distinct for both States. Leadership practices distinct to Manipur are: personal values of school head; creating a collaborating environment; and trust building with teachers and others while the distinct leadership practice in Sikkim is teacher professional development.

Outcomes indicate the convergence of all leadership practices and processes. While teacher professional development is treated as outcome of several school leadership practices working in tandem with each other in Manipur, the same is considered as a critical input for improving chances for student learning in Sikkim. As a result, the outcomes of leadership practices are different for both States. In Sikkim, leadership practices converge to enhance only one outcome, referring to improving chances for student learning. In contrast, Manipur seeks to achieve three outcomes, two of which are related to teacher and one for student, viz. creating conditions for effective teaching, teacher professional development and setting a climate of high expectations for students.

In both Manipur and Sikkim, school heads traverse three school leadership paths each. These paths have been named on the basis of leadership practices that are associated with each other. In Manipur, these paths are named as paths for teaching and learning, teacher professional development and leadership for learning. The first path, referring to teaching and learning, intends to reach two outcomes, namely creating conditions for teaching and setting up a climate of high expectations for students. The other two paths aim to reach the outcome of teacher professional development. In Sikkim, the three paths traversed are called: balancing academic and administrative leadership practices, balancing people and academic centered leadership practices and path of academic leadership. All these paths focus on improving chances for student learning.

There is a significant qualitative difference in the leading school processes between the States of Manipur and Sikkim. In Manipur, school heads engage in setting a stage for teaching, learning and developing teachers for the profession. Leadership practices in Manipur, therefore, focus on ensuring conditions for teaching and learning to take place and developing teachers' capacities as the outcomes. In contrast, in Sikkim, school heads seek to address the challenges of balancing between academic functions, on the one hand, and administrative roles and people centeredness, on the other.

Both States begin with personal values of leadership for school heads. They emphasise on practical orientation for vision-building. These two, together, constitute the first layer of school leadership for both the States. The point of departure comes from the second node. The second node for Manipur is creating a collaborative environment for teaching, whereas for Sikkim, it is teacher professional development. Sikkim directly and immediately aims to tap teacher professional development to improve quality. Teacher professional development constitutes a critical node in Sikkim for which all other factors are connected. The third node for both the States is the same, i.e. mutual interaction to understand each other (W-setgols2). Manipur leads from here to trust building and then, to provide intellectual stimulation for teachers, before reaching the end-in-view on teacher professional development (E-TLP). The phenomenon is reverse in Sikkim in which setting up of systems and structures precedes teacher professional development.

The reasons for variation in leadership processes and paths can be attributed to social, political, educational and cultural factors in the two States. Sikkim is a small State with one-fourth of the population of Manipur. The number of schools is also

much lesser in Sikkim than in Manipur. Historically, Sikkim has enjoyed cultural and social foundations of education in the Lamaist traditions, especially in literati such as making papers, studying Buddhist scriptures, having established monasteries as educational hubs, etc. Manipur also has rich social and cultural foundations of education since very long, especially among the Nagas, Meitheis and Kukis. Kings encouraged education, especially to propagate the wisdom of religious texts. Thus, intellectual capital formation in both the societies is highly evident. However, in recent times, since about 100 years, during the pre- and post-Independence era, socio-political developments differed significantly in both the States after they merged with the Indian Union.

Sikkim is comparatively peaceful and schools function for most of the year without many untoward incidents. As observed by HRDD Sikkim (RMSA, 2015–16), all facilities, including teachers, are provided to all schools. There are no single-teacher schools. Now schools are poised for a take-off to higher levels of quality (Mythili 2019d). In contrast, Manipur has to work towards ensuring essential facilities for all schools, including adequate teachers and a safe socio-political environment (as it suffers from civil strife and underground activities) and reach the threshold point for taking off to higher levels of school quality. On any given day, a general strike may be called, without any particular reason by underground activists and schools closed immediately. The last strike in 2016 lasted for four months. It is imperative to create conditions for collaboration and trust-building so that a culture of teaching is built/rebuilt for fostering high expectation for student learning. Consequently, teacher professional development is the end focus, progressively formed by building a climate of collaboration, mutual understanding, trust-building, with structures and systems for decision-making, before embarking on teacher development, creating a culture of learning and setting higher expectations for students. Incidentally, the profiles of respondents show that there are more school heads with post-graduation and B.Ed. degrees in Sikkim than in Manipur. Two principals in Sikkim and one in Manipur have Ph.D. degree.

Notwithstanding higher levels of preparedness of Sikkim for a take-off for enhancing student learning, NAS results indicate that its students perform below the national average at elementary stage whereas slightly better in 10th class examination. In contrast, students have performed above the national average at the elementary level in Manipur. Manipur did not participate in NAS for the secondary stage in 2015, whereas Sikkim did. This was, incidentally, the period when civil strife was severe in the State and schools struggled to function. However, class 10 results of Manipur in 2017 when it participated show similar trend like that of Sikkim with lower levels in modern Indian languages and mathematics.

The student learning levels signify the importance of robustness of the preparatory stage besides teacher professional development, intellectual stimulation and leading learning. These preparatory stages, practiced in Manipur, are: ensuring mutual interaction to understand each other, emphasis on leadership values influencing schooling processes, structures and systems for decision-making processes, creating a collaborative environment, and trust-building. The presence of the preparatory stage also explains the reasons for differing paths between Sikkim and Manipur and the manner

in which regional challenges and contexts were navigated by school heads in both the States. Sikkim's efficiency on the supply side at the system level is high, with no vacancies of school heads left unfilled, absence of single-teacher schools, appropriate teacher–pupil ratio (Mythili 2019d). It is also manifest from the single focus in the leadership paths. However, it needs to be complemented with suitable schooling processes as well. The relationship between different leadership practices and paths indicate that high emphasis was laid on academic strengthening without balancing it with adequate preparation for involving people with school's processes. It, therefore, signifies that leadership practices have to be culturally relevant and contextually flexible, beyond the standard practices.

5 Conclusions and Policy Implications

Attention to school leadership development is a recent phenomenon in Indian context. Fewer studies are found in this area. The present study attempts to begin the discourse in Indian context on leadership process and perspectives of school heads especially to improve student learning. For this purpose, conceptual framework and tools for collecting leadership practices and analyzing empirical data were carried out to start the discourse in Indian context. Five important conclusions can be drawn from the study. First, school heads adopt several paths which come together to interact in diverse ways, involving a few critical leadership practices, in achieving the set goals in a layered approach. Second, school leadership is responsible for the creation of favourable climate to improve overall school quality apart from student learning. Third, school leadership influences student learning by creating necessary conditions for teaching and learning. Fourth, for leadership practices to yield results, they must be contextually flexible and culturally relevant to address the needs of the students, teachers and school. Fifth, school heads continue to focus their attention on teachers' development and improve student learning even though SSA and RMSA have taken over their role of instructional leadership in the form of teacher training. It clearly shows that teacher professional development lies within the ambit of the school and that school heads actually lead the learning. School heads have adopted various paths to improve teacher quality and student learning. It means that the even though the school head was virtually forgotten by SSA and RMSA programmes for two decades, school heads did not lose the school, teachers or students. They continued to focus on improving essential conditions, traversing diverse and multiple paths, to improve the teaching–learning process for enhancing chances for student learning as before.

The present study has the potential to change the narrative that exaggerates low student learning and, therefore, advocates conducting more teacher training by agencies external to the school. Policy implication is that if school quality and student learning has to be improved, teacher professional development must lie within the school and led by school heads as leaders. Other structures in the education system, from cluster resource centres to national institutions, may provide need-based and school-specific onsite support, whenever required. These structures ought to connect

with the context of the school to understand regional diversity before supporting teachers and school heads. It is a more plausible alternate approach to the centralised and cascade model that has failed to improve teacher quality. For this, schools have to be considered as the basic unit of teacher professional development.

Appendix 1

Relationship between different leadership practices in Manipur using Pearson's Correlations										
	IVBMN	ISLIMPMN	ITLPMN	IAGOLSMN	DVBMN	DSGOLSMN	DSLIMPMN	DTLPMN	DAGOLSMN	EVBMN
IVBMN	1	0.474**	0.535**	0.520**	0.415**	0.504**	0.443**	0.531**	0.427**	0.660**
		0	0	0	0	0	0	0	0	0
ISLIMPMN	0.474**	1	0.576**	0.360**	0.511**	0.246*	0.539**	0.493**	0.312**	0.360**
	0		0	0.002	0	0.037	0	0	0.008	0.002
ITLPMN	0.535**	0.576**	1	0.509**	0.269*	0.391**	0.486**	0.712**	0.619**	0.289*
	0	0		0	0.022	0.001	0	0	0	0.014
IAGOLSMN	0.520**	0.360**	0.509**	1	0.282*	0.09	0.414**	0.389**	0.570**	0.332**
	0	0.002	0		0.016	0.451	0	0.001	0	0.004
DVBMN	0.415**	0.511**	0.269*	0.282*	1	0.266*	0.590**	0.431**	0.078	0.306**
	0	0	0.022	0.016		0.024	0	0	0.514	0.009
DSGOLSMN	0.504**	0.246*	0.391**	0.09	0.266*	1	0.191	0.551**	0.203	.497**
	0	0.037	0.001	0.451	0.024		0.109	0	0.087	0
DSLIMPMN	0.443**	0.539**	0.486**	0.414**	0.590**	0.191	1	0.436**	0.300*	0.218
	0	0	0	0	0	0.109		0	0.011	0.066
DTLPMN	0.531**	0.493**	0.712**	0.389**	0.431**	0.551**	0.436**	1	0.486**	0.300*
	0	0	0	0.001	0	0	0		0	0.01
DAGOLSMN	0.427**	0.312**	0.619**	0.570**	0.078	0.203	0.300*	0.486**	1	0.14
	0	0.008	0	0	0.514	0.087	0.011	0		0.242
EVBMN	0.660**	0.360**	0.289*	0.332**	0.306**	0.497**	0.218	0.300*	0.14	1
	0	0.002	0.014	0.004	0.009	0	0.066	0.01	0.242	
ESLIMPMN1	0.639**	0.561**	0.609**	0.453**	0.330**	0.572**	0.408**	0.591**	0.459**	0.693**
	0	0	0	0	0.005	0	0	0	0	0
ESCLIMPMN2	0.435**	0.656**	0.465**	0.411**	0.648**	0.188	0.628**	0.522**	0.333**	0.309**
	0	0	0	0	0	0.114	0	0	0.004	0.008

(continued)

(continued)

Relationship between different leadership practices in Manipur using Pearson's Correlations

	IVBMN	ISLIMPMN	ITLPMN	IAGOLSMN	DVBMN	DSGOLSMN	DSLIMPMN	DTLPMN	DAGOLSMN	EVBMN
ETLPMN	0.548**	0.493**	0.820**	0.446**	0.321**	0.470**	0.488**	0.799**	0.525**	0.313**
	0	0	0	0	0.006	0	0	0	0	0.008
EAGOLSMN	0.309**	0.413**	0.555**	0.595**	0.275*	0.148	0.406**	0.507**	0.585**	0.05
	0.008	0	0	0	0.02	0.215	0	0	0	0.677
WVBMN	0.594**	0.404**	0.586**	0.411**	0.383**	0.498**	0.371**	0.604**	0.387**	0.503**
	0	0	0	0	0.001	0	0.001	0	0.001	0
WSGOLSMN1	0.331**	0.612**	0.484**	0.418**	0.561**	0.253*	0.558**	0.492**	0.347**	0.354**
	0.004	0	0	0	0	0.032	0	0	0.003	0.002
WSGOLSMN2	0.557**	0.660**	0.754**	0.473**	0.365**	0.429**	0.533**	0.753**	0.606**	0.294*
	0	0	0	0	0.002	0	0	0	0	0.012
WSCLIMPMN	0.104	0.249*	0.494**	0.204	0.136	0.13	0.303**	0.255*	0.328**	0.019
	0.385	0.035	0	0.085	0.255	0.278	0.01	0.031	0.005	0.875
WACOLSMN	0.228	0.449**	0.281*	0.527**	0.265*	0.119	0.359**	0.291*	0.394**	0.282*
	0.054	0	0.017	0	0.025	0.318	0.002	0.013	0.001	0.016
SSPASSMN	−0.14	−0.285*	−0.111	−0.069	−0.157	0.028	−0.117	−0.086	−0.095	−0.161
	0.254	0.015	0.351	0.565	0.188	0.814	0.329	0.474	0.427	0.177

Relationship between different leadership practices in Manipur using Pearson's Correlations

	ESLIMPMN1	ESCLIMPMN2	ETLPMN	EAGOLSMN	WVBMN	WSGOLSMN1	WSGOLSMN2	WSCLIMPMN	WAGOLSMN	SSPASSMN
IVBMN	0.639	0.435**	0.548**	0.309**	0.594**	0.331**	0.557**	0.104**	0.228**	−0.136
	0	0	0	0.008	0	0.004	0	0.385	0.054	0.254
ISLIMPMN	0.561**	0.656	0.493**	0.413**	0.404**	0.612*	0.660**	0.249**	0.449**	−0.285**
	0	0	0	0	0	0	0	0.035	0	0.015
ITLPMN	0.609**	0.465**	0.82	0.555**	0.586*	0.484**	0.754**	0.494**	0.281**	−0.111**

(continued)

(continued)

Relationship between different leadership practices in Manipur using Pearson's Correlations

	ESLIMPMN1	ESCLIMPMN2	ETLPMN	EAGOLSMN	WVBMN	WSGOLSMN1	WSGOLSMN2	WSCLIMPMN	WAGOLSMN	SSPASSMN
	0	0	0	0	0	0	0	0	0.017	0.351
IAGOLSMN	0.453**	0.411**	0.446**	0.595	0.411*	0.418	0.473**	0.204**	0.527**	−0.069**
	0	0	0	0	0	0	0	0.085	0	0.565
DVBMN	0.330**	0.648**	0.321*	0.275*	0.383	0.561*	0.365**	0.136**	0.265	−0.157**
	0.005	0	0.006	0.02	0.001	0	0.002	0.255	0.025	0.188
DSGOLSMN	0.572**	0.188*	0.470**	0.148	0.498*	0.253	0.429	0.130**	0.119	0.028**
	0	0.114	0	0.215	0	0.032	0	0.278	0.318	0.814
DSLIMPMN	0.408**	0.628**	0.488**	0.406**	0.371**	0.558	0.533	0.303**	0.359*	−0.117**
	0	0	0	0	0.001	0	0	0.01	0.002	0.329
DTLPMN	0.591**	0.522**	0.799**	0.507**	0.604**	0.492**	0.753**	0.255	0.291**	−0.086**
	0	0	0	0	0	0	0	0.031	0.013	0.474
DAGOLSMN	0.459**	0.333**	0.525**	0.585**	0.387	0.347	0.606*	0.328**	0.394	−0.095**
	0	0.004	0	0	0.001	0.003	0	0.005	0.001	0.427
EVBMN	0.693**	0.309**	0.313*	0.050**	0.503**	0.354**	0.294	0.019*	0.282	−0.161**
	0	0.008	0.008	0.677	0	0.002	0.012	0.875	0.016	0.177
ESLIMPMN1	1**	0.586**	0.606**	0.336**	0.623**	0.462**	0.618**	0.303**	0.386**	−0.151**
		0	0	0.004	0	0	0	0.01	0.001	0.205
ESCLIMPMN2	0.586**	1**	0.475**	0.455**	0.384**	0.544	.582**	0.187**	0.295**	−0.290**
	0		0	0	0.001	0	0	0.115	0.012	0.014
ETLPMN	0.606**	0.475**	1**	0.523**	0.587**	0.501**	0.728**	0.322**	0.341**	−0.084**
	0	0		0	0	0	0	0.006	0.003	0.485
EAGOLSMN	0.336**	0.455**	0.523**	1**	0.300*	0.499	0.572**	0.311**	0.496**	−0.134**
	0.004	0	0		0.01	0	0	0.008	0	0.261

(continued)

(continued)

Relationship between different leadership practices in Manipur using Pearson's Correlations										
	ESLIMPMN1	ESCLIMPMN2	ETLPMN	EAGOLSMN	WVBMN	WSGOLSMN1	WSGOLSMN2	WSCLIMPMN	WAGOLSMN	SSPASSMN
WVBMN	0.623**	0.384**	0.587**	0.300**	1**	0.497**	0.616**	0.336**	0.270**	−0.007**
	0	0.001	0	0.01		0	0	0.004	0.022	0.952
WSGOLSMN1	0.462**	0.544**	0.501**	0.499**	0.497**	1*	0.584**	0.296**	0.529**	−0.109**
	0	0	0	0	0		0	0.012	0	0.363
WSGOLSMN2	0.618**	0.582**	0.728**	0.572**	0.616**	0.584**	1**	0.374**	0.423**	−0.170**
	0	0	0	0	0	0		0.001	0	0.153
WSCLIMPMN	0.303	0.187*	0.322**	0.311	0.336	0.296	0.374**	1*	0.234**	0.168
	0.01	0.115	0.006	0.008	0.004	0.012	0.001		0.048	0.158
WAGOLSMN	0.386	0.295**	0.341*	0.496**	0.270*	0.529	0.423**	0.234*	1**	−0.156
	0.001	0.012	0.003	0	0.022	0	0	0.048		0.192
SSPASSMN	−0.151	−0.290*	−0.084	−0.134	−0.007	−0.109	−0.17	0.168	−0.156	1
	0.205	0.014	0.485	0.261	0.952	0.363	0.153	0.158	0.192	

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

Appendix 2

Relationship between different leadership practices in Sikkim using Pearson's Correlations

	IVBSK	ISLIMPSK	ITLPSK	IAGOLSSK	DVBSK	DSGOLSSK	DSLIMPSK	DTLPSK	DAGOLSSK	EVBSK
IVBSK	1	0.223*	0.512**	0.404**	0.511**	0.562**	0.497**	0.547**	0.328**	0.620**
		0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000
ISLIMPSK	0.223*	1	0.174	0.295**	0.284*	0.320**	0.300**	0.285*	0.278*	0.194
	0.047		0.122	0.008	0.011	0.004	0.007	0.011	0.012	0.085
ITLPSK	0.512**	0.174	1	0.328**	0.406**	0.475**	0.412**	0.622**	0.447**	0.509**
	0.000	0.122		0.003	0.000	0.000	0.000	0.000	0.000	0.000
IAGOLSSK	0.404**	0.295**	0.328**	1	0.211	0.340**	0.379**	0.503**	0.560**	0.269*
	0.000	0.008	0.003		0.061	0.002	0.001	0.000	0.000	0.016
DVBSK	0.511**	0.284*	0.406**	0.211	1	0.429**	0.491**	0.395**	0.311**	0.446**
	0.000	0.011	0.000	0.061		0.000	0.000	0.000	0.005	0.000
DSGOLSSK	0.562**	0.320**	0.475**	0.340**	0.429**	1	0.420**	0.493**	0.312**	0.390**
	0.000	0.004	0.000	0.002	0.000		0.000	0.000	0.005	0.000
DSLIMPSK	0.497**	0.300**	0.412**	0.379**	0.491**	0.420**	1	0.512**	0.459**	0.309**
	0.000	0.007	0.000	0.001	0.000	0.000		0.000	0.000	0.005
DTLPSK	0.547**	0.285*	0.622**	0.503**	0.395**	0.493**	0.512**	1	0.466**	0.471**
	0.000	0.011	0.000	0.000	0.000	0.000	0.000		0.000	0.000
DAGOLSSK	0.328**	0.278*	0.447**	0.560**	0.311**	0.312**	0.459**	0.466**	1	0.186
	0.003	0.012	0.000	0.000	0.005	0.005	0.000	0.000		0.099
EVBSK	0.620**	0.194	0.509**	0.269*	0.446**	0.390**	0.309**	0.471**	0.186	1
	0.000	0.085	0.000	0.016	0.000	0.000	0.005	0.000	0.099	
ESLIMPSK1	0.353**	0.144	0.299**	0.261*	0.162	0.231*	0.389**	0.377**	0.346**	0.298**
	0.001	0.202	0.007	0.019	0.152	0.039	0.000	0.001	0.002	0.007
ESIMPSK2	0.489**	0.269*	0.531**	0.353**	0.581**	0.300**	0.546**	0.602**	0.513**	0.478**

(continued)

(continued)

Relationship between different leadership practices in Sikkim using Pearson's Correlations

	IVBSK	ISLIMPSK	ITLPSK	IAGOLSSK	DVBSK	DSGOLSSK	DSLIMPSK	DTLPSK	DAGOLSSK	EVBSK
	0.000	0.016	0.000	0.001	0.000	0.007	0.000	0.000	0.000	0.000
ETLPSK	0.497**	0.289**	0.668**	0.406**	0.511**	0.491**	0.527**	0.746**	0.565**	0.395**
	0.000	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
EAVGOLSSK	0.342**	0.415**	0.422**	0.409**	0.427**	0.158	0.406**	0.436**	0.426**	0.297**
	0.002	0.000	0.000	0.000	0.000	0.162	0.000	0.000	0.000	0.007
WVBSK	0.516**	0.180	0.499**	0.460**	0.197	0.478**	0.336**	0.477**	0.474**	0.324**
	0.000	0.110	0.000	0.000	0.079	0.000	0.002	0.000	0.000	0.003
WSGOLSSK1	0.436**	0.200	0.442**	0.353**	0.362**	0.247*	0.423**	0.387**	0.492**	0.423**
	0.000	0.075	0.000	0.001	0.001	0.027	0.000	0.000	0.000	0.000
WSGOLSSK2	0.434**	0.540**	0.418**	0.467**	0.400**	0.416**	0.510**	0.605**	0.556**	0.446**
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WSLIMSK	0.377**	0.301**	0.516**	0.336**	0.343**	0.371**	0.397**	0.536**	0.411**	0.378**
	0.001	0.007	0.000	0.002	0.002	0.001	0.000	0.000	0.000	0.001
WAGOLSSK	0.260*	0.353**	0.292**	0.341**	0.341**	0.321**	0.307**	0.268*	0.262*	0.230*
	0.020	0.001	0.009	0.002	0.002	0.004	0.006	0.016	0.019	0.041
SSPASSSK	0.029	−0.003	0.058	0.096	0.061	0.047	0.066	0.225*	0.013	0.090
	0.799	0.979	0.611	0.397	0.591	0.680	0.561	0.044	0.909	0.427

Relationship between different leadership practices in Sikkim using Pearson's Correlations

	ESLIMPSK1	ESLIMPSK2	ETLPSK	EAVGOLSSK	WVBSK	WSGOLSSK1	WSGOLSSK2
IVBSK	0.353**	0.489**	0.497**	0.342**	0.516**	0.436**	0.434**
	0.001	0.000	0.000	0.002	0.000	0.000	0.000
ISLIMPSK	0.144	0.269*	0.289**	0.415**	0.180	0.200	0.540**

(continued)

(continued)

Relationship between different leadership practices in Sikkim using Pearson's Correlations

	ESLIMPSK1	ESLIMPSK2	ETLPSK	EAVGOLSSK	WVBSK	WSGOLSSK1	WSGOLSSK2
	0.202	0.016	0.009	0.000	0.110	0.075	0.000
ITLPSK	0.299**	0.531**	0.668**	0.422**	0.499**	0.442**	0.418**
	0.007	0.000	0.000	0.000	0.000	0.000	0.000
IAGOLSSK	0.261*	0.353**	0.406**	0.409**	0.460**	0.353**	0.467**
	0.019	0.001	0.000	0.000	0.000	0.001	0.000
DVBSK	0.162	0.581**	0.511**	0.427**	0.197	0.362**	0.400**
	0.152	0.000	0.000	0.000	0.079	0.001	0.000
DSGOLSSK	0.231*	0.300**	0.491**	0.158	0.478**	0.247*	0.416**
	0.039	0.007	0.000	0.162	0.000	0.027	0.000
DSLIMPSK	0.389**	0.546**	0.527**	0.406**	0.336**	0.423**	0.510**
	0.000	0.000	0.000	0.000	0.002	0.000	0.000
DTLPSK	0.377**	0.602**	0.746**	0.436**	0.477**	0.387**	0.605**
	0.001	0.000	0.000	0.000	0.000	0.000	0.000
DAGOLSSK	0.346**	0.513**	0.565**	0.426**	0.474**	0.492**	0.556**
	0.002	0.000	0.000	0.000	0.000	0.000	0.000
EVBSK	0.298**	0.478**	0.395**	0.297**	0.324**	0.423**	0.446**
	0.007	0.000	0.000	0.007	0.003	0.000	0.000
ESLIMPSK1	1	0.682**	0.510**	0.429**	0.267*	0.245*	0.473**
		0.000	0.000	0.000	0.017	0.028	0.000
ESIMPSK2	0.682**	1	0.651**	0.661**	0.288**	0.443**	0.645**
	0.000		0.000	0.000	0.010	0.000	0.000
ETLPSK	0.510**	0.651**	1	0.610**	0.457**	0.460**	0.626**

(continued)

(continued)

Relationship between different leadership practices in Sikkim using Pearson's Correlations

	ESLIMPSK1	ESLIMPSK2	ETLPSK	EAVGOLSSK	WVBSK	WSGOLSSK1	WSGOLSSK2
	0.000	0.000		0.000	0.000	0.000	0.000
EAVGOLSSK	0.429**	0.661**	0.610**	1	0.170	0.478**	0.488**
	0.000	0.000	0.000		0.131	0.000	0.000
WVBSK	0.267*	0.288**	0.457**	0.170	1	0.222*	0.488**
	0.017	0.010	0.000	0.131		0.048	0.000
WSGOLSSK1	0.245*	0.443**	0.460**	0.478**	0.222*	1	0.372**
	0.028	0.000	0.000	0.000	0.048		0.001
WSGOLSSK2	0.473**	0.645**	0.626**	0.488**	0.488**	0.372**	1
	0.000	0.000	0.000	0.000	0.000	0.001	
WSLIMSK	0.512**	0.543**	0.635**	0.431**	0.208	0.506**	0.531**
	0.000	0.000	0.000	0.000	0.064	0.000	0.000
WAGOLSSK	0.144	0.272*	0.339**	0.427**	0.256*	0.411**	0.355**
	0.203	0.015	0.002	0.000	0.022	0.000	0.001
SSPASSSK	−0.023	0.139	−0.016	−0.041	0.006	−0.035	0.089
	0.841	0.218	0.889	0.716	0.956	0.760	0.432

Relationship between different leadership practices in Sikkim using Pearson's Correlations

	WSLIMSK	WAGOLSSK	SSPASSSK
IVBSK	0.377**	0.260*	0.029
	0.001	0.020	0.799
ISLIMPSK	0.301**	0.353**	−0.003
	0.007	0.001	0.979
ITLPSK	0.516**	0.292**	0.058

(continued)

(continued)

Relationship between different leadership practices in Sikkim using Pearson's Correlations			
	WSLIMSK	WAGOLSSK	SSPASSSK
	0.000	0.009	0.611
IAGOLSSK	0.336**	0.341**	0.096
	0.002	0.002	0.397
DVBSK	0.343**	0.341**	0.061
	0.002	0.002	0.591
DSGOLSSK	0.371**	0.321**	0.047
	0.001	0.004	0.680
DSLIMPSK	0.397**	0.307**	0.066
	0.000	0.006	0.561
DTLPSK	0.536**	0.268*	0.225*
	0.000	0.016	0.044
DAGOLSSK	0.411**	0.262*	0.013
	0.000	0.019	0.909
EVBSK	0.378**	0.230*	0.090
	0.001	0.041	0.427
	80	80	80
ESLIMPSK1	0.512**	0.144	−0.023
	0.000	0.203	0.841
ESIMPSK2	0.543**	0.272*	0.139
	0.000	0.015	0.218
ETLPSK	0.635**	0.339**	−0.016
	0.000	0.002	0.889

(continued)

(continued)

Relationship between different leadership practices in Sikkim using Pearson's Correlations			
	WSLIMSK	WAGOLSSK	SSPASSSK
	80	80	80
EAVGOLSSK	0.431**	0.427**	−0.041
	0.000	0.000	0.716
WVBSK	0.208	0.256*	0.006
	0.064	0.022	0.956
WSGOLSSK1	0.506**	0.411**	−0.035
	0.000	0.000	0.760
WSGOLSSK2	0.531**	0.355**	0.089
	0.000	0.001	0.432
WSLIMSK	1	0.261*	−0.069
		0.019	0.544
WAGOLSSK	0.261*	1	0.124
	0.019		0.273
SSPASSSK	−0.069	0.124	1
	0.544	0.273	

*Correlation is significant at the 0.05 level (2-tailed)
**Correlation is significant at the 0.01 level (2-tailed)

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Universal Secondary Education in India—Access, Equity and Social Justice

C. Sheela Reddy

> …The vision for secondary education is to make good quality education available, accessible and affordable to all young persons in the age group of 14–18 years…

1 Introduction

The rapid growth of new technologies has led to the development of new skills and competitiveness at the global level. People with higher educational qualifications and nations with a large proportion of educated people, naturally, take advantage of the increasing opportunities from the global economy. Secondary education, a decisive stage in the educational hierarchy, prepares the students for higher education and also for the world of work. Classes IX and X constitute the secondary stage, whereas Classes XI and XII are designated as the higher secondary stage. The normal age group of the children in secondary classes is 14–16 years, whereas it is 16–18 for higher secondary classes (Duraimurugan 2016). States have the responsibility for most of the secondary schools operating in India, with only a small percentage, approximately 5000 Kendriya Vidyalayas (KVs) and 1200 Navodaya Vidyalayas (NVs), falling directly under the central government. The schools are guided and shaped by norms and standards periodically promulgated at different administrative levels.

'Universalisation of elementary education alone will not suffice in the knowledge economy, and a person with mere eight years of schooling is as disadvantaged as an illiterate person' (Planning Commission 2006). Several committees and policy pronouncements highlighted the critical role of secondary education in advancing

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social change and economic development. The resolution, adopted by the Government of India on National Education Policy way back in 1968, affirms that 'educational opportunity at the secondary and higher level is a major instrument of social change and transformation' (GoI 1968). The rigour of the secondary and higher secondary stage enables students to compete successfully in education and jobs, globally. This calls for adequate investment in secondary education to ensure considerable social and economic returns critical for national development. Secondary education needs to be expanded both as a response to increased social demand and as a feeder cadre for higher education. It caters to the most important segment of the population, adolescents and youth, the source of the future human and social capital of a nation.

Universal elementary education (UEE) is being achieved significantly through Sarva Shiksha Abhiyan (SSA).The growing number of children in the elementary school system reinforces the need for further education. Secondary education is a link between the elementary and higher education. The future of a child depends a lot on the type of education she/he receives at the secondary level. Secondary education strengthens the roots of a child's education and helps in shaping a bright future. It strengthens children to face emerging challenges in society. Without secondary or senior secondary education, benefits of reservation to SCs/STs will remain elusive. However, the commitment to UEE, the need to supply highly educated manpower to ensure faster growth and industrialisation and increasing demand from the vocal middle classes for more places in higher education to corner the expanding opportunities have relegated secondary education to the margins of public policy (Reddy 2007).

2 Secondary Education in India

The Government of India's intervention in secondary education is, basically, at two levels. Firstly, it is through apex national-level bodies like National Council of Educational Research and Training (NCERT), Central Board of Secondary Education (CBSE), National Institute of Open Schooling (NIOS), Navodaya Vidyalaya Samiti (NVS), Kendriya Vidyalaya Sangathan (KVS) and Central Tibetan School Administration (CTSA). Secondly, the intervention is through centrally sponsored schemes, such as Scheme of Boarding and Hostel Facilities for Girl students of secondary and higher secondary schools, Integrated Education for Disabled Children, Information and Communication Technology in schools and Quality Improvement in schools.

The Scheme of Boarding and Hostel Facilities for Girl students of secondary and higher secondary schools provides financial assistance to voluntary organisations for running hostels. Preference is given to organisations having hostels in educationally backward districts, particularly those that are predominantly inhabited by SCs/STs and educationally backward minorities. The Scheme of Integrated Education for Disabled Children aims to integrate children and youth, with moderate disabilities, into the normal school system. The scheme provides 100% financial assistance to State/UT governments and NGOs under various components for the education of

children suffering from mild to moderate disabilities in normal schools. The components include allowances for books, stationery, uniform, transport, readers for blind children, equipment, etc., and salary of teachers recruited for teaching the disabled children.

The Scheme of Information and Communication Technology (ICT@ schools) was launched by merging the erstwhile schemes of Educational Technology and Computer Literacy and Studies in schools. It provides an opportunity to the learners in the schools of India to bridge the digital divide. Quality Improvement in schools is a centrally sponsored scheme and is an amalgamation of the schemes of improvement in science education, Mathematics Olympiads, environmental orientation, promotion of yoga and population education and has a new component of educational libraries. Under this scheme, State governments and registered societies are given grants for specified activities.

The centrally sponsored scheme of vocationalisation of secondary education was launched in 1988 to diversify educational opportunities for individual employability, reduce the mismatch between demand and supply of skilled manpower and help those who want to pursue higher education. It was revised in 1992–93 to provide financial assistance to the States, to set up an administrative structure, conduct area-specific vocational surveys, prepare curricula, textbooks, workbooks, curriculum guides, training manuals, teachers training programmes, etc (Chaudhari 2016).

Indeed, secondary education is emerging as one of the important policy imperatives across nations. The access to secondary education greatly determines the subsequent life chances (Jeffery and Jeffery 2005). However, the spread of secondary education is not very encouraging. Table 1 shows the growth of enrolment in secondary education by social groups between 1980–81 and 2005–06. The paper presents the data from 1980 onwards to give a fair understanding of the growth of secondary education.

The enrolment of marginal groups in secondary education has grown at a faster rate than the general population. For example, the enrolment of SC/ST girls has grown by more than nine percent per annum as compared to six percent in the case of girls from the general population. Similarly, the enrolment of SC/STs has increased at a higher rate of over six percent per annum compared to a little over five percent in the case of general population. The growth of enrolment is surprising as it tripled during the period—from 11 million to 38.45 million. Similarly, the enrolment of SC/STs also increased by 4.5 and 6.3 times—from 1.2 and 0.3 million to 5.6 and 2.2 million, respectively, during the same period (Prakash 2008).

Table 1 Growth of enrolment at the secondary level (in millions)

Years	Girls	Total	Scheduled Caste girls	Scheduled Caste total	Scheduled Tribe girls	Scheduled Tribe total
1980–81	3.4	11.0	0.25	1.152	0.08	0.33
%	31.9		21.4		25.2	
1990–91	6.3	19.1	0.64	2.238	0.24	0.81
%	33.0		27.2		29.6	
1995–96	8.3	22.9	0.89	2.741	0.36	1.12
%	36.2		32.4		32.0	
2000–01	10.7	27.6	1.39	3.812	0.54	1.49
%	38.8		36.6		35.9	
2003–04	14.4	35.0	1.52	4.760	0.73	1.95
%	41.1		32.0		37.4	
2004–05	15.4	37.1	2.0	5.218	0.80	2.09
%	41.5		38.1		38.1	
2005–06	16.1	38.4	2.18	5.601	0.86	2.21
%	41.9		38.96		38.97	
Growth rate 1980–81 to 2005–06	6.4	5.1	9.1	6.5	9.8	7.9

Source Selected Educational Statistics (various years), Ministry of HRD, New Delhi

Further, India's progress in expanding access to secondary education has been substantial, with the gross enrolment ratio (GER) for both boys and girls having improved considerably. The gap in GER between boys and girls has declined considerably. However, despite increasing participation of girls in secondary education, their overall participation remains lower than that of boys in most States. The GER for boys has increased from 37% in 1995–96 to 72% in 2013–14. In the same period, the GER of girls increased from 24% to around 70% (Fig. 1). Girls' actual enrolment still lags behind boys partly because there are significantly fewer girls in the population. This is an issue not reflected in the GER, which is calculated based on the existing number of school-aged girls in the population. The GER for girls would have been more if female infanticide and sex-selective abortion were not serious continuing issues in India (MHRD 2015).

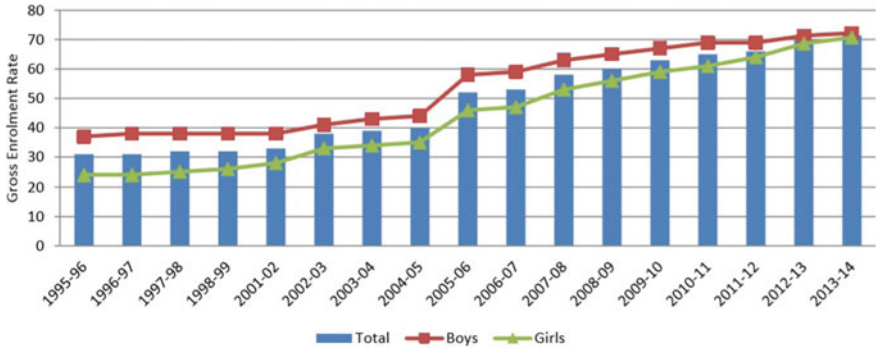

Fig. 1 Growth in gross enrolment ratio by gender. *Source* Selected Education Statistics Various Years

3 Central Advisory Board of Education (CABE) Committee Recommendations

The Central Advisory Board of Education (CABE), the highest deliberative and advisory body relating to policy-making in education in India, provides a platform where the centre and the States/UTs share their common concerns, review their experiences and envision future policies and programmes. A sub-committee of CABE prepared a blueprint for the universalisation of secondary education and submitted its report in June 2005. Some of the major recommendations of the report include:

- The guiding principles of universal secondary education should be universal access, equality and social justice, relevance and development and structural and curricular considerations.
- There have to be norms for schooling. Such norms should be developed for each State with common national parameters as well as State-specific parameters.
- Each State should develop a perspective plan for universal secondary education. In order to prepare a perspective plan, a comprehensive Secondary Education Management Information System (SEMIS) should be developed as early as possible. The SEMIS is for capturing data on girls, SC/ST, OBC, minorities and disabled children.
- Decentralised micro-level planning should be the main approach to planning and implementation of universal secondary education. Block should be the unit for such micro-level planning.
- For universal quality secondary education, the States must avoid softer options of para teachers. The teachers must be fully qualified who should be given full salary.
- Financial requirements for covering the cost of universal elementary and secondary education, which, approximately, accounted for 5.1% of the GDP were considered insufficient and recommended allocation of six percent of the GDP for

education. A progressive increase in this proportion is necessary to move towards universalisation of secondary education (NCERT n.d.).

The Education Commission (1964–66) and the CABE report in 2005 on *Universalisation of Secondary Education* emphasised that quantitative expansion of secondary schools should promote social justice, equity and reduce social exclusion. Accordingly, the targets for USE, as spelt out by the CABE committee, included: universal participation by 2015, universal retention by 2020, mastery learning by more than 60% learners by 2020 and universal higher secondary education (Grades XI–XII) by 2020.

To achieve the goal of providing quality education to all adolescents, i.e. both girls and boys, up to the age of 16 years by 2015 and senior secondary education up to the age of 18 by 2020, a conceptual design, based on four guiding principles, was recommended.

- ***Universal Access***: Access to education has to be considered in terms of physical, social, cultural and economic terms in a comprehensive manner. There is a need for a redefinition of some of the basic features of the Indian schools. Disability is a social construct, and it is not enough to solve the problem at the physical level alone, but it demands a change in the mindset of the child's classmates, teachers and the planners of curriculum or textbook authors. In the same way, in the case of a Dalit child, access to education is still a humiliating school experience, which hurts his/her self-confidence.
- ***Equality and Social Justice***: Schools should inculcate a sense of equality or social justice among their students or even develop an appreciation of the composite culture and plural character of India. The school system will have to strive for at least six dimensions of equality and social justice to include: gender, economic, social, i.e. SCs/STs, cultural (including the issues of religious and linguistic diversity), disability (both physical and mental) and rural–urban. All these dimensions need to be reflected with sensitivity in the curriculum to build the self-esteem of each child.
- ***Relevance and Development***: The education should help in unfolding the full potential of the child. It must link the development of child with the society and its political, productive and socio-cultural dimensions. The parents, while sending their children to schools, have an expectation that their children face the world with confidence. Learning should ensure a child's access to global knowledge and challenges.
- ***Structural and Curricular Aspects***: The National Focus Group on 'Work and Education', constituted by NCERT, for reviewing and revising the curriculum framework submitted its report in April 2005. It recommended that, to integrate 'world of work' meaningfully with the 'world of knowledge', curricular reforms need to be linked with structural reforms for the entire school education, including secondary education. This can also make vocational education a significant and effective programme (NCERT n.d., pp. 2–5).

4 Purview of Secondary Education

There is a need to make the participation of the marginalised sections of society inclusive and provide them access to secondary education. This necessitates recognising the rising levels of democratic consciousness and social aspirations of the young people in the age group of 14–18 years. The focus, more specifically, should be on the deprived sections of society, including girls and the disabled, having a greater share in the nation's political, social and techno-economic life.

4.1 Education for Adolescents

The ages from 14–16 to 16–18 are the years of adolescence, late adolescence and the years of transition. These are also said to be the most crucial years of life as there are fast and steady changes in the body structure transforming to adult form that is accompanied by emotional change and maturity. Secondary education, essentially, has to be the education of the adolescence. Experiences in schooling should be responsive to the needs of transition and stabilisation. This is the time when the children are likely to transit from education to the world of work. Secondary education must foster skills of transition.

4.2 Education for Multiple Intelligences

It is necessary for universal secondary education to offer adequate opportunities for bringing out the full potential of each and every student. Secondary education has to nurture the differential intelligences and multiple talents, which may be sports, music, academics or any other field that children bring with them to the school. It has been observed many times that a child who is very good in sports is ridiculed for scoring low marks in mathematics or science. Children with intelligence other than mathematical-logical intelligence are considered as less intelligent. Such an impression makes children totally lose their confidence and self-esteem.

4.3 Universal, Free and Compulsory Education

With the 86th amendment of the Constitution, elementary education for children of the age group of 6–14 years has been made universal, free and compulsory. The CABE committee had a view that secondary education should be universal, i.e. there should be universal access and opportunity for all children to receive secondary education. It kept 2020 as the target for universal enrolment with full retention and

mastery learning in all kinds of learning tasks by more than 60% learners. Also, it hoped that by 2020, there will be provision for universal senior secondary education and universal retention (NCERT n.d., p. 21).

The CABE committee held that there is no point in expanding secondary education in its current form and structure. For achieving the mission of quality schooling for all, the concept of secondary education has to be conceptualised as education of the adolescents in transition, for nurturing multiple intelligence and capabilities. The concepts and structures of the curriculum, pedagogy, assessment and evaluation of the student, etc., have to be redesigned. The committee recommended a culture shift in secondary education.

5 Equity in Access and Learning Through Rashtriya Madhyamik Shiksha Abhiyan (RMSA)

Rashtriya Madhyamik Shiksha Abhiyan (RMSA), launched in 2009, an initiative of the Government of India in partnership with State governments, sought to universalise enrolment in Grades IX and X across India. It supports the upgradation of the existing schools, the building of new schools to reach unreached areas, investments in quality improvement and contributions to recurrent costs. Its goal was to universalise entry into secondary school by the end of 2017 and achieve universal completion of Grade X by 2020. The revised target is 75% by 2017. It was realised that the achievement of this goal would reduce the gap between India and other BRICS (Brazil, Russia, India, China and South Africa) countries, where universal access to secondary school has already been a reality for around two decades. It strongly felt that investment in human capital would increase international competitiveness (Lewin n.d.). Specifically, the RMSA aimed at maintaining standards in secondary education by making schools conform to the prescribed norms related to physical facilities, staff and academic matters, universalising physical access to all young people (taking a distance norm of five km at secondary and seven kms at higher secondary stages). It also expected to improve participation and retention in secondary education, overcome barriers to secondary schooling due to gender, socio-economic status, disability and other disadvantaged circumstances and enhance intellectual, social and cultural learning to ensure quality of learning outcomes.

RMSA, the most important programme of the Ministry of Human Resource Development, has been designed as a country-wide reforms programme. It aimed to achieve a GER of 100% by 2017 and universal retention by 2020. The ratio of funding pattern of RMSA between the centre and the State governments is 75:25. In the north-eastern states, the centre meets 90% of the funding requirements. RMSA seeks to improve access and quality of education for the girl child in secondary and higher secondary classes. It also ensures that girl students are not denied the opportunity to continue their education due to distance from school, financial constraints and societal factors. The scheme of Inclusive Education for Disabled at Secondary Stage (IEDSS), which

was launched in 2009-10, is also part of RMSA. The scheme provides assistance to enable all students with disabilities who have completed eight years of elementary schooling to pursue a further four years of secondary schooling from Class IX to XII. RMSA, with its specific focus on removing disabilities, has opened up opportunities for children who are not able to enrol themselves in the formal education system through the modality of national and State open schools and by utilising contact centres and multi-media packages.

The report of the Committee for Evolution of the New Education Policy 2016 states that with the rapid expansion of the school system, access to school education has become near universal. The gaps in average enrolments between the general population and specific disadvantaged groups like the girl child, Scheduled Castes and Scheduled Tribes, minorities and children with special needs have decreased quantitatively. However, issues of social access and equity remain complex and need to be resolved. The social and income disparities continue to be reflected in gaps in learning levels, which remain large and seem to be growing. Children from historically disadvantaged and economically weaker sections of society exhibit significantly lower learning outcomes and tend to fall behind and are likely to drop out of school. Effective interventions to bridge the gender and social gaps have to be worked out for inclusion and participation of girls and other special category children. Despite the rise in demand for secondary education and increase in the number of schools, its spread throughout the country remains uneven. Regional disparities continue, as do differences in access, depending on the socio-economic background of the students (GoI 2016).

6 Annual Status of Education Report (ASER), 2017

The Annual Status of Education Report (ASER), 'Beyond Basics' 2017, highlights the sad state of education, when it comes to India's 14–18 year olds and raises pertinent questions which policy practitioners need to address. The previous ASER reports observed that even with high enrolment ratios of over 96% in the primary education sector, improvement in reading outcomes and arithmetic ability continues to be low. Moreover, a large proportion of students in both government and private schools continue to be below the 'Grade level' (i.e. a student who is able to deal with what is expected of him/her in that grade).

The ASER is targeted to look at the age group, between 14 and 18 years, comprising primarily those outside the Right to Education ambit and on the verge of entering adulthood. The government's flagship RMSA, launched in 2009 and re-booted in 2013 as RMSA-Integrated, has not been much of a success in India's secondary education scene, though enrolment rates have been high and increasing as in the primary education sector. The Right to Education (RTE) Act provides mandatory and free schooling up to the age of 14, or roughly corresponding to Class VIII. ASER surveys show that enrolment in Class VIII has

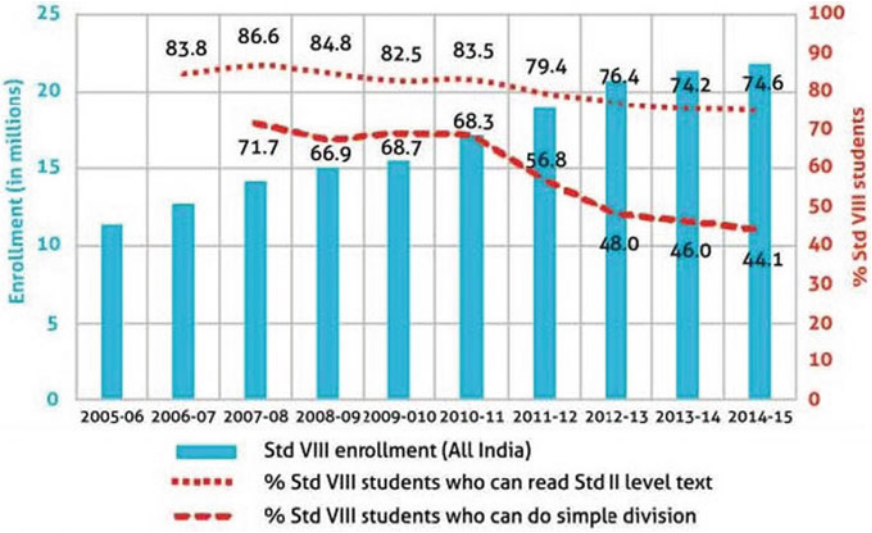

Fig. 2 Ability of Class VIII students consistently falling over the years, coinciding with the increase in enrolment rates. *Source* Annual Status of Education Report (ASER), 2017

been steadily increasing from less than 50% in 2005–06 to close to 90% in 2014–15. However, the quality of education still remains a concern. In Fig. 2, ASER's statistics have shown how the ability of class VIII students has been consistently falling over the years, coinciding with the increase in enrolment rates (Ghosh and Bandyopadhyay 2017).

The latest Annual Status of Education Report (ASER) findings show that, while 86% of adolescents are enrolled in the formal education system, only 53% of all 14-year-olds can read a simple text in English and just 44% can perform a simple division. As a result, the enrolment numbers drop and many do not even complete Class X. The Government's National Achievement Survey (NAS) of 2014 found that only 16% of Class X students, across all types of schools, could correctly answer more than half the mathematics questions put to them. Children are, thus, being sent to schools but not really educated. Lessons are being taught but not learnt. Digital India sends most of its children to high schools without access to computer laboratories or even libraries. Learning becomes a second-order problem when basic facilities are lacking. The elementary education experience clearly demonstrates that inputs and infrastructure are essential but not, in themselves, sufficient to improve quality. The transition from schooling to learning is far more complicated (Kapur 2018).

It is significant to observe the way enrolment rates decline after standard VIII, or once students are no longer under the purview of the RTE Act. If we have a look at the 2011–12 Grade VIII cohorts, the findings show that there is about a one-third decline until Grade XII, indicative of a trend of increasing drop-out rates after Grade VIII. The same trend is reflected when enrolment rates are analysed by age, showing a steady increase of youth not enrolled from age 14–18 years, as shown in Fig. 3 (Kapur 2018).

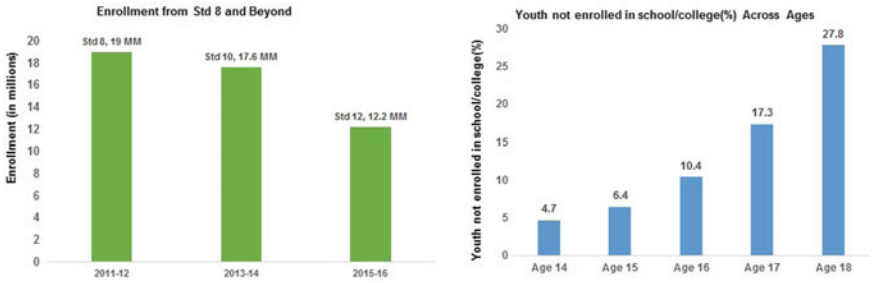

Fig. 3 Enrolment rates after Standard 8. *Source* Annual Status of Education Report (ASER), 2017

A surprising fact is that about 17% of students dropped out because they failed in their studies. The current government policy does not allow schools to fail students until Standard VIII. The ASER report points out that while the intention of the policy is commendable, there need to be measures in place to identify and focus on students who have lagged behind in the earlier grades. It is due to the policy of not failing students that the students left behind are not identified until they end up failing exams after Grade VIII. Despite the fall in enrolment rates, over 86% of youth in the 14–18 years age range continue to be within the formal education system. Only about five percent take some type of vocational training, which is of mostly less than three months' duration. A substantial proportion of youth in this age group is employed, irrespective of whether they are engaged in formal education or not. Overall, 42% of the youth is employed, including 39% of students engaged in formal education and 60% of students who have dropped out (Kapur 2018).

The ASER report noticed a visible gender divide in learning deficit. The statistics show that while 47.1% boys in the 14–18 age group could do simple division (dividing a 3-digit number by a single digit), only 39.5% girls could do the same (Vishnu 2018). The findings of RMSA report 2015 also project differences in gender disparities among States. The participation of girls in secondary education has increased since the 1990s but still varies widely from State to State. Large disparities remain in some States. Thus, Bihar (58% boys), Gujarat (59% boys), MP (62% boys), Rajasthan (61% boys) and UP (58% boys) have many more boys than girls enrolled in Grades IX and X. In contrast, Tamil Nadu (51% boys), Kerala (51% boys), Karnataka (51% boys), Meghalaya (49% boys) and Mizoram (50% boys) are close to gender parity. The patterns are complex and vary with location and social group. Gender equity remains an issue in relation to enrolment, especially for the poorest. In some States, it is also an issue in terms of the numbers of girls in the child population as a result of selective abortion and infanticide (MHRD 2015).

7 Universal Secondary Education: Challenges and Way Forward

India is emerging as the fastest growing economy in the world for which the success largely depends upon human resource development. The quality and relevance of the secondary education curriculum have to address the needs of both, viz. those who want to go in for higher education and those wanting to enter the labour market. The curriculum is expected to equip the students with adequate cognitive skills to deal with complex situations in daily routine and also in the world of work. The teaching methods and the transaction of curriculum in classroom ought to focus on learning to learn than on familiarising and memorising facts (Reddy 2007).

Regular assessments can serve as checkpoints to assess absorption and assimilation. Teaching must be modified to student needs, instead of serving government mandates on curriculum. There is a need for close monitoring, and classroom interactions must be enhanced. The teachers need to cater to the needs of an increasingly diversifying student community. As far as systemic institutional reform is concerned, the management and planning structures must be strengthened to ensure that the objectives are changed from curriculum completion to learning. The planning and budgeting system should focus on school needs and increasing flexibility in spending, with emphasis on quality education (Kapur 2018).

There is a need to undertake the school mapping exercise with a view to ensure the requirements of the existing schools and opening of new ones. Equity concerns in terms of gender, social groups and minority communities have a bigger dimension at the secondary stage. As free and compulsory education to all children up to 14 years of age is the Constitutional provision in India, many efforts are being made to realize the goal of UEE. The secondary schooling facilities, though improved to a significant level, have few areas of concern, as they are not available to a large number of habitations. Government schools have lower percentage of buildings than the schools under private management. All types of schools, including unaided private schools, must contribute towards universalisation of secondary education by ensuring adequate enrolments for the children from under-privileged sections of society and those belonging to below poverty line families (Chaudhari 2016, p. 304).

It is imperative to think of appropriate secondary schooling model in terms of objectives and functions and diversify secondary education to accommodate the growing social demand for quality schooling. It is important to increase access to schooling while maintaining quality and equity. The limits of trade-off between quality, quantity and equity in developing secondary education need to be clearly laid down. The implications of uniform provisioning and mixed market providers, i.e. private participation, in terms of coverage and equity as far as schooling is concerned, must be considered objectively. It is necessary to think in terms of appropriate curriculum and evaluation system in order to prepare pupils simultaneously for workplace, pursue higher education and equip them in life with high levels of relevance and external efficiency. The mode of financing secondary education that is sustainable and affordable has to be worked out (Biswal 2011).

8 Conclusion

The importance of secondary education and higher secondary education cannot be under-estimated. The investments made in secondary education also have to be sizeable and strategic. Planning for secondary education should involve both national and state governments. The centre needs to encourage and enable States to comprehensively plan for secondary education reform, focussing on areas such as access, equity, quality and so on. Instead of the centre deciding on a plan for developing particular areas of secondary education in the States, the States could develop their own plans, which could then be supported by the centre. Support to the States could be based on a clear set of performance indicators. The centre could also develop a range of technical resources, which the States could draw upon, depending on the focus and needs defined in their plans. India takes pride in a sizeable 'demographic dividend'. However, the basic skill gaps in young population need to be addressed appropriately to make secondary education universal in terms of access and equity. Equity refers to the principle of fairness and often used interchangeably with the related principle of equality. Equity is the process/means and equality is the outcome/end. Access is an opportunity or the method and possibility of getting near to the desired thing. Equity through equality can guarantee access, thereby ensuring social justice.

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Determinants of Participation in Secondary Education

Tracking the Progress of a Child from Enrolment to Completion of Secondary Education in India

Deepak Kumar

1 Introduction

With the international efforts to achieve universal primary education, the demand for secondary education has increased and emerged as an important challenge in many developing nations. The substantial increase in primary school graduates has put pressure on governments to expand secondary education. It is also argued that providing access to secondary education is essential to ensure that the universal primary education is achieved and continues to be achieved, as the children completing primary education expect to continue secondary education (UNESCO 2013). Also, the growth of secondary education is linked with economic and social development and to the realisation of MDGs, including improvement in wages, the decline in fertility and child mortality, and increase in overall health and nutritional levels of a nation (OECD 2010).

Though elementary education has been emphasised by the Government of India as it was incorporated as Article 21A in the Indian Constitution, secondary education also requires special attention. The NSSO data (71st round) shows that the highest drop-out rate in schools is at the secondary (9th to 10th) level (Business Standard 2018). The high drop-out rates at the secondary level have a multiplier effect on higher secondary education, as they decrease the potential pool of students who could have completed higher secondary level of education if they had not dropped out at the secondary level (i.e. 9th to 10th class). It raises serious concerns for balanced development as the education system plays a crucial role in the nation-building process and is a pivotal component of inclusive development for a developing country like India (Biswal 2011). For maintaining this balance, it is imperative that the children enrolling in schools should complete both primary and secondary education. Thus, secondary education needs more attention to reduce the drop-out rates. It is in this

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context that we analyse and assess the reasons for the high drop-out rates in secondary school.

The spectacular growth in Indian elementary education (both in terms of enrolment and completion),[1] particularly after the Sarva Shiksha Abhiyan (SSA), has put enormous pressure on the secondary level to absorb new entrants. There is fair progress in enrolment rates in secondary schools, particularly after 2010, with the initiation of Rashtriya Madhyamik Shiksha Abhiyan (RMSA). However, retention rates, particularly amongst the students belonging to marginalised sections of society and also amongst first generation learners,[2] continue to be low.

In India, the Right to Education (RTE) Act provides free and compulsory education up to elementary level, after which an individual has to cover the secondary education expenses personally. Apart from the usual costs associated with education, such as school fees, books, and uniforms, there is often an increase in transportation costs. It is because the numbers of secondary schools are less than primary and middle schools. Household expenditures on these school-related items are considerable even for low socio-economic status families such as Scheduled Caste/tribes and low income families and students attending government schools (Tilak 2002). In addition to educational expenses, families also have to consider the high opportunity cost of children attending secondary school. Children belonging to low-income families are left with two choices viz. either attend school and forego the income which they could have earned or drop out of the school to earn a living. Sometimes, a child's presence at home facilitates the employment of an older member of the household.

In addition to this, the proportion of public expenditure allocated to the secondary education in India is much lower than that allocated to elementary education (Tilak 2003).[3] Given the low levels of public investment in education, educational attainment of an individual is mainly determined by parental investment, which is highly dependent on the family's economic status. Both the low level of public expenditure and the higher cost of secondary education intensify the burden on low-income families as the child progresses from elementary to secondary education and make it hard for children from poor and uneducated families to obtain a secondary/higher secondary education. It adversely affects their ability to improve their socio-economic status and keeps future earnings low (Becker 1964; Barro 2001; Hanushek and Woessmann 2015). Therefore, it is quite important to examine the

[1] In 2010, an estimated 98.5% of children were enrolled in primary schools as compared to 83.6% a decade earlier. Not only have initial enrolments increased, but the proportion of children who finished primary education has also risen from 71.5% in 2000 to 97.1% in 2009. However, less than two-thirds of Indian children who were eligible to be enrolled in secondary school were actually enrolled by 2010.

[2] 'The drop-out rate in Grades I–X continues to as high as 56.7% (56.6% for boys and 57.3% for girls). In other words, only around 43 out of every 100 Grade I cohort survive up to Grade X (Government of India 2008). Moreover, the drop-out rates of 68.4% for SCs and 76.9% for STs in Grades I–X indicate a huge wastage of resources in school education in India' (Biswal 2011, pp. 14).

[3] The proportional distribution of educational budget on secondary education by State and Central government in India is 33.84% and 13.99%, respectively. The sector-wise proportional distribution of educational budget in India is provided in Table 2 of the Appendix.

factors responsible for the high drop-out rate in secondary education in India. In addition to this, it is also important to analyse the factors that affect the completion of secondary education of an individual after getting enrolled at this level of education. Are students from disadvantaged backgrounds at a disadvantage even when access to education is achieved? Alternatively, are there any other individual or school-related factors that might be associated more or less with the progression of an individual through the secondary level of education?

The existing literature (Haveman and Wolfe 1995; Buchmann and Hannum 2001; Checchi 2006; Björklund and Salvanes 2011) indicates that family background, mainly parental education and household economic resources, plays a crucial role in a child's educational attainment. Several studies in India have shown the persistence of a large educational enrolment and attainment gap between rich and poor households (Duraisamy 1998; Filmer and Pritchett 1999; Sengupta and Guha 2002; Srinivasan 2010). Many studies have found that belonging to 'SC/ST' and 'Muslims' groups play an important role in determining the educational inequality in India (Borooah 2001; Sengupta and Guha 2002; Srinivasan 2010; Lewin 2011). The literature on educational inequality in school education in India (which is limited to secondary education) has mainly focussed on the factors affecting the enrolment of children. Moreover, they have largely focussed on individual and household characteristics, ignoring school-related factors and their interactions with individual and household factors. Our study examines how in addition to family attributes, 'learning activities' and 'access to school resources' affect the progress of a child from enrolment to completion of secondary and higher secondary school in India using India Human Development Survey (IHDS) data. IHDS data is a nationally representative multi-topic panel survey that has been conducted in 2004–05 and 2011–12. This panel survey makes the data suitable for tracking the progress of a selected group of children over time.

The paper is organised as follows: Section 2 is the brief review of literature that discusses the studies related to the demand side and school-related factors that affect the educational enrolment and attainment of an individual. Section 3 discusses the data and methodology used in the study, followed by empirical results. The final section summarises the analysis of the study and suggests some policy recommendations.

2 Literature Review

Despite the emphasis given by policy-makers, the literature on the causes behind low completion rate in secondary schools in India is sparse. Researchers have studied the effect of parental education, income and assets on different educational outcomes by incorporating them separately or simultaneously. The research work of Nam and Huang (2009), Huang et al. (2010), Kim and Sherraden (2011) and Huang (2013) has found strong links between household assets and children's educational attainment. Parental endowments and economic resources can facilitate a child's education

directly and indirectly. Borrowing for education is easier with improved financial status. Various studies, conducted in India, have found that children's enrolment in education is positively and significantly associated with the household's economic resources (Duraisamy 1998; Sengupta and Guha 2002; Srinivasan 2010). Using the National Family Health Survey (1992–93) data, Filmer and Pritchett (1999) found a large gap between the enrolment and attainment of children from rich and poor households.

Several studies have found a positive relationship between the educational attainment of parents and their children (Lillard and Willis 1994; Cameron and Heckman 1998; Behrman and Rosenzweig 2002; Maitra and Sharma 2009; Huang 2013). Parents, with higher levels of educational attainment, have better access to financial, social, and human capital as compared to those with lower educational attainment (Conger and Donnellan 2007). Moreover, the highly educated parents can make better choices for their children's education as they are more informed about the benefits and quality of education.

In India, caste and religious affiliation are also important factors that affect the educational attainment of a child (Borooah 2001; Sengupta and Guha 2002; Srinivasan 2010; Lewin 2011). Children belonging to 'SC' and 'ST' families have lower school enrolment rates than children belonging to the upper caste (Filmer and Pritchett 1998). Evidence of religious affiliation and its impact on education is also available. A child's enrolment in school is significantly associated with his or her religion, and the enrolment rate varies by different religious groups (Borooah 2001; Sengupta and Guha 2002; Srinivasan 2010). For example, Borooah (2001) found that the children from Muslim households are less likely to be enrolled and continue their school education as compared to their Hindu and Christian counterparts. Similar results have been found by Sengupta and Guha (2002), and Srinivasan (2010).

There are limited studies on the supply-side intervention of different programs that are initiated for retaining students in secondary schools in India. Higher cost with the progression in schooling is the prime factor for dropping out of poor students as the level of schooling increases. After controlling the factors affecting the enrolment of a student, attending a private school is positively associated with the higher level of student achievement (Kingdon 2007). Moreover, there exists a significant association between the accessibility of educational resources and the socio-economic background of an individual (Duncan and Murnane 2011). Apart from this, the expansion of private schools, with higher school fees, may continue to enlarge these gaps in accessing educational resources and outcomes (Kingdon 2007).

A significant proportion of students takes private tutoring at the secondary education level. NSSO (National Sample Survey Office), in its 2014 survey, reported that 37.8% boys and 34.7% girls were enrolled in private coaching centres at the level of lower and higher secondary schooling (NSSO 2016, p. 98). The literature on private tutoring in India (e.g. Aslam and Atherton 2013; Azam 2014; Majumdar 2014, 2018; Salovaara 2017) finds that private tutoring can compensate for the deficiencies in mainstream education, but it may also contribute to inefficiencies (cited in Bhorkar and Bray 2018, p. 149). A study conducted in Maharashtra region by Bhorkar and Bray (2018) had shown that the high levels of reliance on coaching

classes for Board examinations of Class 10 reflect a belief of significant assistance provided by the coaching classes in exam preparation. Coaching classes are seen as supplementary to school teaching up to Class 10, but after Class 10, they are viewed as more important. By using IHDS data, White et al. (2016), found that the time spent on private tuitions has a strong positive association with the learning of a student while the number of days absent in the school has a small negative association.

Previous research studies, reviewed in the above section, highlight persistent educational inequalities based on gender, socio-economic factors such as caste and religion, income, parental education, private educational expenditure, level of urbanisation, etc. Building on the core concepts and the formal ground set by the above-mentioned literature on school education, we take a leap forward and examine the factors that affect the progress of a child from enrolment to completion of secondary education in India. The socio-economic background of an individual, association of individuals and household characteristics, school-related factors, 'learning activities' and 'access to school resources' are factors considered in our analysis. Given the paucity of research on completion rates among enrolled students, this paper will contribute significantly to secondary education literature in India. The previous literature shows quality and outcome differences across private and government schools in India. Using previous literature on this issue as a reference point, we will also examine if completion rates of secondary and higher secondary students differ across the government and private school students in India.

3 Data and Methodology

3.1 Data and Sample of the Study

This study uses both rounds of India Human Development Survey (IHDS) data, i.e. 2004–05 and 2011–12, for tracking the progress of a child from enrolment to completion of secondary and higher secondary school in India. The IHDS is the first household survey in which multiple topics on health, employment, education, social networks, economic status, fertility, marriage, gender relations and social capital were covered. IHDS (2004–05) is a nationally representative, multi-topic survey of 215,754 individuals and 41,554 households in 1503 villages and 971 urban neighbourhoods located in 33 States and Union Territories across India. In 2011–12, each of these households, including split households,[4] was re-interviewed using the same questionnaire with a re-contact rate of 84% in IHDS-II. This tracking of cohorts in IHDS-II makes the data suitable for studying the impact of family attributes on educational attainment at different levels of schooling.

[4]Split households are those that got split from the parent household (in 2005) between the two surveys time period and they were staying in different houses in 2011. See IHDS-II User's Guide for more information.

We have considered only those children who were enrolled in secondary school (9th and 10th class) in 2004–05 and who were also included in the 2011–12 survey.[5] Looking at the 2004–05 IHDS data, a total of 6276 children aged 12–20 years were enrolled in Classes 9 and 10. IHDS was able to track 3421 of these students in 2011–12. Ninety-four observations had to be excluded due to wrong reportage of the outcome variable. It left us with a total of 3327 observations. Some other observations were also excluded due to incomplete reportage[6] of some variables. Our final sample contains a total of 3143 observations.

The distribution of descriptive statistics across different variables for the initially enrolled children sample and finally tracked children sample is given in Table 3 of the Appendix. This table shows that distribution of both samples across rural/urban, social group (caste/religion), type of school (government/private), the age of a child, household assets, and private educational expenditure, etc. is similar but is different for gender. This similarity in both samples makes the final targeted sample suitable for our analysis.

3.2 Model and Design of the Study

The outcome variable that has been used in this study is the educational attainment of an individual, as measured by completed years of schooling. This outcome variable is divided into two different categories according to the two levels of secondary education: secondary school completion (SSC), i.e. 10th class, and higher secondary school completion (HSSC), i.e. 12th class. Two binary dependent variables have been constructed for this study. For each of these two variables (i.e. Class 10 and 12), the outcome binary variable takes the value '1' if the child has completed that level of schooling in 2011–12, and '0' otherwise. The outcome variable of higher secondary school completion is conditioned on the premise that the child has completed secondary school. Therefore, secondary school completion (SSC) is measured by whether a child completed 10 or more years of schooling, and higher secondary school completion (HSSC) by whether a child completed 12 years of schooling. Due to the binary nature of the outcome variable, this study uses the logit regression model[7] to examine the association of individual and household characteristics as well as 'learning activities' and the 'access to school resources' with the probability of secondary and higher secondary school completion. This study contains 6 logit regressions. Equations 1 and 2 consider the analysis of a full sample for both secondary and higher secondary school completion. The logit model has

[5]The majority of students enrolled in Classes 9 and 10 were aged 12–20 years. In order to avoid the outlier problem, we have excluded students younger than 12 years or older than 20 years.

[6]The total number of deleted observations due to missing values is 184, i.e. 5% of the final sample.

[7]Under a logit model: $P(\text{Yi} = 1)/1 - P(\text{Yi} = 1) = e^{(\beta \hat{} \mathbf{Xi})} \Rightarrow \mathbf{P}(\boldsymbol{Yi} = 1) = \mathbf{e}^{(\beta \hat{} \mathbf{Xi})}/1 + \mathbf{e}^{(\beta \mathbf{Xi})} = F(\beta\ \text{Xi})$, where: $\mathbf{Xi}\ \{Xij, j = 1, \ldots, J$ represents the vector of observations, for individual 'i' on 'j' variables, and $\beta = \beta j, j = 1, \ldots, J$ is the associated vector of coefficient estimates (Amemiya 1981; Greene 2003).

also been estimated separately for the government, and private school samples as the literature shows quality and outcome differences across private and government schools. Equations 3 and 4 show the estimates of secondary school completion for government and private school students, respectively. Similarly, Eqs. 5 and 6 give the estimates of higher secondary school completion for government and private school students, respectively.

The estimated coefficients of the independent variables in the 'logit model' help in identifying the direction of the relationship with the dependent variable. These estimates (depicting the directional relationship with the dependent variable) serve as a basis for computing more meaningful statistics. Following Long and Freese (2006), the logit coefficients have been used here to estimate the average marginal effects and the predicted probabilities of SSC/HSSC for different groups. The predicted probabilities of different groups across household assets have been presented in the form of graphs by keeping all other model variables.

For examining the association of individual and household characteristics with the probability of secondary and higher secondary school completion, we used predictors such as gender, age of a child, whether the child belongs to an urban area or a rural area, social group (caste/religion), household assets index as a proxy for long-term economic resources, computer/internet usage by any household member, and parental education of an individual. Economic theory suggests that family attributes affect educational attainment with a lag (Nam and Huang 2009; Huang et al. 2010; Kim and Sherraden 2011; Huang 2013). We have used the explanatory variables (except the variable on 'computer usage') referring to 2004–05 to predict the completion of SSC and HSSC in 2011–12.

To measure parental education, we take years of schooling completed by the highest educated male or female adult (21+) in the household in 2004–05. To facilitate analysis, we constructed a new variable by dividing years of schooling into four categories, based on the different levels of education: illiterate or below primary (i.e. less than four years of completed education), primary or upper primary (i.e. four to nine years of completed education), secondary or higher secondary (i.e. 10–14 years of completed education), graduate and post-graduate (i.e. 15 and more than 15 years of completed education).

The IHDS has given us an asset index[8] that we use to measure household assets. The index value ranges from 1 to 30. An index value close to 1 indicates the poorest households while 30 indicate the richest households. Research studies indicate that family assets are a better indicator of long-term economic resources of a family as compared to income (Nam and Huang 2009). Assets are more stable and also the income or consumption of a family can change radically when the main income earner of a household loses a job (Nam and Huang 2009).

For examining the disparities among caste and religion of an individual in SSC or HSSC, this study uses the social group of an individual to which he/she belongs.

[8]The data on ownership of resources as household asset index is available in IHDS 2004–05 that contains data on different variables of goods and house owned by the household, and the quality of housing. This index is based on the values of 36 different kinds of household assets like Pakka or Kaccha house, TV, fridge, car, laptop/computer, and AC, etc.

Thus, by using caste and religion variables from IHDS, the 'social group' variable has been constructed for analysis of the issue under investigation. The 'social group' variable consists of five categories: 'upper caste Hindus and OMR' (all other minority religions such as Christians, Sikhs, Jains, Buddhists etc. except SC and ST of these religions), 'OBC Hindus', 'SC' (all religion), 'ST' (all religion), and'Muslims' (upper caste and OBC Muslims).

The 'access to school resources' by a child has been analysed taking into account the 'type of school', i.e. whether the child attended a government, private or another type of school such as convent, etc., and 'private educational expenditure' on a child. The private educational expenditure on a particular child includes school fees, expenditure on books or uniforms, transport expenditure, and private tutoring fee. Adding all the costs of education, the natural log of the total expenditure has been used in the model. Tilak (2002) found that private household expenditures on school-related items, such as books, uniforms and fees, are substantial even for low socio-economic status families, such as Scheduled Castes/Tribes and low income families and those attending government schools. To observe the effects of any assistance provided by the government to the students, we use two more variables such as whether a child has received 'free uniform or books' and 'whether a child has received any scholarship or not'. Both these variables have been included in the regression analysis only for government schools.

The statistical analysis of learning activities includes the 'private tuition hours per week', and 'number of days absent last month'. Several research studies have pointed out that the use of a computer at home or school is positively associated with the academic performance and learning of students at different levels of school education (Battle 1999; Kerawalla and Crook 2002; Lee et al. 2009). Lee et al. (2009), in their study, have stated that even after controlling for a family's socio-economic status computer access at home and its usage is positively associated with the test scores of a child in mathematics and reading. But, the information on computer usage by a child is not available in IHDS data. Therefore, the 'computer/internet usage' by any member of the household has been included in the model.

Other individual specific variables that have been included in the study are the gender of the child, age of the child which ranges from 12 to 20 years, and whether a child has ever repeated a class or not. This study also tried to takes into account 'the distance of the school from home' and 'medium of instruction in the school'. However, both the variables mentioned above are statistically insignificant in every regression equation of our study. It may be because post-enrolment in secondary school, the distance effect is offset by other considerations and ceases to make of the school does not make a significant difference in the completion of education. We have, therefore, dropped these variables in the final model. The denotation and definition of all variables are provided in Table 4 of the Appendix.

4 Empirical Results

For exploring the determinants of secondary and higher secondary school completion in India, the marginal effects and predicted probabilities are estimated by using the logit regression model. Table 1 provides the average marginal effects of the explanatory variables that affect the probability of an individual completing secondary schooling (SSC), and higher secondary schooling (HSSC), based on the condition of secondary school completion. Most of the predictors are significantly associated with the probability of completing both levels of education.

Table 1 shows that the likelihood of completion is significantly associated with the gender of an individual at both levels of schooling. The marginal effects show that the probabilities of completion are 6.2% and 9.86% higher for females as compared to males at SSC and HSSC, respectively. This finding is consistent with results obtained by Maitra (2003), who found that the level of grade attained is higher for female children as compared to male children. The probability of completing both SSC and HSSC decreases with increase in the age of a student. It shows that students, whose age is above the standard age of schooling, have lower chances of completing SSC and HSSC. The students residing in rural areas have a higher probability of completing secondary school. However, there is no statistically significant difference between a rural and an urban areas in completing higher secondary school. This finding is not consistent with the previous studies.

In our analysis, children whose parents are 'illiterate or below primary level' have been taken as the base category. For both SSC and HSSC, the results show that the probability of completion increases with the change in the level of parental education from 'illiterate or below primary level' to 'secondary or higher secondary level' and 'graduate or above level'. For instance, the chances of completion are 7.33% and 9.19% higher for SSC and HSSC respectively for those individuals whose parents have attained 'graduate or above' level of education as compared to 'illiterate or below primary'. This finding is consistent with previous research, both at international and national levels, which found that parental education is highly associated with children's educational attainment (Lillard and Willis 1994; Haveman and Wolfe 1995; Buchmann and Hannum 2001; Maitra 2003; Maitra and Sharma 2009; Björklund and Salvanes 2011). However, there is no statistical difference in the chances of completion as the parental education changes from 'illiterate or below primary' to 'primary or upper primary' at both levels of education.

In analysing the effect of the economic status of the family, we found that the economic resources possessed by the family are positively and statistically significantly associated with the completion of SSC and HSSC. The likelihood of completion increases by 0.42% and 0.64% with a one unit increase in the household asset index for SSC and HSSC, respectively. It supports the hypothesis that higher levels of education are more sensitive to household asset levels. Consistent with the Kim and Sherraden (2011) study, this study also found that household assets have a direct positive relationship with the progress of schooling.

Table 1 Logit estimates (Average marginal effects) of secondary and higher secondary school completion (All)

Explanatory variables (average marginal effects)	SSC (Full sample)	HSSC (Eligible sample)
Female (Ref.—male)	0.0620***	0.0986***
	(0.0127)	(0.0160)
Age	−0.00853**	−0.0192***
	(0.00390)	(0.00519)
Urban (Ref.—rural)	−0.0393**	0.0155
	(0.0161)	(0.0180)
Household Assets Index	0.00424***	0.00644***
	(0.00154)	(0.00181)
Social Group (Ref.—UC Hindus & OMR)		
OBC Hindus	−0.0335**	0.0236
	(0.0157)	(0.0190)
SCs	−0.0389**	−0.00481
	(0.0177)	(0.0224)
STs	−0.0422	−0.00903
	(0.0267)	(0.0360)
Muslims	−0.0656***	−0.0237
	(0.0223)	(0.0279)
Parental Education (Ref.—Illiterate)		
Primary or Upper Primary	0.00875	0.0223
	(0.0163)	(0.0233)
Secondary or Higher Secondary	0.0439**	0.0404*
	(0.0173)	(0.0242)
Graduate or Above	0.0733***	0.0919***
	(0.0241)	(0.0301)
Type of School (Ref.—Govt. & Govt.-Aided)		
Private School	0.0408***	0.0337*
	(0.0152)	(0.0192)
Other type of school	0.0591**	0.0523*
	(0.0239)	(0.0293)
PTHPW	0.00361***	0.00144
	(0.00139)	(0.00150)
DAPM	−0.000973	0.00181
	(0.000987)	(0.00145)
ln (PEE)	0.0150***	0.000374
	(0.00505)	(0.00826)
Ever repeat (Ref.—No)	−0.0433***	−0.0268

(continued)

Table 1 (continued)

Explanatory variables (average marginal effects)	SSC (Full sample)	HSSC (Eligible sample)
	(0.0160)	(0.0216)
Use computer (Ref.−No)	0.199***	0.229***
	(0.0112)	(0.0165)
Log pseudo-likelihood	−1069.48	−1195.68
Pseudo-R^2	0.21	0.17
Observations	3143	2654

Standard errors in parentheses; Ref. is the reference category of a categorical variable; ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Social group analysis is done using 'upper caste Hindus and OMR' category as the base category. In case of SSC, we find that the chances of completion are significantly lower for all the socially disadvantaged groups such as 'OBC Hindus', 'SCs' and 'Muslims' as compared to 'upper caste Hindus and OMR'. We also find that 'Muslim' students have the lowest chances of secondary school completion. This finding is consistent with previous research studies, which were based on Indian Sample (Filmer and Pritchett 1999; Borooah 2001; Sengupta and Guha 2002; Srinivasan 2010). Lewin (2011) found that educational attainment is higher for children who belong to Hindus families as compared to those from Muslim families. He also found that within Hindus families, the children from Scheduled Caste and Scheduled Tribe families have the lowest educational attainment.

In the case of HSSC, the estimated results show that there is no statistically significant difference between 'upper caste Hindus and OMR' and all other social groups. It means that that being a Muslim and belonging to a backward caste in India acts as a barrier in secondary school completion even after accessing the secondary school. However, once students completed secondary school, caste and religion of an individual did not make a significant difference in higher secondary school completion. It indicates that the major barrier for students from the marginalised sections of society comes up during secondary school. Government policies for marginalised sections of the society should focus on this transition level of education and provide help to these students so that they can complete their secondary education.[9]

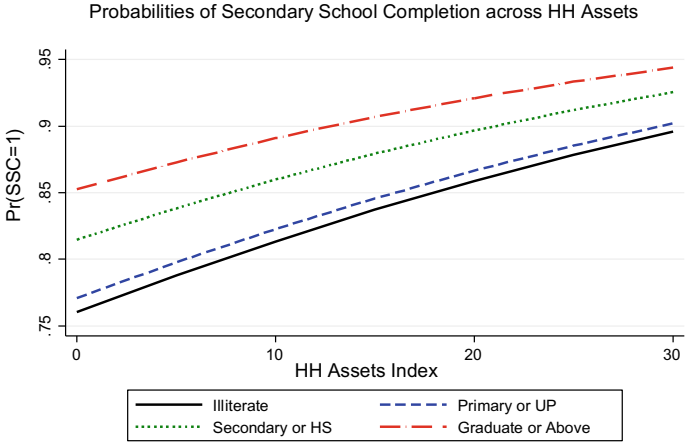
We find that the students studying in private and 'other types of schools' have higher chances of completing both (secondary and higher secondary) levels of schooling. For instance, the probability of completion is 4.08% and 3.37% higher for SSC and HSSC respectively for those students who had studied in private schools as compared to government schools. The private educational expenditure variable shows that the likelihood of secondary school completion increases by 1.5% with every one percent increase in the educational expenditure on a child. However, this is not significantly associated with higher secondary school completion.

[9]This might be possible that the 10th class Board exam is the first Board exam that has to be cleared by an individual, where most of the marginalised sections' students are lagging behind as compared to advantaged groups of the society, if they want to go for higher secondary level of schooling.

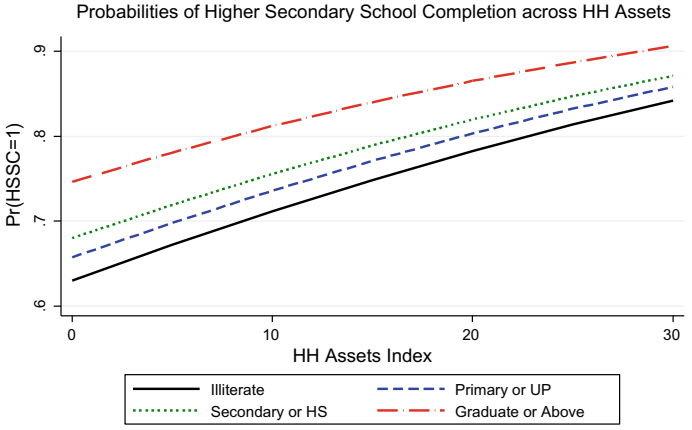
The time spent by a child for private tuition leads to an increase in the probability of secondary school completion by 0.36%, with every one hour increase in the time spent on tuition per week. Again, it is not significantly associated with higher secondary school completion. The 'number of days absent in last month' is not significantly associated with secondary and higher secondary school completion. Students, who have repeated a class, have lower chances of secondary school completion, but it does not make a significant difference in higher secondary school completion. Completion probabilities are 19.9% and 22.9% higher for SSC and HSSC, respectively, for students whose any household member uses computers vis-a-vis those who do not use computers. Lee et al. (2009) also found that the use of a computer is positively associated with the academic performance of students in secondary education even after controlling for family's socio-economic status.

4.1 Predicted Probabilities of Secondary and Higher Secondary School Completion

Graphs 1 and 2 present the predicted probabilities of secondary and higher secondary school completion, respectively, by a child's parental educational levels at different levels of household assets of an individual, keeping all other variables constant. The predicted probabilities have been calculated after estimating the logit coefficients. Both these graphs of predicted probabilities show that the students, whose parental education is 'graduate or above', have the highest chances of completing both levels of education, across the complete range of household assets, followed by those whose parents have 'secondary or higher secondary' level of education. Both the graphs also show that the probabilities of completion increase with the increase in the level



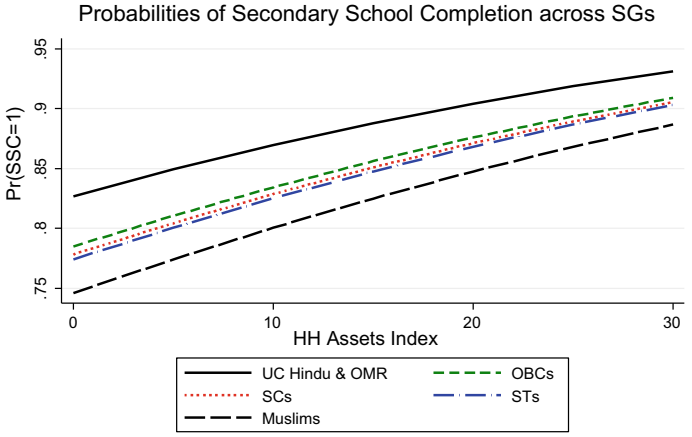
Graph 1 Predicted probabilities of SSC (10th) by parental education and household assets



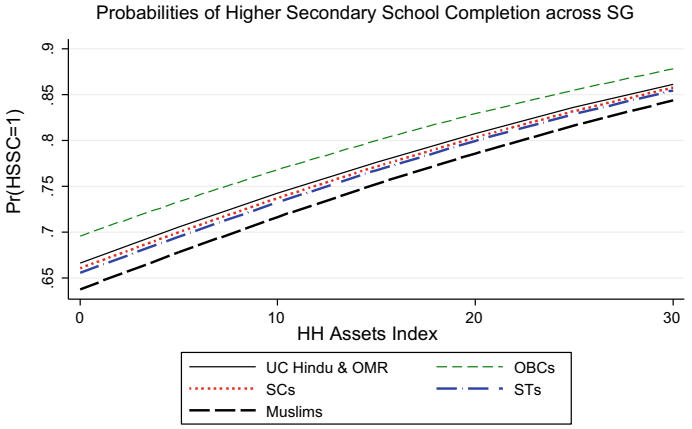
Graph 2 Predicted probabilities of HSSC (12th) by parental education and household assets

of household assets. Moreover, the gap between the predicted probability curves, depicting parental education level, is decreasing with the increase in the value of household assets index from 1 to 30, and this is lowest at the highest level of household assets. Clearly, parental education and household assets act as substitutes in some ranges.

To analyse the existence of a class effect within a particular caste/religion, we have calculated the predicted probabilities of different social groups at different levels of household assets as shown in Graphs 3 and 4. From the results shown in Graph 3, it may be noticed that the predicted probabilities curve for 'upper caste Hindus and OMR' children is the highest and the lowest is for Muslims. Moreover, the gap between 'upper caste Hindus and OMR' children's curve and those of other



Graph 3 Predicted probabilities of SSC (10th) by social groups and household assets



Graph 4 Predicted probabilities of HSSC (12th) by social groups and household assets

social groups is huge. It shows that 'upper caste Hindus and OMR' children have the highest chances of secondary school completion. However, for higher secondary school completion there is not much difference in the predicted probabilities curves of different social groups as shown in Graph 4. These graphs also show that the gap between the predicted probabilities curves by different social groups decreases with an increase in the value of household assets. These results indicate that caste/religion barrier to secondary educational attainment for disadvantaged groups, such as 'SC/ST and Muslims', is linked to their economic status, and reducing poverty will improve their chances of higher educational attainment. In short, lack of economic resources is the major factor preventing students from completing SSC and HSSC.

4.2 Results for SSC and HSSC Completion in the Government and Private Schools

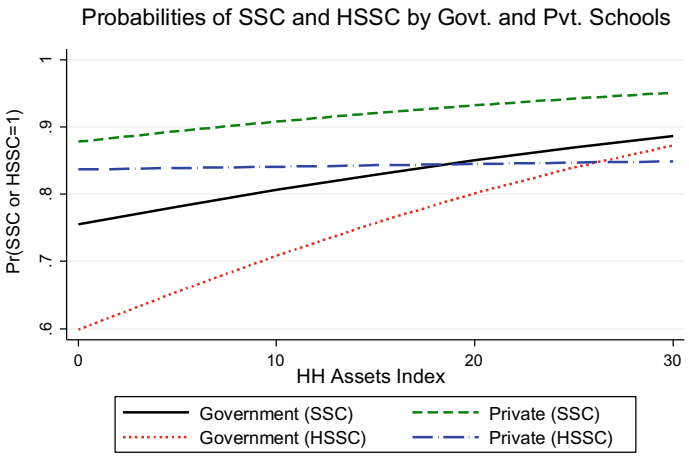
Table 5 in the Appendix gives the marginal effects of the explanatory variables that are associated with the probability of a student completing secondary and higher secondary schooling for government and private schools students separately. The estimated results show that the probability of completing secondary and higher secondary level of education is higher for females as compared to males in both private and government schools. In addition to this, the magnitude of the marginal effect of being a female is higher in government schools relatively to private schools at both levels of schooling.

Apart from this, the separate analysis of government and private school students shows that the household assets are significantly associated with completion of both secondary and higher secondary levels of education by government school students while they do not make a significant difference in the case of private school students.

Moreover, we can also infer that there is a significant association between social groups and private tuition hours in government schools only at the level of secondary school completion. In all other cases, they do not make a significant difference. A student, who uses the computer for learning, has higher chances of completion of (secondary and higher secondary education) in both government and private schools but the magnitude of the marginal effect (of using a computer) is relatively higher for a student of a government school than the student of a private school at both levels of schooling.

In addition to these factors, this study has also taken into account two more factors in the government school sample: whether a child received 'free books or uniform' and a 'scholarship'. We find that the 'free books or uniform' received by a child are not significantly associated with either level of completion. However, if a child receives a scholarship, the probability of completion increases.

Graph 5 presents the predicted probabilities of secondary and higher secondary school completion by government and private school students across household assets of an individual, keeping all other variables constant. We see that private school students have higher probabilities of completion as compared to government school students for both levels of education. The predicted probability curves at both levels of education show that the marginal effects of increasing household assets are greater for government school students, particularly for higher secondary completion, as compared to private school students. It is because the probability curve of government school students has a higher slope than that of their private counterparts.



Graph 5 Predicted probabilities of SSC and HSSC by the government and private school children across household assets

5 Conclusion and Policy Recommendations

In the presence of a low public investment in education, educational attainment of an individual is mainly determined by parental investment which is highly dependent on the family's economic status. In the Indian case, the proportion of public expenditure allocated to secondary education is much lower than that allocated to elementary education, making the burden on the poor and uneducated families high.

We have focussed on the factors associated with secondary and higher secondary education completion after the accessibility of secondary education by a child. In particular, we have examined the impact of factors like 'learning activities' and 'access to school resources' on the progress of a child from enrolment to completion of secondary and higher secondary schools in India. We have also conducted separate analysis for government and private schools students in secondary and higher secondary schools.

The biggest factors influencing completion of secondary and higher secondary school by a student are household assets and parental educational attainment. The chances of completing both levels of schooling (secondary and higher secondary) increase with the increase in the level of household assets and the level of parental education. The association of both household assets and parental education becomes greater with the progress in the level of schooling from secondary to higher secondary. We also found that parental education and household assets act as substitutes for each other within a fairly broad band. The marginal impact of both the factors, particularly household assets, is higher for girls as compared to boys.

An interesting result, relating to the association of caste/religion of an individual with their educational attainment, has been found in this study. We find that the major hurdle for the marginalised sections of the society such as 'SC/ST and Muslims' crops up at the secondary school stage, particularly in government schools. Once this hurdle is cleared, there is no significant effect of caste/religion of an individual in completing the higher secondary level of schooling. We also found that the class effect is more important than the caste effect in determining educational inequality among the children. Therefore, the government policies for marginalised sections of the society should focus on secondary or below secondary schools because most of the children from marginalised sections are not able to complete their secondary school education.[10] The National Commission to review the working of the Constitution (NCRWC 2002), suggested incorporating the right to free education (as a part of Article 21A) for members of SC and ST community until they attain the age of 18 years. But this provision has also not been implemented till now.

The results of this study also reflect that male students, enrolled in private schools, have significantly higher chances, compared to their counterparts in government

[10]Most recent debate in case of Delhi government schools analysed that public schools are performing better than private schools in Class 12 results with passing rate of 90%. However, the Delhi government schools' data also shows that more than 40% of the students dropped out before completing 9th or 10th class. Source: https://www.newslaundry.com/2018/06/09/delhi-government-schools-print-filtering-students-aam-aadmi-party

Table 2 Sector-wise public expenditure on education of the Education Department (Revenue Account) for the year 2012–13 (actual)

Different sectors of education	States & UTs (%)	Centre (%)
Elementary education	50.00	54.37
Secondary education	33.84	13.99
Adult education	0.21	0.71
University & higher education	11.25	17.32
Technical education	2.87	12.88
Others	1.83	0.77

Source Analysis of Budget Expenditure on Education 2012–13 to 2014–15 (MHRD)

schools, for both levels of secondary and higher secondary school completion. However, no significant statistical difference was found regarding completion of secondary education for females, whether they studied in private or government schools. Apart from this, we found that easing of financial constraints, by increasing private educational spending (for private school students or by the provision of scholarships to students in government schools), improves chances of completion of higher secondary school. Aid in the form of free books or uniforms does not have this effect. It suggests that the State should focus on monetary aid rather than aid in kind.

We also found that girls have higher chances of completing secondary education as compared to boys once both get enrolled/reach the secondary education. It suggests that government policies and programs should target girl children during the transition from middle to secondary school, specifically to reduce gender inequality in education.

Appendix

See Tables 2, 3, 4 and 5.

Table 3 Comparison of descriptive statistics for both the 'final study sample' and 'total enrolled children in secondary schools (9th and 10th class) in 2004–05'

Categorical variables	Description	Study sample (In %)	Total (In %)
Gender	Male	66.25	54.7
	Female	33.75	45.3
Location	Rural	60.41	61.65
	Urban	39.59	38.35
Social group	UC Hindus & OMR	29.89	30.48
	OBC	33.26	33.99
	SC	20.2	18.16
	ST	5.51	6.87
	Muslim	11.14	10.5
Type of school	Government	68.23	68.71
	Private	26.03	25.3
	Others (Convent etc.)	5.74	5.99
Highest adult (21+)	Illiterate or BP	18.85	18.42
Education	Primary or UP	33.66	34
	Secondary or HS	33.15	32.3
	Graduate	14.34	15.28
Total observations		3327	6276

Other variables	Description	Mean	Mean
Household assets index	Assets	14.15	14.16
Age of student	Age	15.18	15.24
Private tuition hours	PTHPW	2.95	2.89
Days absent in a month	DAPM	2.52	2.57
ln (PEE)	PEE	7.47	7.45

Table 4 Notation and definition of variables

Name of variables	Description	Definition of variables
Level of education	'SSC' or	1, if an Individual has completed Secondary (10th Class)
Completed	'HSSC'	or Higher Secondary (12th Class) level of Schooling
		0, otherwise
Gender	Male	0, if an individual is male
	Female	1, if an individual is female
Location	Urban	1, if an individual resides in an urban area

(continued)

Table 4 (continued)

Name of variables	Description	Definition of variables
	Rural	0, if an individual resides in a rural area
Social group	UC Hindus	1, if an Individual is upper caste Hindu or other minority
	& OMR	Religion such as Christian, Sikh, Jain, etc. except SC & ST
	OBCs	2, if an Individual is OBC Hindu
	SCs	3, if an Individual is SC
	STs	4, if an Individual is ST
	Muslims	5, if an Individual is Muslim
Type of School	Government or	1, if an individual has studied in government or
	Government-Aided	government-aided school
	Private	2, if an individual has studied in private school
	Others	3, if an individual has studied in another type of school
Highest Adult (21+)	Illiterate or BP	1, if the HH is illiterate or below the primary
Education (HH)	Primary or UP	2, if the HH has completed primary or upper primary
	Secondary or HS	3, if the HH has completed secondary or
		Higher secondary level of education
	Graduate	4, if the HH is graduate or above graduate
HH assets index	Assets	This index is made from 33 different household assets
Uses computer	Yes	1, if an individual hh member uses a computer
	No	0, otherwise
Ever repeated	Yes	1, if an individual has ever repeated a class
	No	0, otherwise
Age of student	Age	Age of the student
Private tuition	PTHPW	Time spending at private tuition (total hours/week)
Absenteeism	DAPM	No. of days absent in last month (Days/month)
Private educational	ln (PEE)	Household expenditure on the education of a child
Expenditure (PEE)	(In Rupees)	(School fee or private tuition fee or Books/Bus/Uniform)

Note SSC secondary school completion; *HSSC* higher secondary school completion; *UC* upper caste; *OBC* Other backward caste; *SC* schedule caste; *ST* schedule tribe; *PTHPW* private tuition hours per week (In last week); *DAPM* days absent per month (In last month); ln (PEE) is natural log of private educational expenditure on a child

Table 5 Logit Estimates (Average marginal effects) of SSC and HSSC by the government and private school samples

Variables (marginal effects)	SSC government	SSC private	HSSC government	HSSC private
Female (Ref.—male)	0.0762***	0.0390**	0.103***	0.0632**
	(0.0168)	(0.0193)	(0.0213)	(0.0260)
Age	−0.0110**	−0.00464	−0.0172**	−0.0305***
	(0.00544)	(0.00525)	(0.00701)	(0.00829)
Urban (Ref.—rural)	−0.0339	−0.0557**	0.0562**	−0.0219
	(0.0217)	(0.0238)	(0.0238)	(0.0289)
Household Assets index	0.00346	0.00243	0.00945***	0.000402
	(0.00214)	(0.00214)	(0.00249)	(0.00283)
OBC (UC Hindus & OMR)	−0.0424**	−0.0347	−0.00735	0.0582**
	(0.0205)	(0.0251)	(0.0253)	(0.0290)
SC	−0.0749***	0.0341	−0.0163	−0.0248
	(0.0242)	(0.0254)	(0.0296)	(0.0393)
ST	−0.0716**	0.0311	−0.0564	0.0567
	(0.0357)	(0.0355)	(0.0473)	(0.0500)
Muslims	−0.117***	0.0275	−0.00105	−0.0582
	(0.0309)	(0.0274)	(0.0383)	(0.0410)
Primary or UP (Ref.—illiterate)	0.00944	0.0272	0.0220	0.0659
	(0.0210)	(0.0306)	(0.0286)	(0.0498)
Secondary or HS	0.0407*	0.0679**	0.0116	0.117**
	(0.0226)	(0.0312)	(0.0306)	(0.0499)
Graduate	0.0919***	0.0653*	0.0899**	0.123**
	(0.0324)	(0.0371)	(0.0406)	(0.0561)
PTHPW	0.00457**	0.00288	0.00246	−0.000466
	(0.00181)	(0.00213)	(0.00207)	(0.00200)
DAPM	−0.00140	1.93e−05	0.00116	0.00118
	(0.00135)	(0.00137)	(0.00190)	(0.00284)
ln (PEE)	0.0210***	0.0125***	−0.00478	0.0212**
	(0.00736)	(0.00469)	(0.0105)	(0.00908)
Ever Repeat a Grade (Ref.—No)	−0.0417**	−0.0738**	−0.0246	−0.0358
	(0.0209)	(0.0306)	(0.0273)	(0.0392)
Use Computer (Ref.—No)	0.224***	0.141***	0.249***	0.173***
	(0.0142)	(0.0218)	(0.0206)	(0.0310)
Free Books or Uniform (Ref.—No)	0.0254	–	0.00570	–
	(0.0182)	–	(0.0233)	–

(continued)

Table 5 (continued)

Variables (marginal effects)	SSC government	SSC private	HSSC government	HSSC private
Scholarship (Ref.—No)	−0.0239	–	0.0577**	–
	(0.0229)	–	(0.0284)	–
Log pseudo-likelihood	−816.84	−166.41	−826.51	−264.66
Pseudo-R^2	0.19	0.29	0.16	0.19
Observations	2078	820	1688	752

Standard errors in parentheses; ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

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Socio-Economic Determinants of Secondary Education in India

Susmita Mitra

1 Introduction

Secondary education is a decisive stage in the educational pyramid and an effective link between elementary and higher education. Secondary education consolidates the gains received from elementary education and provides relevant skills for the labour market, in order to lift people from below poverty line in a sustainable manner. It has the potential to be a major instrument of social change—in raising economic growth, improving income distribution, reducing poverty and improving human development. Realising the importance of secondary education, the Sustainable Development Goal (SDG) 4 included universalisation of secondary education by 2030, as a logical extension to the Millennium Development Goal (MDG) of achieving universalisation of primary education.

Unfortunately, even after various international initiatives and national planning of individual countries, there are millions of children who are out of school. Youths have higher probability to be out of school compared to children of primary school age due to poverty and a variety of other reasons (UIS Fact Sheet No. 48, 2018). South Asia, alone, has half of the out-of-school youths (15–17 years) of the world. More than one-fourth of South Asia's out-of-school youths live in India. The number of out-of-school youths in India alone is higher than that of entire East and Southeast Asia (Table 1).

Out-of-school youth is an unfortunate current phenomenon for India, because if we look back to the history of Indian education system, then 12 years of education was considered as basic education (from age 6 to 18 years). Throughout those 12 years, students had to stay at the residence of the parent-like teacher called *Guru.* With such a strong foundation of basic education, India's higher education was renowned

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Table 1 Out-of-school youth (15–17 years) in India and different parts of the World

Region	Out of school number (millions)		
	Total	Boys	Girls
Europe and Northern America	2.8	1.5	1.3
Latin America and the Caribbean	6.9	3.6	3.3
Central Asia	0.5	0.3	0.3
Southern Asia	67.3	34.4	32.9
Eastern and Southeastern Asia	15.8	9.9	5.9
Northern Africa and Western Asia	8.8	4.2	4.6
Sub-Saharan Africa	35.8	17	18.9
Oceania	0.5	0.3	0.2
World	138.5	71.1	67.4
India	17.8	9.3	8.4

Source UIS Fact Sheet No. 48, (2018) and NSSO (2014) for India

worldwide, and several foreign students used to come to India to acquire higher education (Singh 2017). Unfortunately, the glorious higher education system was completely dismantled by the time the British came to India. However, the primary level indigenous education was well spread in the entire country (Dharampal 1983). British rulers adopted the downward filtration theory of education, citing the logic of availability of limited resources for this purpose. They found it convenient to educate the upper classes in order to fulfil the requirement of English-knowing employees to run the commerce and administration and leave it to them to spread elementary education among the masses. Although some universities were established (e.g. Calcutta, Madras and Bombay), no such attention was attached to intermediate secondary education.

In post-Independence India, the Constitution promised universal education up to the age of 14 years within a period of 10 years of its commencement. Meanwhile, there were commissions on higher and secondary education, perhaps presuming that the Constitution had taken ample care of elementary education. However, over the period, this simple target was prioritised, re-prioritised but never achieved. In 2010, the Right to Education (RTE) Act came into effect mandating that all children, within the age groups 6–14 years, would receive free and compulsory education. This development resulted in rapid progress in universal elementary education. *Sarva Shiksha Abhiyan* (SSA) has been the main vehicle to achieve the target. On the lines of SSA, the Government of India has also launched *Rashtriya Madhyamik Shiksha Abhiyan* (RMSA), with the objective of universalising secondary education. Recognising the linkages between elementary and secondary education, the Central Advisory Board of Education has also recommended integration of SSA and RMSA, with the government launching the *Samagra Shiksha Abhiyan* recently.

In this background and context, the present paper explores the socio-economic determinants of secondary school attainment (15–18 years) in India on the basis of

data from 71st round survey (2014–15) of the National Sample Survey Organisation (NSSO).

Theoretically, children between the age group of 15 to 18 years are supposed to be in secondary and senior secondary school education, covering, classes IX, X, XI and XII. If children of this age group are out of school, then it acts as a deterrent to universalisation of secondary (including senior secondary) education. Out-of-secondary-school children are an under-researched phenomenon although the problem is prevalent. Earlier, Chakrabarti (2009) undertook a similar work using NSSO 52nd round data (1995–96), though it was for the entire higher education (age group 15–24 years). She found that students from SC and ST backgrounds had lower probability of attending higher education compared to upper castes. Similarly, chances of girls having higher education were lower than that of boys. Rising cost of higher education was found to have a significant detrimental impact on the likelihood of participation in higher education. Based on 68th round of NSSO data (2011–12), Pramanik (2015) studied the socio-economic determinants of higher education (age group 18–29 years). She found that parental education and family income have a direct effect on an individual's propensity to participate in higher education. In terms of social group and gender, her findings were in line with that of Chakrabarti (2009).

This paper departs from these earlier studies in many aspects. It considers secondary school education (15–18 years) in the background of universalisation of secondary education, whereas earlier studies focussed on higher education. These earlier studies delved into family characteristics only, while this paper goes beyond and builds a holistic conceptual framework, and include distance to nearest school, thanks to NSS recent version data set of 71st round (2014). This paper adds value to the existing literature by analysing both demand and supply-side determinants.

2 Theoretical and Conceptual Framework Based on the Existing Literature

Human capital approach, based on instrumental value of education, (Schultz 1960, 1961; Becker 1964) is the theoretical foundation for demand-side analysis, i.e. economic logic behind household's preference for schooling of the child in order to maximise the lifetime wealth. People invest, and if they are poor, they take loans to invest in education. It is just seen as an individual gain from individual investment. However, if we consider endogenous growth theory, based on this human capital approach (Romer 1990; Lucas 1988) and diverse empirical evidence of significant returns to education on economic development (Gounden 1965; Psacharopoulos 1994; Barro and Lee 2013), then the question that arises is that if a country is growing due to investment in education, should poor people take loan for this investment or is it the duty of the nation?

Theories based on intrinsic value of education like capability theory, social positive externality on education and the recent right-based approach provide strong theoretical foundation for the role of government in supplying/providing free universal education (Sen 1988; Dreze and Sen 1996; Tilak 2004; Singh 2014). The supply-side theoretical foundation is closely interlinked with demand-side factors as well, particularly in poor developing countries, due to information asymmetries. Parents, with little or no education, often do not realise the benefits of investing in education of their children, even when the private rate of return is high (Boissiere 2004). For example, even after numerous studies have established the benefits of education, particularly for girls (surveyed in Sperling and Winthrop 2015), there is still gender discrimination in education in many developing countries.

On the basis of survey of the existing literature, conceptually, the following can be noted as the socio-economic determinants of school enrolment, retention or drop-out in education:

2.1 Individual Factors

(a) **Age** (Colclough et al. 2000; Cardoso and Verner 2006; Rumberger and Lim 2008; Manandhar and Sthapit 2012). Older teenagers are more likely to give up school, mainly because their opportunity costs increase with age.

(b) **Gender** (Al-Samarrai and Peasgood 1998; Kingdon 2002; Tansel 2002; Khan and Ali 2005; Lloyd et al. 2005; Rammohan and Dancer 2008; Rumberger and Lim 2008; Chakrabarti 2009; Mucee et al. 2014). Education of boys is often given priority over girls. Moreover, the gendered division of labour within households often sees girls taking on household duties and care of younger siblings, which often keep them out of school.

(c) **Non-interest in education/indifferent attitude towards education** (Rumberger and Lim 2008; Chugh 2011). However, according to (Chugh 2011), disinterest in studies is closely related to school and educational quality in terms of infrastructural facilities, teachers' preparedness and curriculum relevance.

(d) **Work involvement/child labour with or without payment** (Khanam 2008; Cardoso and Verner 2006; Hunt 2008; Rumberger and Lim 2008; Mucee et al. 2014; Nekongo-Nielsen et al. 2015). The most prevalent types of child labour appear to be domestic and household-related duties (girls) and agricultural labour (boys), which are, for the most part, unpaid, under-recognised and take up substantial amounts of time.

(e) **Poor academic achievements** (Rumberger and Lim 2008; Hanushek et al. 2008; Chugh 2011). However, although it is an individual factor, it is closely related to classroom teaching, parent's education and poverty. If students are not able to comprehend classroom teaching, are unable to get parental support in doing homework and also not able to afford private tuitions due to financial

constraints, then lack of interest in education and poor academic achievements are the obvious consequences.

(f) **Disability** (Thurlow et al. 2002). Lack of proper infrastructure in schools and considering disability a social taboo, often keep children out of school.

2.2 Household-level factors

(a) **Education of parents, particularly mothers** (Al-Samarrai and Peasgood 1998; Jayachandran 2002; Tansel 2002; Khanam 2008; Okumu et al. 2016; Rumberger and Lim 2008; Zhao and Glewwe 2010; Mueni 2015; Mike et al. 2008; Iddrisu et al. 2017; Dostie and Jayaraman 2006; Khan and Ali 2005; Hati and Majumdar 2012; Nekongo-Nielsen et al. 2015; Pramanik 2015; Damas 2016). Educated parents understand the importance of achieving education and, thus, would be more willing to send their children to schools compared to parents with little or no education. Educated parents are also more equipped to evaluate the investment in human capital that would increase the wage expectations for their children.

(b) **Financial or capacity/household income/wealth of family** (Tilak 2002a; Jayachandran 2002; Ranasinghe and Hartog 2002; Tansel 2002; Khan and Ali 2005; Dostie and Jayaraman 2006; Rumberger and Lim 2008; Chakrabarti 2009; Zhao and Glewwe 2010; Chugh 2011; Hati and Majumdar 2012; Mueni 2015; Nekongo-Nielsen et al. 2015; Pramanik 2015; Kainuwa et al. 2017; Iddrisu et al. 2017). Education entails a range of costs like school fees, uniforms, travel and also the opportunity costs of sending a child to school (Tilak 2002b ; Mike et al. 2008; Hunt 2008; Guntur and Lobo 2017).

(c) **Female work participation** (Jayachandran 2002). If mothers are going to work, very often the elder children look after younger siblings and domestic chores.

(d) **Orphanhood** (Bicego et al. 2003; Hunter and May 2003; Hunt 2008). Death of parents has direct adverse effect on schooling, particularly for poor children. Death of mother increases the domestic workload, whereas death of single-earning father is often linked to an increased likelihood of poverty and child labour.

(e) **Household's perceived benefits of schooling** (Al Samarrai and Peasgood 1998; Hunt 2008). Perceived benefits to the household from education depend on a variety of factors, including prospective remittances, likelihood of obtaining paid work in the present as well in the future. Therefore, it can have either positive or negative effect on children's schooling.

(f) **Reluctance and lack of support towards a child's education by parents** (Juneja 2001). This lack of interest in the child's schooling is cited as an important factor in dropping out or infrequent attendance.

2.3 *Community/social infrastructure/social context-level factors*

(a) **Public expenditure on education, particularly on development of schools** (Glewwe and Ilias 1996; Duflo 2001; Handa 2002; Handa and Simler 2006; Bhakta 2015). Building new schools with public expenditure has significant positive impacts on schooling, especially for countries where level of school and other public infrastructure is deficient.

(b) **Common economic factors like gross state domestic product (GSDP) for macro-level studies/village development variables for micro-level studies** (Dostie and Jayaraman 2006; Bhakta 2015). It is generally expected that more income or more funds for development will be reflected in more schools or other educational infrastructure.

(c) **Caste and other form of social discrimination** (Dostie and Jayaraman 2006; Chakrabarti 2009; Govinda and Bandopadhyaya 2010; Mananadhar and Sthapit 2012; Pramanik 2015). Sedwal and Kamat (2008) indicate a number of reasons for children from Scheduled Caste or Tribe groups being more likely to drop out from school in India. These include: economic disadvantage, poor quality of available schooling (many study in badly equipped schools with poor infrastructure and under-trained teachers) and forms of social expectation. Discrimination against under-privileged social groups results in push-out rather than drop-out of children (Balagopalan and Subrahmanian 2003).

(d) **Rural–urban differences** (Mike et al. 2008; Mike et al. 2016). The probability of a child being out of school is generally less in urban areas. This could, perhaps, be attributed to the fact that it is easier to access schools in urban areas as compared to rural areas.

(e) **Work-related migration** (Tansel 2002; Damas 2016). Seasonal migration of parents along with their children obviously has an adverse effect on these children's education, because of the breaks or gaps in the study. However, parents permanently migrating to areas with better schooling facilities might increase the possibility of schooling for their children. Opportunity to migrate and get decent jobs also increases the incentive of education.

(f) **Role models in the community** (Damas 2016). Children coming particularly from families of poor and illiterate parents lack the incentives for attending schools. In these situations, motivated teachers or successful youngsters in the community play the part of role models and increase the likelihood of children attending school.

(g) **Early marriage** (Brock and Cammish 1997; Colclough et al. 2000; Chugh 2011; Mucee et al. 2014; Nekongo-Nielsen et al. 2015 Fentiman et al. 1999; Rose and Al Samarrai 2001; Hunt 2008). The early marriage of girls is linked to drop-outs in certain socio-cultural contexts. However, early marriage can also be the consequence of lack of secondary schools.

(h) **Socio-political conflict and emergency situations** (Sinclair 2001; Sommers 2005; Karam and Somokanta 2016; Pankaj et al. 2018). Children caught up in

conflict, or politically fragile and emergency situations often find difficulties remaining in school and many drop out. Many children are forced to migrate also, thereby disrupting the schooling they had begun.

2.4 School-related factors

(a) **Availability of school/distance to nearest school** (Colclough et al. 2000; Jayachandran 2002; Tansel 2002; Mike et al. 2008; Rumberger and Lim 2008; Chugh 2011; Siddhu 2011; Hati and Majumdar 2012; Nekongo-Nielsen et al. 2015; Damas 2016). Access to school is the pre-condition for school-related factors. Distance to school is also an important determinant for girls and poor children.

(b) **Teachers' quality and pedagogy** (Chugh 2011; Nekongo-Nielsen et al. 2015). Teachers, being the backbone of the school, the quality of teachers act both as pull or push factor to school.

(c) **Availability of female teacher** (Colclough et al. 2000; Sperling and Winthrop 2015). This is, particularly, important for universalisation of girls' secondary education.

(d) **Size of the class or pupil–teacher ratio** (Woessmann and West 2006). Lower class size is expected to have a positive effect on education, particularly for children of lower grades, in view of the logic of special attention per child.

(e) **School infrastructure and facilities** (Glewwe and Ilias 1996; Hunt 2008; Rumberger and Lim 2008; Damas 2016; Pankaj et al. 2018). The existence of proper school infrastructure and facilities has a positive impact on school enrolment and retention of children. The presence of girls' toilets in working condition has a major role in increasing the likelihood of secondary education of girls.

(f) **Monitoring** (Banerjee and Duflo 2006). Monitoring of various forms, both on teachers and students, has a positive impact on regular attendance.

(g) **Mid-day meal** (Tilak 2002; Dreze and Goyal 2003; Singh et al. 2013; Nekongo-Nielsen et al. 2015). Mid-day meal has immense role in bringing young children to schools, particularly in poverty-affected regions.

(h) **Language of instruction** (Gautam 2003; Hunt 2008; Pankaj et al. 2018). When students are taught in a language that is not their native tongue (especially in the earlier years), the same can be particularly exclusionary.

(i) **Corporal punishment** (Hunt 2008; Pankaj et al. 2018). Different relationships have been suggested in the literature on how beatings and intimidation 'affect children's motivation to attend school'.

(j) **Schools' non-response to special educational needs of the teenagers** (Balagopalan 2003; Chugh 2011). This reason is a significant push-out factor, particularly when the opportunity cost of the teenager is high.

From the survey of the literature, the conceptual framework of socio-economic determinants of education has been developed. Socio-economic determinants can be

clubbed under various headings; some depend on the student/child herself/himself, some on the household characteristics, some on the community the child belongs and some on the availability and quality of schools. These factors do not stand alone. They are often influenced and affected by income and expenditure (whether household, village, State or national level), and discrimination and exclusion (whether gender, caste or regional). The conceptual framework is illustrated in the following Fig. 1.

3 Methodology and Hypotheses

The population/universe, i.e. the children in the age bracket of 15–18 years, can broadly be segregated into three groups—(a) never attended, (b) ever attended but dropped out, (c) continuing formal or informal education. The consolidation of the first two categories can be defined as out-of-school children. The sign and statistical significance of the socio-economic determinants of secondary education has been tested through the following multivariate logistic regression:

$$\ln\left(\frac{P_{\text{oos}}}{1-P_{\text{oos}}}\right) = \beta_0 + \beta_1^i \text{AGE}^i + \beta_2^j \text{SEX}^j + \beta_3^k \text{HHEDU}^k + \beta_4^l \text{EXPQNTL}^l + \beta_5^m \text{SCTR}^m + \beta_6^n \text{RELGN}^n + \beta_7^o \text{SCGP}^o + \beta_8^p \text{DIST}^p$$

where P_{oos} is the probability of being out of school. The dependent variable is binary, which takes only two values, 1 = out of school and 0 = in school. Age and gender have been considered as individual factors. Age dummy AGE^i, $i = 1, 2, 3, 4$, takes four values for the years 15, 16, 17 and 18, respectively, and gender dummy SEX^j, $j = 1, 2$, takes two values for boys (1) and girls (2), respectively. Education level of household head (as a proxy of parents education level), and expenditure quintile, as a proxy of household income, have been considered as family-related determinants. Education dummy HHEDU^k, $k = 1, 2, 3$, takes three values, illiterate or below primary educated household head (1), school educated household head (2) and household head with secondary and above (3). Expenditure[1] quintile dummy EXPQNTL^l, $l = 1, 2, 3, 4, 5$, take five values poorest (1), poorer (2), middle (3), richer (4), richest (5). Social infrastructure-related determinants have been considered as: rural–urban, religion and caste dummy. Rural–urban dummy SCTR^m, $m = 1, 2$, takes two values for rural (1) and urban (2). Religion[2] dummy RELGN^n,$n = 1, 2, 3$, takes three values for Hindu (1), Muslim (2) and Christian (3). Caste or social group dummy SCGP^o,$o = 1, 2, 3, 4$, takes four values—Scheduled Tribes (1), Scheduled Caste (2), Other Backward Class (OBC) (3) and General/Others (4). The only school-related

[1] Since NSSO data do not provide data on income, we have considered annual consumer expenditure as a proxy of economic class.

[2] We have considered only three major religions, Hindu, Muslim and Christian, since the populations of other religions were negligible.

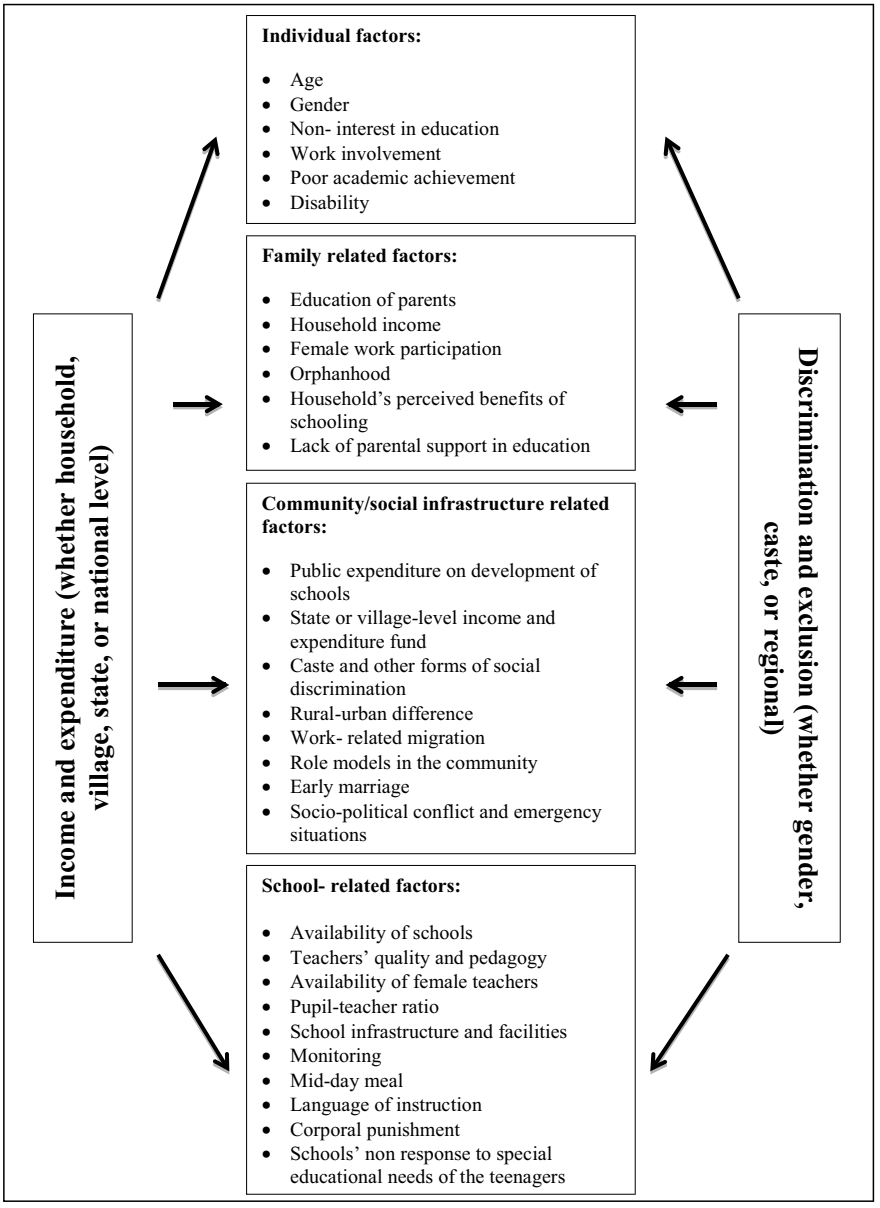

Fig. 1 Conceptual framework of socio-economic determinants of education. *Source* Prepared by author

factor that we have been able to include is distance to nearest secondary school dummy, $\text{DIST}^p, p = 1, 2, 3, 4, 5$ which takes five values less than one kilometre (km) (1), more than one km but less than two kms (2), more than two kms but less than three kms (3), more than three kms but less than five kms (4), more than five kms (5).

Hypotheses

Age: Since opportunity cost increases with age, the probability of being out of school is expected to increase with age.

Gender: Due to prevalence of patriarchal mentality of a large section of Indian population, the likelihood of being out of school is anticipated to be higher for a girl child.

Parents' Education: Since educated parents generally have enlightened attitude about education and often provide a more conducive environment for children's education as compared to uneducated parents, one may expect the probability of being out of school to decline with education level of the household.

Household income: Poverty is seen as the most crucial barrier to education in India. Thus, the likelihood of being out of school is assumed to decrease with household income.

Sector (rural–urban): One might expect that urbanisation would exercise a positive influence on education due to better infrastructure and developed educational facilities. Further positive peer pressure or bandwagon effect might also work in urban areas. Thus, the probability of being out of school is expected to be lower in urban areas.

Religion: Compared to dominant religion, i.e. Hindu, likelihood of being out of school is presumed to be higher in case of the minority religion, Muslim, for historical reasons.

Social group: Historically, lack of access and exposure to education could lead to low level of education among persons belonging to Scheduled Castes and Scheduled Tribes. Moreover, discriminatory practices could also exist within the classroom towards children belonging to disadvantaged communities. Therefore, one might expect the likelihood of being out of school to be lower in the case of those from general caste compared to other disadvantaged social groups.

Distance to school: *Ceteris paribus*, school attendance is reasonably expected to be higher with lesser distance to school, particularly for girl children, due to safety, and poor children, due to transportation cost.

4 Findings

As per NSSO 71st round data (2014–15), 31.3 million children of the age group 15 to 18 years are out of school. This is 25 percent of the total children in the age group. The percentage is quite disturbing as one of every four youth is out of the realm of secondary education (Fig. 2).

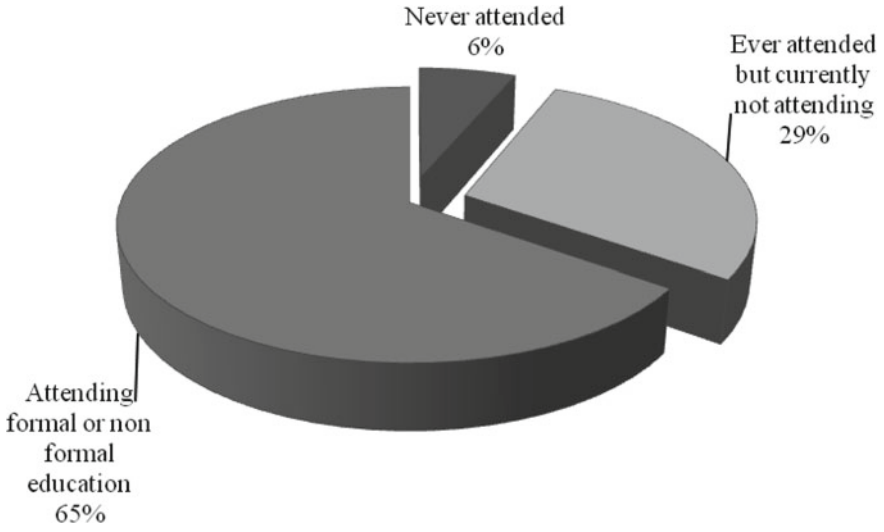

Fig. 2 Status of current educational attendance of youths (15–18 years). *Source* 71st round survey (2014–15) of National Sample Survey Organisation (NSSO)

The econometric estimation of the socio-economic determinants of secondary school education goes along the expected hypotheses, which is presented in Table 2.

The likelihood of being out of school increases with age. This establishes our hypothesis of increasing opportunity cost of youth, leading to increased drop-out from secondary schools. This implies that only bringing children to the secondary education is not enough, but their retention is a bigger challenge. Inclusion of vocational training, along with secondary education, could be helpful in attracting and retaining secondary students. It will also increase the opportunity cost of dropping out of school before completing secondary/higher secondary education.

Compared to boys, the probability of being out of school is significantly higher for girls. Apart from preference for boys' education, and involvement of daughters in domestic works, a major problem particular to India is lack of government-funded secondary schools. After Class VIII, girl children from economically weak backgrounds either have to join high fee-charging private schools in the vicinity or travel a long distance for attending the nearest government secondary schools. The sharp increase in fees or expenditure on transportation, along with the safety and security concern to travel such a long distance, often acts as a barrier for their secondary education.This phenomenon is closely linked with early marriage of girls. If early marriage is a community practice, then it can be removed or reduced through awareness and education. However, if girls are sitting idle at home either due to lack of government secondary school in the vicinity or they are not adequately skilled for the labour market, then early marriage is a simple consequence. Parents neither feel safe to keep their teenage daughters alone at home (if both of them are out for work),

Table 2 Result of logistic regression

Probability of being out of school (dependent variable: out of school = 1, in school = 0)								
	1	2	3	4	5	6	7	8
Constant	−1.29***	−1.36***	−0.81***	−0.41***	−0.41***	−0.50***	−0.21***	−0.46***
Age dummy (reference category = 15 years)								
16 years	0.41***	0.41***	0.46***	0.50***	0.50***	0.50***	0.52***	0.53***
17 years	0.65***	0.66***	0.76***	0.80***	0.80***	0.83***	0.84***	0.85***
18 years	1.34***	1.34***	1.47***	1.54***	1.53***	1.56***	1.58***	1.58***
Gender dummy (reference category = boys)								
Girls		0.08***	0.12***	0.15***	0.15***	0.15***	0.15***	0.15***
Education of head of household dummy (reference = below primary)								
School-educated			−1.07***	−0.95***	−0.96***	−0.92***	−0.86***	−0.86***
Higher secondary onwards			−2.36***	−1.98***	−1.98***	−1.90***	−1.80***	−1.78***
Economic class dummies (reference category = poorest)								
Poorer				−0.43***	−0.44***	−0.50***	−0.47***	−0.46***
Middle				−0.55***	−0.56***	−0.62***	−0.59***	−0.58***
Richer				−0.90***	−0.91***	−0.99***	−0.94***	−0.93***
Richest				−1.45***	−1.46***	−1.50***	−1.41***	−1.38***
Sector dummy (reference category = rural)								
Urban					0.04***	−0.03***	0.00***	0.11***
Religion dummy (reference category = Hindu)								
Muslim						0.73***	0.91***	0.92***

(continued)

Table 2 (continued)

Probability of being out of school (dependent variable: out of school = 1, in school = 0)								
	1	2	3	4	5	6	7	8
Christian						−0.44***	−0.61***	−0.64***
Caste dummy (reference category = ST)								
SC							−0.19***	−0.14***
OBC							−0.43***	−0.39***
Others							−0.71***	−0.66***
Sec-school distance dummy (ref category = less than 1 km)								
1–2 kms								0.22***
2–3 kms								0.22***
3–5 kms								0.37***
More than 5 kms								0.47***
Number of observation	89,940,740	89,940,740	89,940,740	89,924,726	89,924,726	89,902,146	89,894,220	89,893,815
LR chi2	5,138,161.30	5,166,933.74	1.48e + 07	1.77e + 07	1.77e + 07	1.91e + 07	1.98e + 07	2.02e + 07
Prob > chi2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pseudo R2	0.04	0.04	0.13	0.15	0.15	0.16	0.17	0.17

Source Author's calculations
Note ***implies statistical significance at 1%, **implies statistical significance at 5%, *implies statistical significance at 10%

nor do they feel comfortable to send them to secondary schools 10–15 km away. They feel most comfortable to get them married off. This trend is prevalent in rural India.

Compared to children coming from household, whose head is either illiterate or educated up to below primary level, the probability of being out of school is significantly lower for children coming from school educated and, more importantly, higher educated headed households. It implies that if one generation gets education with government support, those people will be able to take care of education of the future generations.

The hypothesis about poverty to be the most crucial barrier to education in India has been well established by the econometric estimation. The likelihood of children being out of school declines at every stage as we move from poorest to the richest quintiles.

Rural–urban differentiation of secondary education does not come out very clearly in our empirical estimation. In one case, probability of being out of school is higher in rural areas compared to urban areas; however, in rest of the equations, it is the other way round. This is an interesting finding. It implies that compared to general arguments of better exposure and positive peer pressure, it is the availability of schools in the vicinity that increases the possibility of schooling, irrespective of the rural–urban differentiation. This is further accentuated by the fact that the chances of being out of school increase quite consistently with increase in distance to the nearby school having secondary classes,

Compared to Hindu, the probability of being out of school is lower for Muslims, but higher for Christians. Compared to STs, the likelihood of being out of school is lower in SCs, OBCs and upper castes particularly.

5 Conclusion and Recommendations

Secondary education is a crucial stage in the educational hierarchy that consolidates the gains received from elementary education and provides relevant skills that might be useful in the labour market (Tilak 2007). Unfortunately, youths of secondary school age group have a higher probability to be out of school due to poverty and various other reasons. The share of out-of-school youths in India is one of the highest in the world. Presently, the Indian government is attempting to universalise the secondary education system. In this background, this paper explores the socio-economic determinants of secondary education in India, using unit-level NSSO data. This paper adds value to the related existing literature by developing a holistic conceptual framework and analysing both demand and supply-side determinants of secondary education in India.

The results of our estimated multivariate logistic regression indicate that the likelihood of being out of school increases with age. This calls for tailoring secondary education according to the needs of teenagers. Inclusion of vocational training, along

with secondary education, could be helpful in attracting and retaining secondary students. It will also increase the opportunity cost of dropping out of school before completing secondary/higher secondary education. Parents' education is revealed to have significant positive influence on children's education. The hypothesis about poverty to be the most crucial barrier to education in India has been well established by the econometric estimation.

Compared to Hindus, probability of being out of school is higher among Muslims and lower among Christians. Compared to STs, the likelihood of being out of school is lower in SCs, OBCs and upper castes particularly. Compared to boys, the probability of being out of school is significantly higher for girls. Apart from preference for boys' education, and involvement of daughters in domestic works, a major problem, particular to India, is lack of government-funded secondary schools. After Class VIII, girl children from economically weak background either have to join private schools in the vicinity or travel a long distance for attending the nearest government secondary schools. The sharp increase in fees or expenditure on transportation, along with the safety and security concern to travel such a long distance, often acts as a barrier for their secondary education. Interestingly, we found that compared to general arguments of better exposure and positive peer pressure, it is the availability of schools in the vicinity that increases possibility of schooling, irrespective of the rural–urban differentiation.

In fact, an important feature of the present secondary education in India is a high proportion of private schools—government-supported private institutions, and, more importantly, private-unaided institutions, depending exclusively on student fees. The expenditure on education increases drastically, if one were to go a private school and this is one of the major reasons behind drop-out rate to peak after Grade/Class VIII, as per NSSO data.

In the background of small number of government-funded secondary schools, child labour and early marriage might be the consequence rather than the reasons for out-of-school children. Lack of access to government schools being a prominent reason for drop-out, universalisation of secondary education has strong potential, provided it is supported by extension of the existing government schools to higher secondary level, wherever possible, or otherwise constructing new schools. This might help in reduction of child labour, early marriage and income inequality, some of the major concerns of our country at present.

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Who Completes Secondary Education in India? Examining Role of Individual and Household Characteristics

Nivedita Sarkar

1 Background

Education, one of the most potent instruments for social inclusion and socio-economic upward mobility, holds the key to sustainable development. Therefore, promoting an equitable, inclusive and well-structured educational system should occupy the centre stage of the development agenda in each society. While India has made considerable improvement at all levels of education, it is yet to achieve the desired outcome at both the secondary and higher education level.

As universal elementary education comes close to realisation, there are concerns about whether secondary education will withstand the pressure of increasing numbers of children moving up to that level. In the past couple of decades, it is further argued in the literature that secondary education needs to be expanded, both as a response to increased social demand and as a feeder cadre for higher education. It is often termed as the key link between education and economic development, preparing young adolescents to learn life skills and participate in the growth process (Biswal 2011; Singh 2015). The CABE committee report (2005) further notes that 'universal secondary education is a pre-condition for equitable social development, widening participation in India's democratic functioning, building up of an enlightened secular republic, and becoming globally competitive' (p. 14). Thus, to achieve universal access to secondary education, Rashtriya Madhyamik Shiksha Abhiyan (RMSA) was launched in March 2009 with the goal of universal access to secondary education by 2017 and universal retention by 2020. The scheme not only seeks to escalate the gross enrolment in Grades IX and X by improving access, but also to improve the quality of education imparted. In 2009, when the RMSA was initiated, India's GER at the secondary education level was only 63%. This figure was not only way

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below that of Latin American countries (82%), but also lower than other Asian peers (70%) (Siddhu 2010). After that, the GER improved substantially, and in 2014–15, the GER at the secondary level reached 78.5% (MHRD 2016), albeit with huge variation across regions and income groups. A World Bank report (2009) states that access to secondary education in India is highly unequal, with a 40% point gap in secondary enrolment rates between students from the highest and lowest expenditure quintile groups (70% versus 30% enrolment, respectively). A further worrisome aspect is the high drop-out rate at this level due to various reasons. Around 35% of the students, enrolled in Grade IX, drop out before completing Grade X and 38% before completing Grade XII (CSD, 2018). National Sample Surve (NSS) data for the year 2014 highlights that across all educational levels, 'lack of interest in education' is one the most significant factors; at the secondary level, where costs rise substantially, financial constraints (20.4%) becomes a more pressing reason for dropping out, pushing out adolescents to engage in economic (18.6%) and other domestic activities (15.6%). Further, the children, who are getting enrolled to Grade IX but are unable to complete secondary stage, are in effect left with no choice but to take up unskilled and low paid jobs, since elementary education does not allow them to even undertake vocational courses.

An ample body of the literature in this area underlines that there are a number of 'push' and 'pull' factors which critically impact the decision of students to drop-out. While push factors are mainly related to schools, namely availability of the school in the vicinity, school size, teacher quality, cost of schooling etc., the pull factors include individual and family characteristics (Tilak 2002; Rumberger and Lim 2008; Singh and Mukherjee 2015). Studies have found that gender, ethnicity, father's education and economic condition of the households play crucial roles in determining the survival through and completion of the level, apart from child's ability and quality of schooling (Suryadarma et al. 2006; Stearns and Glennie 2006; World Bank 2009; Biswal 2011; Singh and Mukherjee 2015; Härmä et al. 2016). In the case of rural Uttar Pradesh, it was found by Siddhu (2011) that individual and household characteristics such as gender, socio-economic status, educational attainment of parents and number of children in the family significantly affect decisions about schooling. Analysing the all-India level data of 2009–10, Basumatry (2012) notes that poverty level of a particular State has a statistically significant impact on drop-out rates, particularly in the rural areas. NSS data further suggests, in the Indian context, that age-specific enrolment rates are much lower than gross enrolment rates. This implies, many who reach secondary level of education are overage for their grades. This is even more prevalent among Scheduled Castes (SCs), Scheduled Tribes (STs) and Other Backward Castes (OBCs), for whom enrolment rates may have to double to reach universal levels (Härmä et al. 2016). Based on Young Lives longitudinal data from Andhra Pradesh for the years 2007, 2008, 2010 and

2014, Singh and Mukherjee (2015) find that pre-school attendance is a significant predictor of secondary education completion. The study further shows that children, who attended private pre-schools are 2.2 times more likely to succeed in completing secondary schooling than those children who did not attend any pre-school. Interestingly, no significant association was found between attendance of public pre-schools and secondary education completion. Thus, based on the survey of the literature, one could posit that there are several intertwined factors that act simultaneously to determine the access, survival, transition and completion of secondary level of education.

With this backdrop, the present paper attempts to examine the determinants of completion of secondary education considering socio-demographic, household and individual factors.

Rest of the paper is organised as follows: Section 2 presents the data. Section 3 describes the estimation strategy, Sect. 4 provides the empirical results and in Sect. 5 a few concluding observations are made.

2 Data

The paper draws on the unit-level data of National Sample Survey (NSS) 71st round on 'Social Consumption: Education', conducted in 2014. This specific round is chosen as it is the most recent nationally representative survey conducted specifically focussing on education. Like all other rounds of NSS, 71st round survey had also adopted a stratified multi-stage sampling design. A sample of 65,926 household*s*, 36,479 from rural areas and 29,447 from urban areas, spread across the country, was surveyed in this round. It provided exhaustive information on educational participation of the individuals, belonging to the age group 5–29 years, and the private expenditure incurred by them at different levels of education, along with other variables like educational wastage in terms of drop-out and its causes, the extent of use of educational infrastructure, or facilities and incentives provided by the government, etc.

However, the present study considers only those who have at least completed elementary education, which is a prerequisite for enrolling at the secondary level. The study further considers the age cohort 15–20 years, as the literature already indicates that considerable number of students in India are over-aged (at least by 2 years) for the secondary grade, due to late entry in school (Härmä et al. 2016). Thus, their completion also gets delayed along with the fact, that being over-age reduces the likelihood of completion of schooling (Lewin 2011). Ersado (2005) and Siddhu (2010) endorse the previous result; in addition, they also find a relationship between, over-age and drop-out. The present study, thus, in order to capture over-aged students, has chosen the age band of 15–20 years.

3 Method of Estimation

The principal objective of the paper is to find out the probability of an individual completing secondary education, i.e. Grade X, controlling for their individual and household characteristics. Since our dependent variable is the completion of secondary education, i.e. Grade X, the sampled students could fall into either of two groups viz. (i) those who have completed secondary education or (ii) those who could not. Since the dependent variable is categorical and dichotomous in nature, linear regression model could not be used. Therefore, a binary probit regression model has been employed in the present case.

Probit model follows a normal cumulative distribution function, and the dependent variable is normal real-valued indexed variable for observations (and is unobservable or latent). Thus, it could be argued that underlying propensity/willingness to complete secondary education for an individual is a latent variable (say, e*), which is determined by a set of socio-economic factors (say, x_j).

Hence, the latent equation is:

$$e^* = x_j \beta_j + u_j$$

However, if the propensity crosses a certain threshold level (assumed zero for simplicity), it manifests itself, and thus, the individual completes secondary level. This is observable and can be represented by a dummy variable, say s, taking value 1 if the individual has completed secondary level of education and 0 otherwise.

$$s = 1 \text{ if } e^* > 0 \text{ and}$$
$$s = 0 \text{ if } e^* \leq 0$$

Since probit model assumes that the error term (u_j) is independently and normally distributed, therefore, it allows estimation of the likelihood of completion (of secondary grade) conditional on a set of exogenous independent variables (x_j). As a result, the determinants of the probability of completion of secondary level of education are assessed using the following:

$$\Pr(s = 1) = x_j \beta_j$$

The maximum likelihood estimates (of β_j) yield the desired response probability, i.e. the probability that the individual would complete Grade X and, at the same time, enable us to capture the direction and magnitude of impact of the set of explanatory variables on the response probability.

Table 1 Particulars of the variables used in the model

Variables	Definition
Sex_female	Dummy variable which takes value 1 if the individual is a female and 0 otherwise
Location	Dummy variable takes the value 1 if individual is from rural area and 0 otherwise
ST	Dummy variable which takes value 1 if an individual belongs to schedule tribe group and 0 otherwise
SC	Dummy variable which takes value 1 if an individual belongs to schedule caste group and 0 otherwise
OBC	Dummy variable which takes value 1 if an individual belongs to other backward caste group and 0 otherwise
Others	Dummy variable which takes value 1 if an individual belongs to non-SC/ST caste group (others, here) and 0 otherwise
Head_illiterate/no formal education	Dummy variable which takes value 1 if an individual's parent is illiterate and 0 otherwise
Head_literate/with formal education	Dummy variable which takes value 1 if an individual's parent is literate and 0 otherwise
HH Size	Size of household (continuous variable)
Distance	Distance of secondary school from home
ln_mpce	Log of monthly per-capita consumption expenditure (proxy for household income; a continuous variable)

3.1 Independent Variables

Drawing from the existing literature, independent variables (for details see Table 1) are chosen to control for the social, demographic and economic background of the individual.[1]

(i) ***Individual Characteristics***

(a) ***Gender***: Gender is the most pervasive and enduring factor of inequality which exists almost everywhere, and thus, the same is expected to be pertinent in case of secondary education as well. State-specific studies have already shown that the probability of non-completion of secondary grade is higher for girls (Siddhu 2010; Singh and Mukherjee 2015). Therefore, in order to study the gender effect, a binary variable 'sex_female' has been introduced. It takes the value 1 if the individual is a female student and zero otherwise.

[1]This paper has the limitation of not being able to include school-level quality indicators such as teaching–learning processes. Further, the study has not included religion as a controlling variable.

(ii) ***Household Characteristic***: Ample body of the literature already highlights that social group/caste,[2] parental education and the household's socio-economic status play crucial roles in influencing the odds of participation at the secondary grade by individuals.

(a) ***Social Group***: The diverse nature of Indian society, in terms of different social groups, makes it all the more important to study how caste or social group of individuals influences their educational outcomes. The literature shows that enrolment rate varies enormously across various caste groups at all the levels of education. Thus, it is imperative to examine whether the same has any impact on individual's probability to complete secondary education, i.e. Grade X. Therefore, to estimate the same, we have included variables, namely 'SC', 'ST', 'OBC', and 'others', to indicate social group of the individual to which she/he belongs. In general, one would expect that households belonging to SCs, STs and OBCs will have lesser odds of completing secondary education.

(b) ***Education of Head of the Household***: The NSS data set does not provide direct information of individual's parental education; instead, it gives information on education level of head of a household along with relation of each member of the household to the household head. This information is used to create household head's education variable for each children of that particular household. Household head's education is, therefore, used as a proxy for parental education of a particular child. For estimation, household head's education is included in the probit model as a binary dummy 'head_illiterate/no formal education', 'head_literate' to allow for the fact that when parents are literate, there will be a better probability of enrolment and completion of secondary grade. Several studies have corroborated similar result (Siddhu 2011; Singh and Mukherjee 2015).

(c) ***Household Income***. Studies depict that at the secondary level, when cost (both direct and indirect) of attending educational institution increases, the likelihood of completion decreases substantially. This is, particularly, true for the older students who have higher opportunity costs in areas where there is paid employment available. Further, girls, especially from lower income quintiles, are also not encouraged to go to school and expected to contribute in household activities and also married off. Therefore, one can argue that the economic background of a household may have considerable impact on completing secondary education. There is ample evidence which corroborate this fact (Siddhu 2010; Lewin 2011; Singh and Mukherjee 2015; Härmä et al. 2016). Thus, we have included the log of household monthly per-capita consumption expenditure (*ln*MPCE) as a proxy for household income as NSS does not provide individual or household income or assets directly.

[2]The study has interchangeably referred caste and social group. NSS data refers caste as social group.

(f) ***Household Size***. As household demographic variable, we have also taken the household size (hh_size) as an explanatory variable. Studies suggest that larger the household size, the less will be spent on education which, in turn, will ultimately manifest in lower enrolment and completion from bigger families (Singh and Mukherjee 2015; Myhr et al. 2017).

(g) ***Distance of school***. The role of access to schooling in determining educational outcomes has been well recognised in the literature (Duflo 2001 and 2004; Filmer 2007; Glick and Sahn 2006; Orazem and King 2007); most of it relates to access to primary schooling and its effect on enrolment. There are few studies which attempted to examine the same with regard to post-primary/secondary education (Lavy 1996; Muralidharan and Prakash 2012, 2013). Nonetheless, the results are, sometimes, contradictory. The present study has incorporated this variable so as to have an idea as to whether access (in terms of distance of school) to school really affects secondary grade completion.

4 Empirical Results

4.1 Completion of Secondary Education by Household Characteristics: Sample Characteristics

Drawn on NSS 71st round unit-level record, Table 2 shows that within the age cohort of 15–20 years, 49% girls and 48.2% boys completed secondary education by 2014. With regard to caste groups, the data further reveals that within the same age cohort, 53.8% students from non-backward caste (*Others*) completed secondary vis-à-vis 40.1% STs and 42.8% STs. Contrary to the expectation, the number of non-completing individuals is high in urban areas (53.7%) than in the rural areas (45.4%). Access to secondary school in terms of distance from the household shows that if the school is located far (more than 5 km.) from the residence, a huge chunk of students (62.22%) drop out without completing the grade.

4.2 Empirical Results of the Econometric Analysis

This section is devoted to estimating the results from probit regression model, mentioned in the previous section, where completion vis-à-vis non-completion of secondary grade has been taken as dependent variable. The focus is to estimate the probability that an individual in the age group of 15–20 years has completed secondary grade, based on maximum likelihood estimates obtained from the associated probit model. Further, in order to assess the magnitude of impact of an explanatory variable, the corresponding 'marginal effect' has been calculated. The estimation

Table 2 Descriptive statistics: secondary education by individual and household characteristics

Explanatory variables	Secondary education	
	Not completed (n = 38,111,629)	Completed (n = 35,991,426)
Gender		
Male	51.8	48.2
Female	51.0	49.0
Location		
Rural	45.4	54.6
Urban	53.7	46.3
Social group		
ST	59.9	40.1
SC	57.2	42.8
OBC	50.0	50.0
Others	46.2	53.8
Distance of school		
$d < 1$ km	48.23	51.77
1 km $d < 2$ kms	48.99	51.01
2 kms $d < 3$ kms	54.57	45.43
3 kms $d < 5$ kms	59.48	40.52
$d \geq 5$ kms	62.22	37.78
Household head's education		
Head illiterate/no formal education	51.4	48.6

Source Author's computation based on NSS 71st round (Unit-Level Records)

has been done separately for all-India level, for males and females and also for rural and urban regions. The results are discussed below.

4.3 Impact of Social Group

Given the diversity of India, it is important to examine whether and how the social background of the individual influences the completion of secondary grade. Probit estimation is done to examine the same, controlling for location (rural/urban), household expenditures, gender and so forth.

Table 3 provides the probit estimates for all-India level along with the marginal effects. Marginal effects indicate how the odds of completion differ for different social groups, with reference to *Others* (non-backward group). At the all-India level, one could see that individuals belonging to backward caste-groups have lower odds

Table 3 Probability of completing secondary grade: probit estimates at all-India level

Completed_secondary	Coef.	Std. Err.	$P > \|z\|$	Marginal effect
Sex_female	0.030	0.026	0.252	0.012
Rural	0.067	0.030	0.124	0.027
ST	−0.147	0.046	0.001	−0.058
SC	−0.136	0.039	0.000	−0.054
OBC	−0.002	0.032	0.950	−0.001
lnMPCE	0.447	0.027	0.000	0.178
HH size	0.001	0.006	0.851	0.000
Distance	−0.058	0.011	0.000	−0.023
Head_illiterate/no formal education	0.012	0.037	0.742	0.005
Constant	−3.181	0.229	0.000	
Number of obs = 24,374				
Wald chi 2(8) = 488.21				
Log pseudolikelihood = −49,623,290 Pseudo R2 = 0.0330				

Source Author's computation based on NSS 71st round (Unit-Level Records)

of completing secondary education. The table shows that STs and SCs have, respectively, 5.8% and 5.4% lower likelihood of completing secondary education than that of *other* category students. The data further depicts that although OBCs also have lower chances of completing secondary education, they are at least in a better position than SCs and STs, as they have negligible (0.1%) lower odds of completing secondary grade than the non-backward caste-groups/*others.*

The gender-wise disaggregation of the data highlights a similar trend. It is evident from Table 4 that both SC and ST males and females are in disadvantageous situation and have lower odds of completing Grade X compared to others. The coefficients for OBCs are statistically insignificant both at all-India level and across gender.

Location-wise disaggregation also depicts a similar trend. Table 5 shows that SC students, living in urban localities, are in the most disadvantageous situation and have approximately 8.7% less probability of completing secondary education than that of other/non-backward group.

All these findings are in line with the previous studies, depicting the low completion (along with lesser enrolment) of individuals belonging to the backward Caste group. An important reason could be that caste and economic status of individuals are highly correlated in India, and the literature notes that household income strongly influences enrolment and completion of secondary schooling.

4.4 Impact of Location, Distance of School and Household Size

It has been already established that in India, there is a considerable gap between urban and rural populations in terms of their educational outcomes, with rural children's participation lagging by 20% points at the secondary level (Siddhu 2010). Studies further highlight that location of residence has important role to play in impacting the chances of staying in school, progress through grades or completing a specific grade; nonetheless, the impact is, usually, through the distance to school (Siddhu 2010; Härmä et al. 2016). The present study also finds a similar result, where the coefficient of location is statistically not significant. However, the variable distance of school negatively related to probability of completing secondary education and the coefficient are highly statistically significant, except for urban localities. At the all-India level, increase in distance (see Table 3) lowers the probability of completing secondary grade. Similar trends are evident for males and female (Table 4) and in the case of rural locality (Table 5). In the case of urban areas, the coefficient is statistically not significant probably because of the better transport facilities (to commute to school) in comparison with rural areas. Data further suggests that household size has no significant role to play in determining the probability of completing secondary level of education. This is true across the board.

Table 4 Probability of completing secondary grade: probit estimates by gender

Completed_secondary	Male				Female			
	Coef.	Std. Err.	$P > \|z\|$	Marginal effect	Coef.	Std. Err.	$P > \|z\|$	Marginal effect
Rural	0.081	0.040	0.043	0.032	0.055	0.044	0.206	0.022
ST	−0.112	0.062	0.073	−0.044	−0.186	0.067	0.006	−0.074
SC	−0.154	0.052	0.003	−0.061	−0.108	0.058	0.064	−0.043
OBC	−0.016	0.044	0.714	−0.006	0.014	0.047	0.767	0.006
lnMPCE	0.455	0.037	0.000	0.181	0.434	0.040	0.000	0.173
HH size	−0.005	0.009	0.566	−0.002	0.007	0.009	0.476	0.003
Distance	−0.049	0.014	0.000	−0.020	−0.068	0.016	0.000	−0.027
Head_illiterate/no formal education	−0.091	0.057	0.112	−0.036	−0.085	0.049	0.085	−0.034
Constant	−3.135	0.313	0.000		−3.123	0.333	0.000	
Number of obs = 13,410					10971			
Wald chi 2(8) = 112.85					106.55			
Log pseudolikelihood = −9151.4066					−7487.47			
Pseudo R2 = 0.0146					0.0151			

Source Author's computation based on NSS 71st round (Unit-Level Records)

4.5 Impact of Economic Status of Household

Studies have already found that family income does play an important role in child's educational attainments. While Haveman and Wolfe (1995), through an extensive survey of literature, concluded that lower parental income levels do result in lower educational outcomes for their children, the study by Hasan and Mehta (2006) ascertained the positive impact of household's better-off economic status on college enrolment in India. In the case of India, Lewin (2011) notes that household income has a critical role in determining enrolment in secondary school. Tamim and Tariq (2015) argue that any level of direct costs can be enough to exclude the poor. This is mainly because of the reason that direct and indirect costs of (even) secondary level schooling remain substantial in India. Drawing on large household surveys, Lewin (2011) notes that in India, the poorest allocates less than five per cent of total expenditure to education. 'Even if the assumptions are varied such that 10% of expenditures are available for education, it would remain the case that most would find secondary schooling unaffordable. At 10%, only the top two urban quintiles and the highest rural quintile could afford the costs'.

The results, reported in Tables 3, 4 and 5, reveal that households' economic status, in terms of lnMPCE, plays a critical role in determining the likelihood of completing secondary grade. At all-India level, it is evident that one per cent increase in MPCE increases the probability of completing Grade X by 17.8%. The trend is similar in both rural and urban areas as well as for males and females.

Table 5 Probability of completing secondary grade: probit estimates by location (rural and urban)

	Rural				Urban			
Completed_secondary	Coef.	Std. Err.	$P > \|z\|$	Marginal effect	Coef.	Std. Err.	$P > \|z\|$	Marginal effect
Sex_female	0.015	0.032	0.652	0.006	0.061	0.040	0.129	0.024
ST	−0.155	0.053	0.004	−0.061	−0.069	0.092	0.453	−0.028
SC	−0.110	0.048	0.022	−0.043	−0.220	0.064	0.001	−0.087
OBC	−0.005	0.041	0.897	−0.002	0.010	0.046	0.825	0.004
lnMPCE	0.440	0.036	0.000	0.175	0.458	0.039	0.000	0.181
HH size	0.002	0.008	0.766	0.001	−0.003	0.010	0.737	−0.001
Distance	−0.061	0.012	0.000	−0.024	−0.031	0.025	0.212	−0.012
Head_illiterate/no formal education	−0.034	0.046	0.455	−0.014	0.125	0.061	0.142	0.050
Constant	−3.017	0.289	0.000		−3.375	0.340	0.000	
Number of obs = 14,498					9883			
Wald chi 2(8) = 90.68					85.86			
Log pseudolikelihood = −9910.6817					−6710.08			
Pseudo R2 = 0.0099					0.146			

Source: Authors' computation based on NSS 71st round (Unit-Level Records)

4.6 Impact of Gender and Educational Profile of Household Head

Gender is widely documented as a crucial factor in all types of schooling choices in India, including whether or not the child get a chance to attend school and till what age and level and in what type of school. Drawing on the household-level data, Rawal and Kingdon (2010) find a large gender gap in participation of individuals at the primary level. Nonetheless, Härmä et al. (2016), on the basis of NSS 71st round, concludes that, at the secondary level, girls are catching up, particularly since 2010, and the gender gap is gradually narrowing down at this level of education.

On the basis of probit estimates reported in Tables 3 and 5, one can argue that gender is not acting as a critical variable in determining the completion of secondary grade in recent times (the coefficient is statistically insignificant). NSS 71st round education data shows that while the overall secondary grade completion rate is 53% at all- India level, the same for female is only a little below, at 50.9%.

The present study further suggests that household head's educational level (in terms of whether being literate and illiterate has any role in influencing their wards' secondary completion) plays a statistically insignificant role in determining the odds of secondary grade completion at the all-India level. This result holds true for both rural and urban areas. However, the gender-wise disaggregated result provides contrary evidence—for females, if the head of household is illiterate or does not have any formal education, the individuals would have lower chances of completing

secondary grade. Drawn on longitudinal data from Andhra Pradesh, Singh (2015) shows if the father has attained beyond secondary level of education, it can significantly (statistically) impact the likelihood of Grade X completion for the lower income quintile.

5 Conclusion

To conclude, it could be argued that Rashtriya Madhyamik Shiksha Abhiyan (RMSA) is a major initiative designed to address the low rates of participation at lower secondary level. Although this initiative has substantially increased the enrolment rate since the 11th five year plan, it still lags behind BRICS (Brazil, Russia, India, China and South Africa) countries with whom India is often compared. India's secondary education participation rates are only comparable to sub-Saharan Africa (Lewin 2011). It is, thus, perhaps not surprising that in India, high school completion rate still remains an abysmal 42% (Sahni 2015).

In this context, the current study throws light on the significant determinants of successful completion of secondary education among 15–20 years age cohort sample of children in India, and it is clearly evident that there are a multitude of factors which impact the same. The study by Lewin (2011) argues that low levels of access to secondary schooling play a critical role on both transition to and completion of secondary level. It further notes that—'where few go to secondary school, many will lack the motivation to persist to Grade VIII, and may judge the costs greater than the benefits' (p. 382).

Based on unit-level records on NSS 71st round, the present study shows that economic status of household (measured in terms of lnMPCE) and caste/social group of individual are two most important factors that play crucial roles in determining the probability of secondary grade completion. This trend holds true across the board. Several other studies, devoted to this area, also corroborate the same (Siddhu 2010; Lewin 2011; Singh 2015; Härmä et al. 2016).

Contrary to the popular belief, this study shows that the probability of completion of secondary grade for the girls is not statistically different than that of boys. This is an encouraging result as Härmä et al. 2016, already document that the gender gap in secondary education participation is continuously decreasing since 2010. The study further highlights that location of residence does not significantly influence the odds of completion, though; however, it is the distance of the school from the household which matters. The probit estimates reveal, at the all-India level, increase in distance of school from home (see Table 3) lowers the probability of completing secondary grade. A similar trend is evident across gender. Interestingly, in case of urban areas, the distance of school does not significantly impact completion of secondary grade. Availability of good transport facilities might be one of the reasons behind this. The results also ascertain that if the household head is illiterate, then their wards have poor chances to complete secondary grade. This is mainly because household head's education not only determines his/her perception about education,

but also critically determines the affordability to spend on education. Studies show that drop-outs are disproportionately high from the lower income quintiles (Lewin 2011). NSS 71st round also corroborates the same. According to this data, more than 54% student dropped out without completing secondary grade either due to financial constraints or they had to engage with other economic or domestic activities. Thus, to retain the enrolled students within the system, the government has to reduce the out-of-pocket expenditure incurred by households. Expanding access to poorer households may mean that even modest fees are unaffordable (Lewin and Caillods 2001). Further, private providers are unlikely to grow to provide secondary education to the poorest sections. Most growth will, therefore, be in government or government-aided schools, and government will remain the provider of the last resort. Tilak (2008) argues that affordability of higher levels of participation is really a State-level issue since it is the States that formally have the responsibility for delivering most secondary schooling. This implies a huge government allocation needs to be made towards this sector. Lewin (2011) estimated that India has to increase the allocation by about two per cent of GDP or more for secondary education, which is way above what it spends currently for secondary education.

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Universal Secondary Education in the Telugu-Speaking States: Prospects and Challenges

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1 Introduction

Universal Education implies creating universal access and opportunity for all children to receive education. Secondary education spreads over the ages of 15 and 16 years, and senior secondary over the ages 17 and 18 years. It serves as a link between the elementary and higher education, thus playing an important role. GOI's Central Advisory Board of Education (CABE) committee on Universalisation of Secondary Education (2005) recommends universal secondary education by 2015. As per the report, the projection of enrolment, transition rate indicates full possibility of universal enrolment in secondary education by 2015. By 2020, the target should be universal enrolment, full retention and mastery of learning in all kinds of learning tasks by more than 60% learners.

The government of India has launched a national drive to universalise secondary education by 2020. The 12th five-year Plan approach contemplates "faster, sustainable and more inclusive growth", implying universal access for children to school, increased access to higher education and improved standards of education, including skill development. Rashtriya Madhyamik Shiksha Abhiyan (RMSA) is an initiative of the Government of India, in partnership with State governments, which seeks to universalise enrolment in Grades 9 and 10 across the country. The goal is to universalise entry into secondary school by the end of 2017 and achieve universal

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completion of Grade 10 by 2020. Now the question is whether Sustainable Development Goal-4 (SDG), i.e. '*ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'* is achievable in India by 2030?

It is true that India has achieved considerable growth in economic development in the recent past, but it is not free from criticism. This is because the growth has not narrowed down the gap between the rich and the poor and rather widened the gap contrary to the 11th five-year Plan approach, i.e. 'towards inclusive growth'. If we examine the progress in different components of Education for All (EFA), India has made remarkable improvements in enrolment. Despite these attainments, there are areas of apprehension which are acting as hurdles to achieve the goals of universal literacy and univeral school education. Existing literature shows that special emphasis on the education of women is crucial for universalising school education as it is vital to the improvement of the health practices of its community apart from human capital development. In addition to overall low levels of literacy at the national level, disparities across regions, genders, social groups, etc., are of serious concern.

UNESCO's new Global Education Monitoring (GEM) reports (2015) and 2016 reveal that India is expected to achieve universal primary education by 2050, universal lower secondary education by 2060 and universal upper secondary education by 2085. In other words, India would be more than half a century late for the 2030 SDGs deadline (IndianExpress.com 2015). The report further suggested that the government take inequalities in education seriously by getting information directly from families. International Institute for Educational Planning, under UNESCO, reports that more than 50% of secondary schools in India have enrolments below 50 in Grades 9 and 10. The report further states that financing universal secondary education, at current cost structures, could require more than 2% of State Gross Domestic Product which is unsustainable and requires greater efficiency. It is suggested that those worse-off among the marginalised groups need to be given preference over the better-off to achieve equity in education. Basing on UNESCO data, IndiaSpend reports (2016) reveal that there is still large disparity in the achievement of basic skills, such as reading and mathematics, where there has been a decline in learning outcomes.

Within South India, progress in education is not satisfactory in Telugu-speaking States, i.e. Telangana and Andhra Pradesh. Perhaps this might have prompted the Telangana State government to announce free education from Kindergarten (KG) to Postgraduate (PG). A study undertaken by CESS (2016), on Millennium Development Goals (MDGs), clearly indicates the presence of intra-State variations in both the Telugu-speaking States with regard to school enrolment and in youth literacy. Young lives, a longitudinal survey in Telugu-speaking States shows that 91% of 15-year-old children were enrolled in secondary schools in 2016, up from 78% in 2009. However, the study reveals a decline in the performance of mathematics in 2016 compared to 2009 (Galab and Reddy 2017a, b; https://www.younglives.org.uk).

Table 1 Literacy rates of 7+ population in united Andhra Pradesh and all India

Year	United Andhra Pradesh				All India			
	Person literacy rate	Male literacy rate	Female literacy rate	Gender gap	Person literacy rate	Male literacy rate	Female literacy rate	Gender gap
1961	21	30	12	18	28	40	15	25
1971	25	33	16	17	34	46	22	24
1981	30	39	20	19	44	56	30	26
1991	44	55	33	22	52	64	39	25
2001	61	70	51	19	65	75	54	21
2011	68	76	60	16	74	82	66	16

Source Census data

2 Growth in Population

The growth in population has implications for universalising the secondary education. The share of the population of Telangana State in the total Telugu-speaking States was 39.2% in 1991 and increased to 41.8% by 2011. The population growth rates of Telangana and Andhra Pradesh during 1991–2011 were 35.2 and 22.1 respectively. We find relatively high growth in population during 1991–2011 in Southern Telangana zone (42.2%) in Telangana State comprising Mahabubnagar, Rangareddy, Hyderabad, Nalgonda and Khammam districts, and Rayalaseema zone (29.9%) in Andhra Pradesh State consisting of Ananthapur, Cuddapah, Kurnool and Chittoor districts.[1] Given the existing structural barriers and the policy approach towards encouraging private players in education, it is of interest to examine the status of literacy of 7+ populations at disaggregated levels as it may help the policy-makers take suitable actions in the required areas.

3 Literacy Rates in United Andhra Pradesh and All India

Like growth in population, literacy rate among 7+ population also plays an important role in the universalisation of secondary education. The literacy rate in Andhra Pradesh and Telangana States, together, was always lower than the all-India average (Table 1). The combined State of Andhra Pradesh has made substantial progress during the two decades, i.e. 1981–2001, but the results of the 2011 Census figures do not reveal an encouraging picture. It is important to observe that the number of literates is increasing considerably but, at the same time, population is also increasing.

[1]North Telangana comprises Medak, Warangal, Karimnagar, Nizamabad and Adilabad districts in Telangana state. North Coastal Andhra covers Srikakulam, Vizianagaram and Visakhapatnam districts in Andhra Pradesh; South Coastal Andhra zone comprises East Godavari, West Godavari, Krishna, Guntur, Prakasam and Nellore districts in Andhra Pradesh.

If we neglect this, then there will be a danger of accumulation of more and more illiterates in these States. Thus, there is need for overall improvement in the literacy rates, irrespective of social category, gender and geographical areas.[2] The combined State of Andhra Pradesh, with a person or total literacy rate of 67.7, is among the four least literate States in India. The other three least literate States are Bihar (63.8), Rajasthan (67.1) and Jharkhand (67.6). In terms of male literacy, combined Andhra Pradesh (75.6) is just only above Bihar (73.4). While the overall literacy rate has increased from about 44% in 1991–68 in 2011; the male literacy rate has increased from 55% to 76%.[3] What is encouraging is that the female literacy rate has improved substantially from 33 in 1991–60 in 2011. The ratio of female literacy to male literacy has exhibited increasing trend after 1981, both for the united Andhra Pradesh and for all India, thus revealing the narrowing of gender gap in the literacy in both the cases, which is a welcome sign (Table 1).

At the disaggregate level, in Telangana State, only Hyderabad district, with literacy rate of 83.2 and gender disparity in literacy of about seven points, has reached the 11th Plan literacy targets. Apart from Hyderabad, the other district which has literacy rate higher than the all-India literacy rate of 74 is Rangareddy (76). Not only are the literacy rates of all the other districts in Telangana less than 74 (the literacy rate at all-India level), but the gender disparities in literacy are also substantially higher than 16.6 (the gender disparity in literacy at all-India level) except in Khammam (14.9) and Rangareddy (12.7). We find that Mahabubnagar (55.0) is the least literate district in Telangana State. All the districts in Telangana State have rural literacy rates lower than the all-India rural literacy rate of 67.8. It is highly disheartening to note that the urban–rural gap in literacy rates in all the districts in Telangana State is substantially higher than that of the all-India urban-rural literacy gaps for both the males and the females and also in case of all persons (Reddy et al. 2017).

In the new State of Andhra Pradesh, the only districts that are closer to the All-India literacy rate of 74% are Krishna (73.7%) and West Godavari (74.6%). Further, the female literacy rates of these two districts (69.2 and 71.4, respectively) and East Godavari (67.5) are higher than the all-India female literacy rate of 65.5%. We find the districts Vizianagaram (58.9) and Kurnool (60.0) are low literate districts (also in terms of both the male and the female literacy rates as well). It is also worth noting that the male literacy rates of all the districts in Andhra Pradesh are lower than the all-India male literacy rate of 82.1%.

To sum up, the low literacy rate districts and districts with high gender gap in literacy rates need adequate attention. Some of the low literate (FLR, MLR and PLR) districts, such as Kurnool in Andhra Pradesh and erstwhile Mahabubnagar

[2]Study by Galab et al. (2013) on primary education in Andhra Pradesh reveals that education officers in the state perceived that there is no gender discrimination in education but children of tribal communities and migrating labour are facing problems in having access to education. The officers observed that teacher absenteeism is higher in tribal areas and special training is needed for teachers in tribal areas. Vacant posts and inadequate support are the reasons for lack of monitoring mechanism affecting the governance.

[3]Dixon's study (2010) revealed that generally private-unaided schools are contributing significantly to India, achieving the target of education for all.

in Telangana, are also having relatively high gender differences in literacy rates (GDLR), and relatively high MLR districts, such as Cuddapah in AP and erstwhile Nalgonda in TS, are also having high GDLR values. Thus, there is need to give more thrust in these areas to improve equity in literacy which is essential to achieve universalisation of secondary education. The results, flowing from the analysis of sex ratio, strongly recommend that the rural mandals, with child sex ratio less than 950, need special attention, since adverse child sex ratio will have implications on gender equity and literacy of the future generation.

4 Universalising Secondary Education—All India

4.1 Data Sources and Methodology

This study used four rounds of data collected by National Sample Survey Organisation (NSSO), i.e. 50th (1993–94), 61st (2004–05), 66th (2009–10) and 68th round (2011–12). The data collected relate to school attendance rates, educational status (never attended, drop-out, currently attending) and educational levels of children in the specified age groups. This facilitates estimating trend growth rates (annual compound growth rates) in the above specified variables along with its precision levels and estimating their values for the specified future years. The study also estimates probit models to find out the factors impacting the completion rates and the net enrolment ratios by location and by different social groups. For assessing the status of universalising secondary education, we confined ourselves to the net enrolment rates (NER), never-enrolled, and drop-out rates from school in the age groups 14–15 years and 16–17 years at all-India level.

For the model Log Y_t = a + b t, the compound annual growth rate (CAGR) is $(e^b - 1)100$

5 Probit Model

$$Y = a + b_1x_1 + b_2x_2, \ldots, b_nx_{n+e}$$

where $Y = 1$ if the student completes secondary education, and $= 0$ otherwise

X_1 father's education
X_2 mother's education
X_3 share of education expenditure in total expenditure
X_4 enrolment in government school $= 1$, and $= 0$ otherwise and $e =$ error term

6 Net Enrolment Rates (NER) in the Age Group 14–15 and 16–17 Years at All-India Level

Net enrolment rate is the number of pupils who are enrolled in school as a percentage of the total children in the specified age group of the population. This is important in the context of universalising secondary education. At all-India level, the data on the percentage of children in the age group 14–15 years who are enrolled in the educational institutions reveals an increase from 32.2 in 1993–94 to 51.7 by 2011–12. The estimated trend growth rate in the percentage of children in the age group 14–15 years, enrolled in educational institutions, is 2.7, and it is significant. At this growth rate of 2.7, we expect that only 62.1% of children in the age group of 14–15 years would be enrolled in the educational institutions by 2020 whereas CABE report contemplated universal enrolment in secondary education by 2015. However, around three-fourths of the children from economically rich households (top quintile) would be net enrolled in schools by 2020 (Table 2). In contrast, little over half of the children (55.3%) alone from the poor households (lowest quintile) are expected to be enrolled by 2020. Urban children would also be lagging behind in net enrolment. It is interesting to note that the projected values for 2020 show that the difference between other castes (OCs) and other marginalised groups is narrowing though we

Table 2 All-India: net enrolment rates (NER) of children in the age group 14–15 years across socio-economic categories during different NSSO rounds—trend growth rates and predicted values of NER

Population groups	Rounds of NSSO				Growth rate	Predicted values of NER		Significance
	50th	61st	66th	68th		By 2015	By 2020	
Scheduled Tribes (ST)	22.2	25.8	39.8	47.8	4.5	48.9	60.8	*
Scheduled Castes (SC)	21.6	31.8	40.9	44.9	4.4	50.4	62.5	***
Other Castes (OC)	35.7	44.8	49.2	54.1	2.4	56.7	63.7	***
Boys	35.4	43.5	49.7	52.8	2.4	55.9	62.8	***
Girls	28.2	37.3	42.8	50.4	3.2	52.5	61.6	**
Poor	18.1	22.7	36.6	40.0	4.8	43.6	55.3	*
Rich	53.3	73.2	59.8	66.5	1.0	69.3	73.0	
Rural	27.0	35.8	44.5	50.0	3.6	53.6	63.9	***
Urban	47.0	55.1	53.0	56.3	1.0	57.7	60.5	
All	32.2	40.6	46.6	51.7	2.7	54.3	62.1	***

Source Different rounds of NSSO; Rich = top quintile, Poor = lowest quintile
Note *Significant to 10% level
**Significant to 5% level
***Significant to 1% level

Table 3 All-India: net enrolment rates (NER) of children in the age group 16–17 years across socio-economic groups during different NSSO rounds—trend growth rates and predicted values of NER

Population groups	Rounds of NSSO				Growth rate	Predicted values of NER		Significance
	50th	61st	66th	68th		By 2015	By 2020	
ST	18.8	30.2	22.1	31.0	2.2	30.7	34.1	
SC	21.2	32.7	27.8	31.2	2.0	33.8	37.4	
OC	33.5	43.7	35.7	42.1	1.0	42.1	44.2	
Boys	35.9	45.1	34.6	40.8	0.3	40.1	40.7	
Girls	23.6	35.2	30.8	37.1	2.3	38.8	43.4	
Poor	17.0	21.2	16.8	22.3	0.9	21.0	22.0	
Rich	44.9	66.6	57.2	58.9	1.5	65.2	70.3	
Rural	25.4	36.1	28.6	36.0	1.5	36.0	38.8	
Urban	42.7	52.0	44.0	47.1	0.4	48.0	48.9	
All	30.3	40.5	32.9	39.1	1.1	39.3	41.5	

Source Different rounds of NSSO; Rich = top quintile, Poor = lowest quintile

observe considerable differences in 1993–94 and 2011–12. It is due to higher rate of growth in net enrolment among Scheduled Castes (SCs) and Scheduled Tribes (STs). However, we should note that given the rate of growth, 100% net enrolment of children in the age group 14–15 years would be achieved only by 2038.

For universalising secondary education, net enrolment rates of children aged 16–17 years also play a pivotal role. At all-India level, around 30% of the children in this age group alone were enrolled in schools as on 1993–94 and it has increased to 39.1% by 2011–12 with a growth rate of 1.1% (Table 3).

At this rate of growth, 41.5% of children alone would be enrolled in school by 2020. Children from poor households and ST households are the most deprived ones and they need special attention. Even from economically rich, 70% of the children alone are likely to be in the schools by 2020. However, disparities between social groups and gender are narrowing over time, and more so, in the case of gender. It will take about 80 years beyond 2020, to achieve 100% net enrolment of children in the age group 16–17 years.

The school attendance status of children in the age group 14–15 years, which is also important in achieving the universalisation of secondary education, varies with the socio-economic groups. For instance, rural SC boys would be reaching 100% target by 2022; rural children in the poor households would be reaching 100% target by 2019; and it is very difficult for ST and SC children in the urban areas to reach the target even after 2020.[4] The gender disparity in the attendance rates (GDIA) and the urban–rural gap in attendance rates are decreasing over time. In fact, the GDIA

[4]Results available with authors and will be shared on request.

Table 4 All-India: never-enrolled rates of children in the age group 14–15 years across socio-economic groups during different NSSO rounds—trend growth rates and predicted values of never-enrolled children in the age group 14–15 and 16–17 years at all-India level

Population groups	Rounds of NSSO				Growth rate	Predicted values of never-enrolled rates		Significance
	50th	61st	66th	68th		By 2015	By 2020	
ST	38.7	19.0	8.9	4.5	−11.0	4.3	2.4	**
SC	33.4	12.4	6.9	6.3	−9.6	4.5	2.7	***
OC	19.6	8.3	5.3	3.8	−8.9	3.1	2.0	***
Boys	17.8	7.0	4.6	3.7	−8.8	2.8	1.8	***
Girls	30.4	13.5	7.7	5.2	−9.5	4.4	2.7	**
Poor	38.9	19.5	11.0	8.4	−8.5	7.0	4.5	**
Rich	9.2	1.8	0.8	0.6	−15.0	0.4	0.2	***
Rural	28.0	11.4	6.4	4.7	−9.8	3.7	2.2	***
Urban	10.4	5.8	4.5	3.6	−5.9	3.1	2.3	***
All	23.5	10.0	5.9	4.4	−9.2	3.5	2.2	***

Source Different rounds of NSSO; Rich = top quintile, Poor = lowest quintile
Note *Significant to 10% level
**Significant to 5% level
***Significant to 1% level

Table 5 All-India: never-enrolled rates of children in the age group 16–17 years across socio-economic groups during different NSSO rounds—trend growth rates and predicted values of never-enrolled

Population groups	Rounds of NSSO				Growth rate	Predicted values of never-enrolled rates		Significance
	50th	61st	66th	68th		By 2015	By 2020	
ST	43.8	22.3	8.5	5.8	−11.0	4.9	2.7	**
SC	36.8	13.5	6.5	5.8	−10.6	4.0	2.3	***
OC	20.6	10.0	5.1	4.2	−9.0	3.4	2.1	**
Boys	18.0	8.6	4.4	3.8	−8.9	2.9	1.8	***
Girls	33.7	15.1	7.2	5.7	−9.9	4.5	2.6	**
Poor	42.3	22.6	12.2	10.2	−8.1	8.3	5.5	**
Rich	11.5	2.0	0.6	0.6	−16.9	0.3	0.1	***
Rural	30.5	13.8	6.3	5.2	−10.0	4.0	2.4	**
Urban	11.5	6.0	4.0	3.2	−7.1	2.7	1.9	***
All	25.1	11.6	5.7	4.6	−9.5	3.6	2.2	**

Source Different rounds of NSSO; Rich = top quintile, Poor = lowest quintile
Note *Significant to 10% level
**Significant to 5% level
***Significant to 1% level

Table 6 All-India: school drop-out rates in the age group 14–15 years across socio-economic groups during different NSSO rounds—trend growth rates and predicted values of drop-out rates

Population groups	Rounds of NSSO				Growth rate	Predicted values of drop-out rates		Significance
	50th	61st	66th	68th		By 2015	By 2020	
ST	18.6	25.8	19.1	14.4	−1.0	17.4	16.5	
SC	20.7	25.3	18.4	15.1	−1.5	16.8	15.6	
OC	19.5	19.1	12.2	9.7	−3.8	10.1	8.3	
Boys	17.7	18.8	11.7	10.1	−3.2	10.4	8.9	
Girls	22.1	23.2	17.1	12.5	−2.8	14.0	12.2	
Poor	19.5	27.7	20.3	16.2	−0.7	19.2	18.6	
Rich	14.0	6.3	3.1	4.1	−8.0	2.6	1.7	**
Rural	20.6	22.1	15.3	12.0	−2.8	13.0	11.3	
Urban	17.0	17.3	10.5	8.9	−3.6	9.1	7.6	
All	19.7	20.9	14.1	11.2	−2.9	12.0	10.4	

Source Different rounds of NSSO; Rich = top quintile, Poor = lowest quintile
Note *Significant to 10% level
**Significant to 5% level
***Significant to 1% level

Table 7 All-India: School drop-out rates in the age group 16–17 years across socio-economic groups during different NSSO rounds—trend growth rates and predicted values of drop-out rates

Population groups	Rounds of NSSO				Growth rate	Predicted values of drop-out rates		Significance
	50th	61th	66th	68th		By 2015	By 2020	
ST	27.6	37.1	38.1	33.1	1.4	38.6	41.5	
SC	31.6	41.6	33.0	28.7	−0.3	32.4	31.9	
OC	32.8	35.5	26.8	22.2	−2.0	23.9	21.6	
Boys	31.5	34.8	26.6	21.9	−1.8	23.8	21.7	
Girls	33.0	39.2	32.0	27.3	−0.8	30.1	28.8	
Poor	31.0	46.9	40.3	34.6	1.0	41.4	43.5	
Rich	26.2	16.5	9.5	8.3	−6.6	7.1	5.0	**
Rural	33.2	39.6	32.1	26.5	−1.0	29.6	28.2	
Urban	29.6	29.8	21.2	18.9	−2.5	19.1	16.8	
All	32.2	36.8	29.0	24.4	−1.3	26.6	24.9	

Source Different rounds of NSSO; Rich = top quintile, Poor = lowest quintile
Note *Significant to 10% level
**Significant to 5% level
***Significant to 1% level

Table 8 All-India: Secondary completion rates of 17-year-olds (SCR17) across socio-economic groups during different NSSO rounds—trend growth rates and predicted values of SCR17

Population groups	NSSO rounds				Growth rate	Predicted values of SCR17		Significance
	50th	61st	66th	68th		By 2015	By 2020	
ST	28.1	27.6	42.8	48.4	3.2	48.0	56.1	
SC	25.2	34.6	46.3	53.8	4.4	58.0	72.1	**
OC	43.4	49.9	59.4	66.6	2.4	67.9	76.5	**
Boys	40.2	46.2	55.7	63.7	2.6	64.5	73.2	**
Girls	39.6	45.1	55.1	62.2	2.6	63.2	71.7	*
Poor	23.0	25.2	36.5	42.7	3.6	43.0	51.2	*
Rich	56.7	72.7	81.3	83.9	2.4	91.0	100.0	***
Rural	33.1	40.4	49.3	59.1	3.2	60.0	70.3	**
Urban	52.1	56.8	70.0	71.7	2.0	74.7	82.3	*
All	40.0	45.8	55.4	63.1	2.6	63.9	72.5	*

Source Different rounds of NSSO; Rich = top quintile, Poor = lowest quintile
Note *Significant to 10% level
**Significant to 5% level
***Significant to 1% level

among children in the age group 14–15 years during 2011–12 in rural, urban and all areas at all-India level are 5.2, 3.1 and 4.6, respectively. GDIA among children in OCs and STs are relatively higher compared to that of the SCs in both the rural and the urban areas at all-India level.

Every child in the age group 14–17 years must be in school to achieve the goal of universalising secondary education. Taking the clue from the previous years, it is estimated that by 2020, around 2.2% of children in the above-said age group would be never-enrolled. It is true that there is substantial improvement in the enrolment across various socio-economic groups (Tables 4 and 5). For instance, 23.5% were never-enrolled in the year 1993–94, and it reduced to 4.4% of children in 2011–12 in case of children aged 14–15 years and, with the rate of growth, never-enrolled would be 2.2% by 2020. Despite improvement in enrolment, there are huge differences in the never-enrolled between children from poor and rich households. Similar results hold good in the case of children aged 16–17 years (Table 5). Higher percentage of girls compared to boys are likely to be never-enrolled.

7 Drop-Out Children in the Age Groups 14–15 and 16–17 Years at All-India Level

It is all the more imperative to arrest the drop-outs from schools in the said age groups of children to achieve universalisation of secondary education. It is true that there is a drastic decline in the drop-out rates among the school-going children in the age groups 14–15 and 16–17 years (Tables 6 and 7). There is nearly 8.5% points of decline from 1993 to 94 and 2011 to 12 among the school-going children aged 14–15 years (Table 6). At the given rate of decline, nearly one-tenth of children would be dropping out by 2020 which would pose a hurdle in achieving the universalisation of secondary education. In case of children in the age group of 16–17 years, around one-fourth of children are likely to drop out of school by 2020 (Table 7). There are huge differences in the school drop-outs. For instance, one-third of children dropped out in 2011–12 and this would increase to 41.5% by 2020. We also observed gender differences and differences between poor and rich in drop-outs.

8 Secondary Completion Rates (SCR17) at All-India Level

We noticed that some children may complete secondary education only after 16th year due to late entry to schools. Hence, we examined the status of Secondary Completion Rate (SCR) of 17-year-old children and factors affecting SCR of children. Thus, we expect all children to complete secondary level by the time they reach the age of 17 years. The data on the SCR of children at the age of 17 years indicates that it has increased from around 40.0 in 1993–94 to 63.1 in 2011–12. The estimated trend growth rate in the SCR of children at age 17 years is 2.6, and it is significant. At this growth rate of 2.6, we expect that about 65.2% of the 17-year-old children would be completing secondary level during 2016, and only about 72.5% of the 17-year-old children would be completing secondary level during 2020. The SCR of girls is higher than that of the SCR of boys in the urban areas, and it is simply the reverse in the case of rural areas. The same holds across all the social categories. We find that the SCR of children in the rich households reaches 100 by the year 2019, whereas the picture is gloomy in the case of the children belonging to the poorer households. Overall, it will take 13 years beyond 2020, to achieve 100% in completion rates of 17-year-olds in secondary education. Children from poor households would achieve 100% only by 2039 and children from ST households by 2038. From this perspective, it may be noted that universalising secondary education is only a distant dream.

9 Determinants of Secondary Completion Rates (SCR17)

Probit analysis is used to find out the factors determining the secondary completion rates by location and by different social groups. The salient findings are given in Table 9, and the details are as follows:

- Father's education has significant positive impact on the SCR17 of OC children (except rural boys), whereas it has no impact on the SCRs of SC and ST children in both the rural and urban areas.

Table 9 Signs and significant levels of the coefficients of the estimated probit model: secondary completion rate (SCR) of 17-year-old children

Independent variables	All	Rural	Urban	Boys	Girls
SCR of 17 year all children: Signs and significance levels of the estimated coefficients					
Education of father	+ve**	+ve**	+ve**	+ve**	+ve**
Education of mother	+ve**	+ve**	+ve*	+ve**	+ve*
Education expenses share	+ve**	+ve**	+ve**	+ve**	+ve**
Monthly per-capita expenditure	+ve**	+ve**	+ve**	+ve**	+ve**
Enrolment in Govt = 1 and = 0 otherwise	NS	−ve*	+ve**	NS	NS
SCR of 17-year-old OC children					
Education of father	+ve**	+ve*	+ve**	+ve*	+ve**
Education of mother	+ve**	+ve**	+ve[a]	+ve**	+ve**
Education expenses share	+ve**	+ve**	+ve**	+ve**	+ve**
Monthly per-capita expenditure	+ve**	+ve**	+ve**	+ve**	+ve**
Enrolment in Govt = 1 and = 0 otherwise	+ve*	NS	+ve**	NS	+ve*
SCR of 17-year-old SC children					
Education of father	+ve[a]	+ve[a]	NS	NS	NS
Education of mother	+ve*	NS	+ve[a]	NS	NS
Education expenses share	+ve**	+ve**	+ve*	+ve**	+ve**
Monthly per-capita expenditure	NS	NS	NS	NS	NS
Enrolment in Govt = 1 and = 0 otherwise	NS	−ve**	NS	NS	−ve**
SCR of 17-year-old ST children					
Education of father	+ve*	+ve*	NS	+ve*	NS
Education of mother	NS	NS	NS	NS	NS
Education expenses share	+ve[a]	NS	+ve[a]	+ve[a]	NS
Monthly per-capita expenditure	NS	NS	NS	NS	NS
Enrolment in Govt = 1 and = 0 otherwise	NS	−ve *	NS	NS	NS

**, * and "a" denote significance levels of the coefficients at 1%, 5% and 10%, respectively
NS not significant

- Similarly, mother's education has significant positive impact on the SCRs of OC children in the rural areas only, and it has no significant impact on the SCRs of SC and ST children in both the rural and the urban areas.
- The share of household expenditure on education of children has a significant positive impact on the SCRs of all the OC children and all the SC children (except urban boys) and on ST urban boys only.
- Per-capita monthly consumer expenditure has a significant positive impact on the SCRs of all the OC children only.
- The SCR of the children studying in government and private-aided schools is significantly higher than the SCR of children studying in private-unaided schools in the case of OC urban boys only and whereas it is in the reverse direction in the cases of rural SC girls and rural ST boys.
- There are no significant differences in all the other cases.

10 Prospects of Universalising the Secondary Education in Telugu States

An attempt is made to assess the prospects of universalising the secondary education using NSSO data and Young Lives panel data in Andhra Pradesh and Telangana States. We also reflect on the results of the recent related research studies in the States handled by the authors. Due to time constraints, we used 50th and 68th rounds of NSSO for the Telugu-speaking States, and that too for net enrolment of 6–14 years, for the assessment.

The NSSO data reveals that there is substantial improvement in the net enrolment rates in both the States, viz. Telangana and new Andhra Pradesh. For instance, in Telangana, NER was 52% in 1993–94 and increased to 78% in 2011–12, registering a growth rate of 2.2%. At this rate, NER of 6–14 years would be 95% by 2020 (Table 10). Within the State, erstwhile Hyderabad district, followed by Karimnagar, Nizamabad, Warangal and Adilabad are laggard districts by 2020 and there is need to pay attention on these erstwhile districts. We observe substantial improvement in enrolment by 2011–12 in most laggard districts such as erstwhile Mahabubnagar and Nalgonda that would be likely to achieve 100% enrolment before 2020. However, one needs to be cautious in interpretation as this is due to higher rate of growth owing to low base value. Telangana State will achieve 100% enrolment of children aged 6–14 years by 2022 at this growth rate, erstwhile Karimnagar by 2049 and Hyderabad, not in the near future.

In the case of new Andhra Pradesh, like Telangana, 95% of the children in the age group 6–14 years are likely to be enrolled by 2020, an increase of 41% points over 1993–94. The State would achieve 100% NER by 2023, Visakhapatnam district by 2059, Cuddaph district by 2036 and Srikakulam by 2030. Thus, there is need to concentrate on these laggard districts to achieve the goal of universalisation of secondary education in the near future.

Table 10 Net enrolment rates (NER) of children aged 6–14 years in the Telugu-speaking States

District/State	NSSO 50th round	NSSO 68th round	CAGR	Projection	
				2015	2020
Adilabad	56.27	78.16	1.74	85.0	91.8
Nizamabad	52.79	73.95	1.79	80.6	87.2
Karimnagar	65.17	75.07	0.75	77.9	80.7
Medak	48.99	75.16	2.28	83.7	92.3
Hyderabad	78.16	79.51	0.09	79.9	80.2
Rangareddi	54.85	87.62	2.50	98.6	100.0
Mahbubnagar	29.45	75.70	5.09	95.0	100.0
Nalgonda	34.60	78.26	4.39	95.4	100.0
Warangal	60.30	79.82	1.49	85.8	91.7
Khammam	49.24	76.91	2.37	86.0	95.2
Telangana State	**51.88**	**78.09**	**2.18**	**86.6**	**95.1**
Srikakulam	51.90	72.08	1.74	78.4	84.6
Vijayanagaram	52.85	82.28	2.36	92.0	100.0
Visakhapatnam	71.46	78.58	0.50	80.5	82.5
East Godavari	51.48	78.55	2.25	87.4	96.2
West Godavari	55.76	74.78	1.56	80.6	86.4
Krishna	56.03	84.31	2.17	93.5	100.0
Guntur	56.42	83.21	2.07	91.8	100.0
Prakasam	47.65	82.39	2.92	94.4	100.0
Nellore	55.11	80.76	2.03	89.0	97.2
Coastal Andhra	**55.65**	**79.89**	**1.92**	**87.6**	**95.2**
Cuddapah	56.67	72.32	1.29	77.0	81.7
Kurnool	38.70	83.05	4.10	100.1	100.0
Ananthapur	62.00	79.02	1.28	84.1	89.2
Chittoor	56.89	77.13	1.61	83.4	89.6
Rayalaseema	**53.83**	**78.75**	**2.02**	**86.7**	**94.7**
Andhra Pradesh	**53.86**	**78.91**	**2.03**	**86.9**	**94.9**

11 What Does the Young Lives Longitudinal Panel Study Reveal?

Young Lives (https://www.younglives.org.uk) is a longitudinal panel study in Andhra Pradesh and Telangana following the same children (3000) and their households since 2002 and, so far, five rounds of data collection have been completed. It is a two cohort study—younger cohort were one year old in 2002 and turned to 15 years by 2016 when the fifth round was completed; older cohort, who were eight-year-old in 2002, turned to 22 years by 2016. The study facilitates inter-cohort comparison on important

Table 11 Enrolment details from young lives—A longitudinal panel study in Telugu states

Population Groups	Enrolment of younger cohort (%)			Enrolment of older cohort (%)
	Age 8 in 2009	Age 12 in 2013	Age 15 in 2016	Age 15 in 2009
Male	99.40	97.42	92.54	82.65
Female	98.74	96.90	89.47	73.82
SC	98.83	97.97	91.10	77.20
ST	98.93	96.09	86.67	75.73
BC	98.85	96.44	90.62	75.83
OC	100.00	98.95	95.45	85.48
Poor	98.40	95.59	84.43	68.00
Rich	99.84	99.36	96.81	88.37
Urban	99.79	98.67	94.80	86.79
Rural	98.85	96.59	89.56	75.43
Govt. school	54.67	59.26	57.79	64.11
Andhra Pradesh	**99.24**	**97.66**	**90.78**	**79.35**
Telangana	**98.80**	**96.21**	**91.63**	**75.79**
Both the states	99.09	97.18	91.11	78.10

indicators, including education. There is a substantial improvement in enrolment of 15-year-olds in both the States. In fact, 79.35% of 15-year-olds were enrolled as on 2009 in A P and in seven years' time, i.e. by 2016, the enrolment of children aged 15 years increased to 90.8%, accounting for around 11% points increase in enrolment. We find much higher increase in the case of Telangana (Table 11).

Despite increase in enrolment of 15-year-olds in a seven-year period, there are differences in enrolment among socio-economic groups. For instance, around 12% points difference between poor and rich, around three percentage points between gender, and nearly nine percentage points of difference between other castes and ST children. These results, by and large, are in conformity with the predictions based on NSSO data presented earlier. There is a need to target the laggard sections to achieve universalisation of secondary education in both the States.

But the CABE under the Ministry of Human Resources, in its report, contemplates that by 2020, the target should be universal enrolment in secondary education, full retention and mastery learning in all kinds of learning tasks by more than 60% learners. Thus, universalisation is not merely enrolment but mastery learning by majority of students. Young Lives study results provide inter-cohort comparison in learning by 15-year-olds (i.e. 15-year-olds in 2009 and in 2016) by posing common mathematics questions. The questions posed and the learning outcomes of students are placed in Table 12.

The results reveal that a quarter of the 15-year-olds did not answer any comparable questions correctly in both the States, and more so in Telangana, either in 2009 or in 2016. Around 12% of the students answered all the comparable questions correctly in

Table 12 Learning outcomes of 15-year-old children in Telugu States—Evidence from panel study

Population Groups	Answered common mathematics questions correctly (%)						Answered all comparable mathematics questions correctly (%)		Did not answer any comparable mathematics questions correctly (%)	
	Solving addition 9.81 + 7.62		Reading a pie chart		Approximating annual sales from weekly data					
	2009	2016	2009	2016	2009	2016	2009	2016	2009	2016
Male	57.1	58.7	40.5	37.2	37.2	29.2	16.8	11.3	23.5	24.4
Female	50.1	58.7	35.1	38.4	24.6	24.4	7.1	8.6	29.6	24.0
SC	40.8	52.8	30.2	33.2	29.6	23.2	7.3	6.8	34.6	26.4
ST	50.5	50.7	24.7	36.1	28.9	23.4	7.2	6.9	34.0	27.4
BC	53.4	59.3	38.6	37.3	28.1	26.4	11.0	10.0	27.3	25.8
OC	68.0	68.6	50.3	44.2	38.7	34.3	20.4	15.2	13.3	16.5
Poor	42.9	50.3	27.1	32.8	27.1	22.1	6.2	6.0	35.2	30.8
Rich	62.9	67.9	45.9	41.7	35.4	31.9	16.0	13.8	17.7	17.0
Urban	59.5	66.7	46.3	40.2	34.6	30.1	14.2	13.3	18.5	20.0
Rural	51.6	56.1	35.0	37.0	29.5	26.0	11.1	9.0	29.2	25.6
Govt. school	51.8	54.5	33.9	37.9	29.4	25.4	9.7	9.0	26.3	25.8
Private school	74.9	74.3	55.1	43.2	40.9	31.9	20.2	14.0	8.9	13.2
Andhra Pradesh	55.8	63.7	40.0	40.4	30.4	29.3	11.9	11.6	25.2	21.3
Telangana	49.2	49.5	33.5	32.8	31.4	22.8	11.6	7.1	29.4	29.7
Both states	53.5	58.7	37.7	37.8	30.7	27.0	11.8	10.0	26.6	24.2

2009 and only 10% in 2016, i.e. a two percentage points decline in the performance. The decline in learning outcomes in Telangana is much more (4.5% points) compared to A P. There are huge socio-economic differences in the learning achievement and it is true in both the States. Thus, both the States are far away from the contemplated objective of CABE report in terms of learning achievement, though some sections are better placed in enrolment.

11.1 What the Recent Survey on Out-of-School Children in Telangana Reveal?

The authors were associated with the recent survey (2018), conducted by Centre for Economic and Social Studies (CESS), on out-of-school children in Telangana and present brief results that help in assessing the situation on universalisation of secondary education. As a part of the research, we conducted a listing survey,

Table 13 Out-of-school children in the age group 6–16 years in the State of Telangana

District	Total No. of Hhlds	Never attended	%	Drop-out	%	OoSC	%
Jogulamba Gadwal	544	25	4.6	92	16.9	117	21.5
Jayashankar Bhupalpally	398	10	2.5	31	7.8	41	10.3
Komaram Bheem	415	6	1.4	69	16.6	75	18.1
Hyderabad	592	17	2.9	81	13.7	98	16.6
Total	1949	58	3.0	273	14.0	331	17.0

Note OoSC = out-of-school children; Hhlds = Households having 6–16-year-old children
Source CESS field survey 2018

covering 3357 households spread over the four newly-formed districts in the State of Telangana. Out of 3357 listed, 1949 households reported the presence of 6–16-year-old children. The main objective of the study was to estimate the numbers of out-of-school children (OoSC) and ascertain the reasons for the out-of-school incidence.

The results reveal that 17% of 6–16-year-olds in the State (Telangana) are out-of-school, comprising 14% drop-outs and three percentage never-enrolled (Table 13). OoSC varies across districts, i.e. highest in Jogulamba Gadwal district (21.5%) and the lowest in Jayashankar Bhupalpalle district (10.3%). Within the social groups, STs recorded the highest with 18.8% of OoSC, followed by BCs (16.3%), SCs (15.4%) and OCs (14.1%). Thus, there are never-enrolled and drop-outs in the age group 6–16-years, irrespective of the district and social group, and the strategy must be to address the issue at micro level.

Among the drop-outs, it emerges that overall 41% of the children aged 6–16-years are dropping out in the primary classes, i.e. before reaching Grade-5. Another 42% are dropping out in the elementary classes, i.e. Grades-6, 7 and 8, and 16.6% in the secondary and higher secondary classes, i.e. Grades-9, 10 and 11 (Table 14). On an average, these children are completing only Grade-6. The drop-out rate by district,

Table 14 Caste-wise, grade-wise drop-out rates in Telangana

Caste	Up to primary	Grades 6 + 7 + 8	Grade 9	Grade 10	Grade 11	Average grade at which dropped out
SC	20.8	58.5	10.4	7.8	2.6	6.8
ST	63.3	29.9	5.1	1.7	0	4.4
BC	32.4	45.9	8.1	5.6	8.1	6.6
OC	50.0	16.7	8.3	8.3	16.7	6.4
All	41.3	42.1	7.6	4.8	4.2	5.9

caste and grade differs and there are huge variations. For instance, around 29% are dropping out by the time they complete primary classes in Jogulamba Gadwal district. This is 40% in the case of Jayashankar Bhupalpalli, 45% in the case of Komaram Bheem, and 50% in the case of Hyderabad. Given the trend, universalisation of enrolment in secondary schools is a distant dream and, as such, efforts have to made in mission mode to achieve universalisation of secondary education.

12 Summary and Conclusion

Central Advisory Board of Education (CABE) committee in 2005 recommended universalising of secondary education by 2015. The target envisaged universal enrolment, full retention and mastery learning in all kinds of learning tasks by more than 60% learners by 2020. RMSA, in partnership with State governments, seeks to universalise enrolment in Grades 9 and 10 across the country. The target is for universalising entry into secondary school by the end of 2017 and achieving universal completion of Grade 10 by 2020. SDG also contemplates to ensure *inclusive and equitable quality education and promote lifelong learning opportunities for all* in India by 2030. But the literature, including UNESCO reports, shows wide disparities in enrolment and in learning levels across socio-economic groups, while expressing concern on the possibilities of achieving universalisation of secondary education. With regard to literacy rate, the Telugu-speaking States (Andhra Pradesh and Telangana) together was always lower than the all-India average. The combined State of Andhra Pradesh, with a person or total literacy rate of 67.7, is among the four least literate States in India. The other three least literate States are Bihar (63.8), Rajasthan (67.1) and Jharkhand (67.6). Against this backdrop, the study attempts to assess the prospects and challenges in achieving the universalisation of secondary education in India and in the two Telugu-speaking states using NSSO data, and other surveys and reports.

At all-India level, the estimated trend growth rate in the percentage of children in the age group 14–15 years, enrolled in educational institutions, is 2.7 during 1993–94 and 2011–12 and it is significant. At this growth rate of 2.7, only 62.1% of children would be enrolled by 2020, whereas CABE report contemplated universal enrolment in secondary education by 2015. With the present rate of growth, 100% net enrolment of children in the age group 14–15 years would be achieved only by 2038. It will take 80 years beyond 2020, to achieve 100% net enrolment of children in the age group 16–17 years. It is more important to arrest the incidence of drop-outs from school in the said age group of children to achieve universalisation of secondary education. At the given rate of decline, nearly one-tenth of children in the age group 14–15 years and one-fourth in the age group 16–17 years would be dropping out from schools by 2020. Only about 65.2% of the 17-year-old children would be completing secondary level during 2016 and about 72.5% would be completing secondary level during 2020. Overall, it will take 13 years beyond 2020 to achieve 100% in secondary completion rates of 17-year-olds. Children from poor households would achieve 100% only by 2039 and children from ST households by 2038. From this perspective, we may note

that universalising secondary education is only a distant dream. Parental education and the share of expenditure on education are some of the factors that are determining the completion rates.

Similarly, Telangana State will achieve 100% enrolment of children aged 6–14 years only by 2022 and new Andhra Pradesh by 2023. Young lives, a panel and inter-cohort study, shows an increase of 11% points in enrolment of 15-year-olds from 2009 to 2016, i.e. around 91% of 15-year-olds were in schools in 2016. It is, by and large, true in both the States. In the case of 6–16 years, the out-of-school children are around 17% in Telangana, as per the research report 2018, and the average grade completed by those dropped out is only Grade-6. All these show that universalising the secondary education in the Telugu state is also a distant dream. Apart from the enrolment, the learning levels in both the States are declining which is a major concern that calls for the attention of the policy-makers.

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Skill Development, Vocational Education and Employment

Elusive Vocational Education Programme: An Analysis of Trends in Indian Secondary Schools

Mona Sedwal

Vocational education, based on occupation and employment, is also known as career and technical education (CTE) or technical and vocational education and training (TVET). It prepares students, with specific skills, through practical sessions for careers at various levels in all spheres of life. Vocational education (VE) in India has been an age-old dream that is sought to be realised in the context of the changing demographic dividend. As projected, by 2020, the population in the working age group (15–59) years is likely to increase from 58% in 2001 to more than 65% by 2021. "Demographic Dividend" is the term used for the population in the younger age group of 20–35 years, which makes India as the "country with the maximum young population" in the world (Mehrotra 2014). As a response to this, the Government is focussing on vocational education by taking a number of important initiatives in this area. The link between education and employment has always been debated on the basis of acquiring either knowledge or skills. Historically, in India, the basis of colonial education was to prepare the local masses for administrative jobs by providing basic skills alone. The Macaulay's minute had been a landmark as it stated that education was only related to the idea of acquiring a job in the government sector. With this backdrop, vocational education can also be traced from the historical context and this is imperative in understanding the implementation of the vocational education programme.

The trend of increasing industrialisation and declining agriculture, since the nineties, is the consequence of the youth migrating from rural to urban areas in search of profitable employment. The education and skill characteristics are not in line with the rapidly industrialising and developing economies. A broad shift in the occupational structure of the Indian economy–from farm to non-farm—has resulted in new skill requirements for the emerging workforce. The World Bank indicates

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that skill development enrolment in vocational education in India is negligible when judged by international comparisons. It also states that only five per cent of the Indian labour force in the age group of 20–24 has received vocational training (World Bank 2008). As a follow-up, India developed a roadmap for skill development, with an institutional structure at the national level, which was followed by the National Policy on Skills Development in 2009, with the target of imparting skills' training to 500 million by 2022. It also focussed on outcome and linkage to jobs and employability of the trained people (GOI 2009).

Globally Sustainable Development Goals (SDG) 2030 focusses on building capacities and TVET, in particular, presents an account of practices adopted for the economic development of the country. In one of its capacity building programmes for the African region, it was pointed out that there is a need to transform the TVET at the national and institutional level, informed by global and regional trends and vision, through the alignment of local issues with the regional and global agendas (UNESCO 2017). While many Asian countries like Malaysia, Korea, Singapore, etc. have focussed on the TVET since the nineties with emphasis on aligning the multiple departments for providing the implementable policy with the attainable goal. (Tilak 1988 and 2003)

In the Indian context, vocational education and training was introduced way back in 1854. However, the goal for its expansion is far from being realised due to various pertinent issues, one of them being that this education is the last option rather than a choice for the students and this aspect is explored in the paper. This paper takes into account the genesis of vocational education and its growth in the secondary education with a focus on its impact on the education system. It also traces the development of vocational education through the Five Year Plans of the country for analysing the trends. The involvement of various players, who have no interface with each other in designing the curriculum to its delivery to students, is probed through identification of gaps between policy and practice by addressing the demand for creating employment opportunities for educated students. The focus of the paper is on identifying the issues and challenges in vocational education with a way forward in realising the promise of employment for all.

1 Tracing the Origin of Vocational Education

Vocational education is an area that needs to be explored through the lens of employability as the goal which needs to be traced from school education. This needs to be in tune with designing of policies for increasing avenues in the job market for students, as per their demands, though in reality, there is a mismatch between the job market and number of persons equipped with skills. This section traces vocational education from its roots, with an attempt to probe its demand which is seen usually as the last option rather than the choice.

1.1 Pre-independence

Eighteenth century was an era that witnessed the industrial revolution where the human resources got replaced with machines for goods production. This led to the need for trained persons for handling the technology, and this was met through formal training in the technology. In the Indian context, this economic change in the world, that demanded technically trained employees to meet the occupational needs, led to the change in the education system. As a colonial nation, the focus was to acquire trained human resources through technical education for which the vocational education and training was conceptualised to meet the demand of the industries. It must be noted that the technical education centres that focussed on providing training for middle-level technical personnel required improvement in the physical infrastructure or the artisans and craftsmen for maintaining appliances and apparatus of the armed forces.

The demand of skilled manpower was firstly addressed in the Woods Dispatch 1854 that recommended to establish professional or vocational institutions offering specialization in medicine, engineering, law and other professions. Later Hunter Commission (1882) also emphasized to the provision of vocational education but only it was confined to the Bombay Province that too in the area of agriculture. The period from 1902–1921 illustrates that there had been no major progress in the vocational education as no adequate measures were taken to mainstream it as was desired by the Hunter Commission and, further, there was no demand for it. (Nurullah and Naik 1943)

In 1929, Hartog Committee also pointed out that formal education overscored the vocational education as it had 'little contact with the educational system and was, therefore, largely infructuous'. Later, in 1934, Sapru Committee recommended 11 years of school education with vocational studies, commencing after school education. In 1937, Abott and Wood's Report on problems of vocational education recommended that the colonial government start its first massive nation-wide training programme in 1940 under "War Technicians Training Scheme", to meet urgent defence requirements, related to World War II, in the country. The report is crucial as many of the issues are found to still have contemporary relevance in so far as comparison with the subject stream specialisation and its expansion throughout the country is concerned.

During the same time in 1937, the Wardha Scheme also focussed on teaching the basic craft through vocational in the self-sufficient mode, with special focus on manual labour. This was thought to be the best way of individual learning, leading to earning of a livelihood since it was linked with the child's surroundings. Thus, it can be concluded that there was no consensus on the designing and implementation of vocational education at this point of time as the vocations were based on providing support to the government requirements while earning a livelihood. The vocational education was an integral part of the learning in the informal manner as it was an in-built part of the social structure. Employability was the first priority of an educated person due to economic necessity. Similarly, Sargeant Report (1944)

also recommended having adequate provision for efficient training with practical exposure.

While the pre-Independence era formed the backdrop for the genesis of the vocational education since 1854, the expansion took place only after the Abott and Wood's Report in 1937. The reports of various committees pointed out that there was a lack of demand for vocational education as also the nature of courses to be transacted. This led to the sluggish progress of vocational education that was further accentuated due to the lack of funds and trained teachers.

1.2 Post-independence

In continuation of the need for skilled human resources for economic and industrial development post-Independence, the All India Council for Technical Education (AICTE) , established in 1945, took initiatives for expansion of technical institutions throughout the country. The major focus was to provide technical education, after high school, through various policies and commissions at different points of time. The Ministries of Education, Labour, Industry and Commerce besides the Central Advisory Board of Education (CABE) were involved in the exercise.

For catering the constant demand for vocational education in 1948–49, the University Education Commission recommended that students completing tenth grade in vocational education could take admission in the newly-constructed intermediate colleges, The objective was to cater to the demand for vocational education with employment skills also keeping pace with the general education for higher education. Later in 1952, Mudaliar Commission also recommended that the student have the option for taking up the vocations with diversification of the courses at the secondary as well as post- secondary level. This was further reinforced in the Education Commission 1964–66 with reference to the importance of vocational education and suggested two distinctive streams at higher secondary stage: one to prepare students for advance studies at universities and professional colleges and, second, to prepare students for a variety of occupations. It insisted that work-experience should be introduced as an integral part of all education and these recommendations led to policy formulation in 1968 and 1986 on vocationalisation of school education under the MHRD.

The centrally sponsored scheme of *Vocationalisation of Higher Secondary Education* was launched in 1988 to cover 10,000 schools with intake capacity of about ten lakh students. The scheme was revised in September 2011 as *Vocationalisation of Secondary and Higher Secondary Education* to meet the demand for highly skilled human resource for the national and international markets. In April 2013, the scheme was merged under the *Rashtriya Madhyamik Shiksha Abhiyan* scheme. Some of the significant amendments were introducing the vocational education from Class IX onwards, with increased financial provisions, for inviting resource persons and engaging with the Industry/Sector Skill Councils (SSCs) for assessment, certification and training. The status of vocational education in Table 1 illustrates the gap between the sanctioned schools and the implementation.

Table 1 Status of vocational education

S. No.	State	Number of schools approved								Number of schools implemented
		2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	Total	
1	Andaman & Nicobar Isles	0	0	0	0	5	12	4	21	17
2	Andhra Pradesh		26	0	0	0	100	80	206	126
3	Arunachal Pradesh	0	0	10	11	0	78	0	99	21
4	Assam	59	0	0	0	95	0	100	252	154
5	Bihar	0	0	38	0	0	0	0	38	0
6	Chandigarh	0	0	5	1	4	2	2	14	12
7	Chhattisgarh	0	0	25	0	96	270	100	491	391
8	Dadra and Nagar Haveli	0	0	0	0	2	2	0	4	0
9	Daman and Diu	0	0	0	0	2	3	0	5	2
10	Delhi	0	0	22	0	0	0	0	22	22
11	Goa	0	0	0	37	38	3	0	78	78
12	Gujarat	0	0	0	0	20	0	0	20	0
13	Haryana	40	0	100	100	250	500	11	1001	990
14	Himachal Pradesh	0	100	0	100	300	467	23	873	850
15	Jammu and Kashmir	0	0	22	110	0	220	0	352	132
16	Jharkhand	0	0	0	0	53	107	55	215	160
17	Karnataka	0	250	0	0	0	0	0	100	100
18	Kerala			0	0	0	0	20	20	0
19	Madhya Pradesh	0	0	50	0	0	263	313	626	313
20	Maharashtra	0	0	0	347	0	164	10	516	479

(continued)

Table 1 (continued)

S. No.	State	Number of schools approved								Number of schools implemented
		2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	Total	
21	Manipur	0	0	9	30	0	3	0	42	42
22	Meghalaya	0	0	0	0	5	5	3	13	0
23	Mizoram	0	0	0	0	10	1	3	14	11
24	Nagaland	0	0	5	0	0	5	1	11	10
25	Odisha	0	0	30	0	0	178	106	314	208
26	Punjab	0	0	0	100	300	380	0	780	400
27	Rajasthan	0	0	0	70	220	380	50	720	670
28	Sikkim	0	44	0	8	12	57	0	121	121
29	Tamil Nadu						67	0	67	0
30	Telangana	0	20	0	0		100	72	192	120
31	Uttar Pradesh	0	100	0	0		100	0	200	189
32	Uttarakhand	0	0	11	33	36	120	0	200	0
33	West Bengal	93	0	0	0	196	211	100	600	500
	Total	192	540	327	947	1644	3798	1053	8227	6118

Source http://www.rmsaindia.gov.in/en/component/pdf/__recentdocs.html?catid=199&main=199&Itemid=224&type=-1
Inclusive of higher secondary schools

Table 2 Vocational schools in India (IX–X)

S. No.	State name	2015–16	2016–17
1	Andaman and Nicobar Islands	13	20
2	Arunachal Pradesh	21	8
3	Assam	83	150
4	Bihar	1	1
5	Chandigarh	10	12
6	Chhattisgarh	85	404
7	Goa	77	71
8	Gujarat	8	0
9	Haryana	490	990
10	Himachal Pradesh	553	888
11	Jammu And Kashmir	131	343
12	Jharkhand	18	1
13	Karnataka	7	0
14	Kerala	32	0
15	Madhya Pradesh	65	260
16	Maharashtra	369	430
17	Manipur	0	1
18	Meghalaya	10	0
19	Mizoram	10	27
20	Odisha	3	1
21	Puducherry	1	0
22	Punjab	482	471
23	Sikkim	63	0
24	Telangana	5	0
25	Uttar Pradesh	13	0
26	West Bengal	0	6
	Total	2550	4084

Source Computed from UDISE data

Another major change was the introduction of the National Vocational Education Qualification Framework (NVEQF) in 2012. NVEQF is a descriptive framework that organises qualifications according to a series of levels of knowledge along with skills with the aim of integrating general academic education, vocational education, vocational training and higher education as a comprehensive system. The number of vocational schools have been increasing due to the change in economy which is creating demand for skilled persons (Table 2).

2 Vocational Education Under Five Year Plans: A Review

Education policies addressed the major issue of providing employment to all with the continued efforts in expanding the choices in vocational education along with the option for higher education. Initially, the vocational education in school was known as Work Education from Grades I to VIII for introducing the concept of work. Pre-vocational education is imparted in Grades IX–X (secondary level) with a view to providing the students a measure of familiarity with the wide spectrum of the world of work. In Grades XI–XII, which is the higher secondary level, distinct streams are introduced. Consequently, the Government of India took various measures to make the country self-reliant by way of massive economic and industrial development through its Five Year plans.

Tracing the journey of vocational education in secondary schools through the lens of five year plans is crucial for assessing its implementation and development. In the first five year plan, the focus was to provide a vocational bias based on the Directive Principles of the State Policy as per the constitutional provisions and approved schemes. It further states that the present education system does not provide scope for children who have a practical approach towards learning. The five year plan also mentions that "suitable types of multilateral or unilateral schools offering parallel courses should be provided and the personnel for vocational guidance should be trained. The standards to be attained should be high enough, … majority of students whose education ends at the secondary stage to be efficient workers and ….". The most significant statement to be considered is 'Secondary education is regarded as the weakest link in the educational chain and an expert examination of its problems has become overdue' (GoI 1951, p. 223). Thus, it was stated that secondary education needs special planning as it is the link between the basic and the higher education.

During the second five year plan, a comprehensive review of the issues related to the secondary education in 1953 reported the need to overhaul the curriculum as it was not related to the child's experience. Thus, it was proposed to engage substantial numbers of skilled workers, technicians and specialists in specific vocations. The budget for the technical and vocational education doubled from 230 million from the previous plan period to 480 million (GoI 1956, p. 500). The proposal was to achieve the development goals by focussing on the education provided to the children in the 14–17 years' age group. For this purpose, the courses and training were to be designed according to the child's aptitude and capacities. During the previous plan, 250 multi-purpose schools were started and it was expected to be increased to 1187 during the second plan for imparting diversified vocational courses. It must be pointed out that the focus in this plan was 'to develop agriculture at the secondary stage in rural areas…provide additional 200 agricultural courses' (GoI 1956, p. 510).

The five year plan also proposed setting up of junior technical schools for general and technical education along with workshop training for a period of three years for boys in the age group of 14–17 years. It also recommended attending to the requirement of training of the secondary teachers in vocational courses. The Ministry of Education also recommended having a programme for training 500 degree teachers

and 1000 diploma teachers for multi-purpose and junior technical schools. State Plans provided Rs. 460 million for the reorientation of secondary education for providing educational and vocational guidance (GoI 1956, p. 510).

The Third Plan focussed on expanding the reach of quality vocational guidance programmes among the students, with an emphasis on consolidation and improvement of all aspects of secondary education reorganisation. The observations were recorded regarding the difficulties in the functioning of the multi-purpose schools. As discussed earlier, 2115 multi-purpose schools were established that offered practical courses in Technology, Agriculture, Commerce, Home Science and Fine Arts in addition to Humanities and Science. But the major issue was related to the lack of trained teachers and teaching material for these courses. The plan proposed to consolidate the scheme by strengthening the established schools and limiting the expansion for only 331 schools. The focus was on integrated teacher training programme for which four regional training colleges were proposed to be set up to 'prepare teachers for the multi-purpose schools through in-service and pre-service training programmes to stimulate greater experimental work for providing courses of study suited to different levels of ability, including special programmes of education for gifted students' (GoI 1961). The Fourth five year Plan reinforced the need to provide skills to students after elementary schooling with reference to the new demands (GoI 1967).

The following plan also proposed that 'vocationalisation at the secondary stage will be initiated in selected areas during the next two years so that well-conceived and fully thought-out programmes are implemented' (GoI 1973). A similar trend was also followed in the sixth five year plan, which merely focussed on designing the model for linking the vocational education with the employment opportunities. It was proposed to carry this out through the 'detailed surveys of existing and potential work opportunities and of available educational and training facilities. It should also keep in view the specific roles and responsibilities of the different agencies and ensure coordination at the operational level between the developmental programmes and the educational system' (GoI 1981). The focus was to establish linkages with different agencies for practical experience in the vocational skills, namely *Krishi Udyog, Van Vikas* and vocational training centres and the new facilities need to be created only in the rural areas. This programme made limited progress, with an enrolment of about 55,000 students in vocational education, confined to nine States and three Union Territories where it had been introduced.

The Seventh five year plan opined that the 'socially useful productive work (work experience) programme component …. Besides, the support system for development, training, management and supervision available for vocationalisation programmes, will also be utilised for the programme of socially useful productive work at the secondary stage. Some courses/activities of pre-vocational character will also be introduced for more effective implementation of this programme' (GoI 1985). Thus, the major focus was provided on vocational education in the higher secondary schools by ensuring that there is no overlap of the courses between technical and vocational institutions and the schools. It also stated that vocational education courses are to be initiated in a flexible manner, linking with the upcoming job opportunities. The

success of vocational education scheme can be achieved only through collaboration with the States, for which an expert committee was set up for expanding the programme in coordination with the education system.

The following plan coincided with the liberalisation of the economy that marked the expansion of the education system in the country. The vocational education scheme was revised, and it was reported that 'By the end of 1991–92, about 8.7% of the higher secondary students (5.85 lakhs) would have been diverted to vocational stream… education would be linked to the world of work … improving the quality of vocational education' (GoI 1992). In the Eighth five year plan, the National Open Schooling (NOS) was made responsible for introducing and developing courses for vocational education for 'health, agriculture and rural development in collaboration with the concerned departments'. It also focussed on the courses which could be flexible and need-based, catering to the disadvantaged groups. At this point, it was suggested 'experimental projects with other vocational education models are also tried out, e.g. pre-vocational education at the lower secondary level…involve major industrial houses … services of commercial agencies and NGOs will also be utilised' (GoI 1992).

The Ninth five year plan recorded that 'secondary education curricula continue to be liberal and oriented to the first degree courses, in spite of the strong advocacy in favour of vocationalisation and investments made to divert students to vocational courses' (GoI 1999). It emphasised on pre-vocational training at the secondary level for industrial and agricultural development with practical training. In 1993–94, pre-vocational training to students enrolled at the secondary stage was initiated and the programme of vocationalisation was extended to 6476 schools during 1995–96 with a share of 11.5% of students in the vocational streams. But it must be noted that 'in spite of creating capacity for diversion of 11.5% secondary pass students to vocational courses, only 4.8% students could be diverted' (GoI 1999). The NOS contributed to vocational education by developing '23 secondary courses including vocational courses in the areas of Agriculture, Commerce and Business, Technology, Para-medical and Home Science… 105 are vocational study centres' (GoI 1999).

Basic premise for introducing the vocational education scheme was to divert at least 25% of school students in self-employment but only 4.8% of students opted for it against the 25% target. The scheme required a huge pool of academic expertise and logistical support along with strong linkages between the industries and institutes. Thus, it became pertinent to revise the scheme with the provision for providing employability to the target group, based on the coordination among different departments of the various ministries. The plan outlay of Rs. 1000 million was provided under the vocational education scheme.

By Tenth plan the vocational education rolled out was functional in 6700 schools offering more than 150 courses in six major disciplines: agriculture, business and commerce, engineering and technology, health and para-medical services, home sciences and humanities. With so many courses, there is a need to collaborate with various ministries, private sector and NGOs for providing training for hands-on experience as well as financial support for setting up personal ventures. It was also reported that for promoting vocational education, around 168 NGOs were provided

financial assistance for designing innovative programmes for rural unemployed youth and school drop-outs. This was proposed due to partial success of the vocational education scheme at the secondary stage as students preferred to opt for general education whereas the need was for skilled and technical human resources with the change in the economic scenario due to liberalisation (GoI 2002). The demand and need-based approach to the vocational education was emphasised with flexibility 'to allow students to switch courses with changes in demand patterns' (GoI 2002). It also recommended involvement of industries and professional institutes in designing, training and certification of courses. The convergence of different programmes was also mentioned as the State scenarios were different and there was a need to contextualise the course with the demand for regular updation of the curriculum. The need for training vocational education teachers was reinforced with a need to create platforms for sharing ideas between trainers and trainees. Involvement of industry associations like Federation of Indian Chambers of Commerce and Industry (FICCI), Associated Chambers of Commerce and Industry (ASSOCHAM) and Confederation of Indian Industry (CII) was also suggested for imparting skills.

Eleventh five year plan introduced the concept of National Vocational Qualification (NVQ) system that was to be developed in collaboration with public and private sectors to cater to the demand of the industry and the individuals. Central Institute of Vocational Education (PSSCIVE), Bhopal served as the national resource institution for policy, planning, and monitoring of vocational programmes. NVQ was in the form of modular competency vocational education with a mechanism of testing skills. SCERTs, DIETs and BRCs were to extend an integrated institutional mechanism for effective implementation of vocational programmes in convergent mode. The proposal was to cover 20,000 schools by 2011–12 while so far 9583 schools were created (GoI 2008).

In the Twelfth Plan, 'a mechanism was created for convergence of vocational courses offered by various ministries, private initiatives and vocational education institutions, and use schools as the outlet for vocational education of young people' (GoI, 2012). The vocational education scheme was reviewed and supported by National Vocational Education Qualifications Framework (NVEQF) for smooth transition from school to higher education 'and provide more options to students to choose vocational modules depending on their aptitude and economic requirements' (GoI, 2012). Competency-based modules were developed for vocational courses and a pilot programme, within the NVEQF, in 40 pilot schools in eight districts of Haryana to about 400 schools by 2013–14. An MIS and web portal on vocational education to share best practices and experiences was proposed. The emphasis was to develop skills in the formal education from Grade IX onwards and a vocational education cell has been established within the CBSE. Based on the CBSE-NIOS collaboration model, the States were also supported for setting up similar cells in the State Boards. The model allowed the credit accumulation and transfer for accelerated participation of students to opt for vocational courses along with academic courses either as combination subjects or additional subjects. For quality assurance, the course design and TLM development was to get decentralised while PSSCIVE got responsibility for quality assurance in vocational education.

Analysis of all the five year plans on vocational education exemplify that since 1950s with the first Five Year Plan (1951–56), vocational education as a programme has been considered a very crucial area at the secondary level as it is a link between primary and higher education. The same idea prevailed with the subsequent plans until the nineties when the National Policy on Education (NPE), 1986 brought vocational education at the centre stage. In 1995–96, vocational education programme was expanded, but it had a very tepid response from the students in spite of the provisions made for pre-vocational training, pointing towards a relook at the programme.

3 Translating Plans into Reality: Pragmatic Outlook

The vocational education has been a very complex area for deeper interventions with a blanket approach as there are many skills transacted in the limited scope of streams. From the previous sections, it is evident that there had been no demand for vocational education due to which its expansion had been very limited. Figure 1 illustrates the major landmarks in the field of vocational and skill education, based on the education policies and the developments specific to it.

As mentioned earlier, vocational education falls under the purview of the Ministry of Human Resources Development (MHRD). The All India Council for Vocational Education (AICVE), under MHRD, is responsible for planning, guiding and coordinating the programme at the national level while State Councils for Vocational Education (SCVEs) execute it at the State level (Prasad et al. 2010). The vocational education programme was initiated with a view to reducing the pressure on higher education by diverting 50% students who complete Grade X, according to the NPE, 1968. In

Fig. 1 Landmarks in development of vocational education

1970, very few States and UTs accepted the vocational education and by 1976, the National Council of Educational Research and Training (NCERT) document, *Higher Secondary Education and its Vocationalization*, prepared a model conceptual framework for implementation across the nation (Pilz 2016). Subsequently, the National Policy on Education 1986 pointed towards the systematic and well-planned reorganisation of vocational education as a stream offering different vocations. In 1988, the National Working Group on Vocationalisation of Education (also known as the V.C. Kulandaiswamy Committee) reviewed the Vocational Education Programme and prepared the guidelines for expansion of the programme. Based on its recommendations, a centrally sponsored scheme was implemented in the States and UTs, both in the formal and non-formal sectors.

The vocational education scheme focussed on providing diversified educational opportunities, besides reducing the gap in demand for supply of skilled persons while providing an alternative for higher education. Initially, the scheme was for two years at the higher secondary stage and later, based on the report of the evaluation study, it was suggested that vocational education needs to be of a longer duration. In 1995, the Central Board of Secondary Education (CBSE) introduced pre-vocational education scheme for providing basic skills to Classes IX and X students.

Over 2009–10, the scheme was completely revamped, and was implemented from April 2011, but on an extremely small scale because 2011–12 was the final year of the Eleventh Plan. In the beginning of the Twelfth Five Year Plan from April 2012, along with the National Qualification Framework (NQF), various bodies/committees for governance, monitoring and implementation were set up. The Central Board of Vocational Education (CBVE) and State Board of Vocational Education (SBVE) for accreditation/affiliation, examination, certification and equivalence was also formed, which in 2013, were subsumed under *Rashtriya Madhyamik Shiksha Abhiyaan* (RMSA).

The financial provisions for the scheme, which are shared by the Centre and the States, are varied as the Central government gives 100% assistance for 11 components: apprenticeship training, district vocational surveys, textbook development workshops, instructional material subsidy, resource persons training, workshop/laboratory building, equipment to schools, teacher training courses, curriculum development workshop, etc. While 50% assistance is given to the States for five components, viz. vocational wings at State Directorates of Education, SCERT vocational wings, district vocational wings, provision of raw material/contingency funds and field visits by students. The ratio of 75:25 is followed for sharing the financial responsibility between the Centre and the State for vocational school staff. The States completely finance the expenditure on conducting examinations and providing vocational guidance (GoI 2002).

In 2014, with the creation of Ministry of Skills Development and Entrepreneurship (MSDE), a unified policy on skills' sector was designed. Further, the formulation of National Policy on Skill Development and Entrepreneurship (NPSDE) 2015 was published. The main challenge that required to be addressed was that only 4.69% of the workforce was skilled. In this context, the 2016 budget illustrated the focus and direction of the government's policy on skills, including the announcement of

a new National Board for Skill. NPSDE focussed on global partnerships that were viewed as enablers for achieving the target by adopting the certification and assessment framework for quality assurance. In 2018, the Union Cabinet announced the merger of regulatory institutions National Council for Vocational Training (NCVT) and the National Skill Development Agency (NDSA) with the National Council for Vocational Education and Training (NCVET). It is expected that this would make vocational education a desired option for students and lead to the augmentation of skilled manpower in the country. But a mere change in the policies also needs to be clubbed with the expansion of the work market as the demand and supply of both the sectors needs to be balanced well to facilitate a major change.

3.1 Curriculum and NSQF

Vocational education Scheme recommends various career options in skills through Central Board of Secondary Education (CBSE) with 15 Vocational Courses in different sectors at Secondary level and 40 courses at senior secondary level. Many courses are offered, in collaboration with professional organisations, at the secondary level in a format wherein the vocational subject can be offered as an additional sixth subject along with the existing five academic subjects. Thus, if any student fails in any one of the three elective subjects (i.e. science, mathematics and social science), then this subject will be replaced by the vocational subject (offered as the sixth additional subject) and the result of Class X will be computed based on best five subjects. However, if a candidate desires to reappear in the failed subject, he/she may appear in the same along with the compartment examination. There is also a provision for opting for a seventh subject as optional, if vocational subject is taken as a compulsory one (CBSE website).

Overall, more than 100 job roles are covered under vocational education. In 17 sectors, a four-year curriculum is offered for the students. Vocational education is also known as career and Technical Education (CTE) which prepares students in specific trades, involving various practical experiences, while learning. The National Skills Qualification Framework is followed for designing the curricular and learning outcome at the secondary level. The various sectors, offered to be transacted in the secondary schools, are the following:

- Agricultural: With the job role as annual health worker, dairy worker, nursery worker, paddy farmer, solanaceous crop cultivator
- Apparels, Made-ups and Home Furnishings: With the job role as Hand Embroiderer-Addawala, Sewing Machine Operator
- Automotive: With the job role as automotive service technician L-3
- Banking, Financial Services and Insurance (BFSI): With the job role as Business Correspondent (NA)
- Beauty and Wellness: With the job role as Assistant Beauty Therapist
- Construction: With the job role as Assistant Mason

- Electronics and Hardware: With the job role as Field Technician-Other Home Appliances
- Information Technology (IT)/IT-enabled Services (ITeS): With the job role as Domestic Data Entry Operator
- Retail: With the job role as Store Operations Assistant
- Physical Education and Sports: With the job role as Physical Trainer/Teacher
- Plumber: With the job role as Plumber-General
- Power: With the job role as Consumer Energy Meter
- Private Security: With the job role as Unarmed Security Guard
- Telecom: With the job role as optical fibre Splicer
- Tourism and Hospitality: With the job role as Housekeeping Attendant-Manual Cleaning: Food and Beverage Service Trainee
- Transportation Logistics and Warehouse: With the job role as Consignment Tracking Executive, Warehouse Packer.
- Multi-skilling: With the job role as Multi-Skill Technician Course (NA).

NVEQF, piloted (in mid-2012) in two States (Haryana and Assam), was replicated in over 1000 schools in India. The main features of the NVEQF are to involve the private sector, in the form of Sector Skills Councils (SSCs), being sponsored by the National Skill Development Corporation (NSDC), in TVET; courses to be offered from Grade IX; adopting of semester system with credit accumulation; and teaching/training to be based on national occupation standards for each level of vocational education and training for individual skills. The timeframe for implementing the NVEQF was 2017, with the provision of student mobility from vocational to general education and vice versa. The modular courses provide an option to the student for undertaking the higher education with an expectation of increased demand for vocational education (GoI 2013). Academic qualifications were to be assessed and certified by educational bodies and vocational skills would be assessed and certified by respective SSCs. It is, essentially, a quality assurance framework which unifies the National Vocational Qualification Framework (NVQF), developed by the MoLE, and the National Vocational Education Qualification Framework (NVEQF), developed by the Ministry of Human Resource Development (MHRD). The NVEQF has been aligned to NSQF and has been introduced in 2035 schools all over India under the scheme 'Vocationalisation of Secondary and Higher Secondary Education'.

A review of the project of NVEQF in 40 schools in Haryana (2012–13) by the MHRD recommended that vocational education and training should be mainstreamed to increase the number of participants, industry and jobs should drive types of vocational training given, core employability skills should be made essential across sectors and skill analysis need to be conducted. Recognition of Prior Learning (RPL) is a very important associated function of the NSQF (GoI 2013). Based on the notification of NSQF, the NSDA took up pilot projects in select sectors (Agricultural, Capital Goods, Construction, Domestic Workers, Gems and Jewellery, Health care) for RPL along with National Institute of Open Schooling and other important stakeholders. The NSQF curriculum offers courses in 17 sectors, catering to 103 job roles for Grades IX and X.

Table 3 Number of schools with enrolment, 2014–15

State/Board	Schools	Sectors	Expected number
Haryana	240	Auto, Healthcare, Retail, Security, IT-ITeS, Beauty and Wellness and Sports	23,000
Himachal Pradesh	200	Auto, Healthcare, Retail, Security, IT-ITeS, Agriculture	18,000
Uttarakhand	44	Auto, Healthcare, Retail, IT-ITeS	5000
Madhya Pradesh	50	Auto, IT-ITeS	2500
Punjab	100	Auto, Retail, IT/ITES, Security, B&W and Healthcare	5000
Rajasthan	70	Automotive, Gems and Jewellery, Healthcare, Travel & Tourism and Beauty and Wellness	3500
Maharashtra	350	Auto, Healthcare, IT-ITeS, Construction, Capital Goods	15,000
Nagaland	6	IT-ITeS	300
Karnataka	100	Auto, Healthcare, IT-ITeS, Retail	15,000
Chhattisgarh	30	Automotive, Retail and IT-ITES	2000

Source https://www.msde.gov.in/school-education.html

NSDC in 2014–15 worked with the State Governments of Haryana, Himachal Pradesh, Karnataka, Punjab, Uttarakhand, Madhya Pradesh, Nagaland, Maharashtra, Chhattisgarh and Rajasthan for implementation of the scheme in their respective States through its approved and funded Sector Skill Councils (NSDC website). SSCs maintain the link for Identification of Trades/Occupations, Accrediting curriculum with PSSCIVE, Recommendation for Appointment of Vocational (Industry) Coordinator, Quality Control of Training, Training of Trainers, Student Assessment and Certification and Industry Interface. SSCs also conduct assessments and provide certification aligned to the National Skill Qualification Framework (NSQF) along with the State Education Board (Table 3).

The formation of 40 SSCs was to ensure that the qualifications framework, approved by the NSDC for different sectors, was reviewed by the government for preparing the roadmap to develop skills network (GoI 2016).

4 Issues and Challenges

The success of vocational education scheme depends on four major premises: support from the State, curriculum, teacher or resource persons and inter-Ministry/Department collaboration. The first premise of State collaboration was very limited till the Sixth five year plan but, with the formulation of NPE, 1986 and the revision of the scheme with financial support from the Centre, the scheme was extended/expanded in many States. Currently, vocational education scheme has

been merged with RMSA (now *Samagra Shiksha*) due to which the supply side of the scheme was assured but quality aspect is equally critical. The evaluation of vocational education scheme at various points of time in 1996 and 1998 illustrates that the States relegated vocational education to the lowest priority, with the scheme functioning in isolation.

The second premise regarding curriculum needs to be fine tuned with the NVEQF. It adopted a flexible model for incorporating the vocational education within the mainstream education. The PSSCIVE, as the nodal institution, developed the courses in major vocational sectors. Since the curriculum is diversified on demand basis for specific sectors, it becomes difficult to execute it due to lack of physical and academic resources. The syllabi of vocational courses are to be competency-based in modular form with a credit transfer system and provision for multi-point entry/exit, as per the recommendations. However, in practice, managing such a system is quite challenging as every course has a different need for executing it along with attendant practice sessions. The competencies in sync with the NVEQF need to be assessed separately, and this process is not only time consuming but also requires additional resources.

Thirdly, lack of mechanism for appointing full-time teachers for different vocations, as is the case with curriculum discussed above, makes this vocational education scheme less attractive for the States. In spite of the funding from the Centre, the State governments do not appoint full-time teachers to avoid the risk posed by non-continuation of the scheme, even though there is a huge requirement of teachers or resource persons as many courses are offered in various sectors. The issue of teacher training is also an area of concern as since the courses are practical based, the uniformity in the process of training or induction schedule is a challenge.

Further, the focus areas for the vocational education schools being in the rural pockets also, at times, adds to the scarcity of trainers. The selection of schools needs to ensure that all the districts are covered, with particular emphasis on Special Focus Districts (SFDs), including districts affected by Left Wing Extremism (LWE) besides schools located in the Educationally Backward Blocks (EBBs). The selection of schools and trades should be based on the proximity of schools to industry and the placement opportunities for students. Each school needs to select two Vocational Trades on the basis of the Skill Gap Analysis, conducted by National Skill Development Council (NSDC). The share of the disadvantaged groups enrolling in the vocational education can also be analysed as access to vocational education is focussed on the less developed regions as per the vocational education scheme (Tables 4 and 5). Haryana, Himachal Pradesh, Maharashtra, Jammu and Kashmir and Punjab had the maximum number of vocational schools. Among the SC enrolment, the highest number of students were from the States of Punjab and Haryana while, for the ST group, the highest enrolments were in the States of Arunachal Pradesh and Mizoram.

The UDISE data related to the streams offered by schools in the States for the years 2015–16 and 2016–17 revealed that in Haryana, the number of schools offering Beauty and Wellness vocational course increased from 110 to 167, whereas in Punjab, it dropped from 48 to 40 schools. In so far as agriculture stream was concerned, the schools offering the related course increased from 75 to 93 in Himachal Pradesh,

Table 4 Enrolment of scheduled castes children in secondary schools (%)

S. No.	State	Total number of schools		Boys in class IX		Girls in class IX		Boys in class X		Girls in class X	
		2015–16	2016–17	2015–16	2016–17	2015–16	2016–17	2015–16	2016–17	2015–16	2016–17
1	Assam	59	20	10.66	8.95	10.50	12.68	13.85	5.39	8.11	8.30
2	Chandigarh	10	4	22.76	0.00	19.10	0.00	25.89	0.00	18.28	0.00
3	Chhattisgarh	85	395	16.10	14.75	12.86	15.20	20.30	19.14	18.86	14.79
4	Goa	76	68	3.38	4.58	4.65	3.68	1.94	2.75	4.47	4.31
5	Haryana	490	983	40.95	44.82	39.52	42.18	39.82	38.42	37.40	37.50
6	Himachal Pradesh	503	852	35.41	35.45	34.00	35.19	35.27	34.99	33.16	32.91
7	Jammu And Kashmir	115	324	0.00	5.38	0.00	3.38	0.00	0.00	0.00	2.17
8	Jharkhand	13	0	5.07	0	1.90	0	0.00	0	0.00	0
9	Madhya Pradesh	44	245	21.53	22.80	19.03	17.03	19.73	18.57	14.75	18.31
10	Maharashtra	275	356	16.09	20.53	20.50	22.06	15.46	21.37	16.91	23.43
11	Mizoram	10	11	0.00	5.19	0.00	4.35	0.00	0.00	0.00	0.00
12	Punjab	403	405	60.48	62.36	62.90	63.46	55.60	58.18	58.18	62.15
13	Sikkim	63	0	7.91	0	8.16	0	6.92	0	6.85	0
14	Uttar Pradesh	5	0	17.89	0	14.18	0	14.16	0	10.77	0

Source Computed from UDISE data

Table 5 Enrolment of scheduled tribes children in secondary schools (%)

S. No.	State name	Total number of schools		Boys in class IX		Girls in class IX		Boys in class X		Girls in class X	
		2015–16	2016–17	2015–16	2016–17	2015–16	2016–17	2015–16	2016–17	2015–16	2016–17
1	Andaman and Nicobar Islands	5	17	1.35	26.09	3.80	24.20	0.00	0.00	0.00	0.00
2	Arunachal Pradesh	21	2	82.45	60.00	87.36	84.62	76.92	82.14	75.00	90.91
3	Assam	59	20	9.61	5.00	12.54	12.32	0.00	4.04	6.76	5.28
4	Chhattisgarh	85	395	28.78	33.38	26.58	30.76	24.84	27.94	26.29	24.72
5	Goa	76	68	21.77	20.44	25.04	24.14	22.10	23.65	21.82	24.28
6	Haryana	490	983	0.00	0.13	0.00	0.49	0.00	0.13	0.10	0.45
7	Himachal Pradesh	503	852	5.76	5.73	6.06	6.21	7.07	5.44	8.34	5.90
8	Jammu And Kashmir	115	324	0.00	9.20	0.00	7.03	0.00	27.54	0.00	21.20
9	Jharkhand	13	0	41.06	0	32.38	0	0.00	0	0.00	0
10	Madhya Pradesh	44	245	18.51	25.06	15.92	24.06	16.35	14.63	10.75	11.62
11	Maharashtra	275	356	46.15	26.73	30.21	28.05	15.46	24.42	37.17	25.96
12	Mizoram	10	11	100.00	93.94	100.00	95.26	0.00	100.00	0.00	100.00
13	Punjab	403	405	0.24	0.01	0.03	0.06	0.00	0.04	0.00	0.05
14	Sikkim	63	0	34.54	0	38.10	0	33.69	0	36.71	0

Source Computed from UDISE data

16 to 46 in Haryana during the same period while, in Punjab, the schools decreased from 57 to 52. There was a huge jump in the number of schools offering Healthcare stream in Chhattisgarh from 14 to 168 while, in Haryana, the corresponding increase for the stream was from 94 to 134 schools. In the same stream in Himachal Pradesh, the number of schools rose from 100 to 131 but the maximum rise was in Jammu and Kashmir—from 56 to 124. In IT and IT-Enabled Services, the number of schools in Chhattisgarh, increased from 55 to 79; in Haryana from 60 to 232; in Himachal Pradesh, from 38 to 60 and, in Jammu and Kashmir, it increased to 29 from none. In the Sports stream, the number of schools in Haryana increased from 69 to 116 (UDISE Raw Data, 2018).

Further, due to lack of coordination between different Ministries and departments, vocational education could not create the expected demand in the education system. The linkage of secondary education with higher education and industry, from where the demand is generated for skilled human resources, is quite weak. There is still a different treatmential with reference to where the stream of programme is undertaken, namely general or vocational education. It is proposed that vocational courses should be provided in general schools in active partnership with industry and close collaboration with the Block-Level Vocational Institutions (BLVI), established in rural areas. A proposal was also made for charging fees and evolve self-financing mechanisms for sustaining the scheme.

The lack of cooperation between institution and industry entailed a lack of incentives to attract the private players. To add to it, there was a shortage of skilled trainers and teachers coupled with a lack of provision for training and continuous upgradation of teachers in different vocations. Likewise, there was also a lack of student mobility from one sector to another. As such, in order to address these issues, it is imperative that the collaboration between NOS and the formal sector be of a complementary nature to enable having vocational courses that will make the desired impact while conforming to quality requirements. The National Skill Development Corporation India (NSDC), as a response to these concerns, was set up in 2008 as a public–private partnership Company with the primary mandate of catalysing the skills' landscape in India. NSDC is a unique model, based on the pillars of create; fund; and enable, for meeting international standards in collaboration with the industries. SSCs, set up as autonomous industry-led bodies by NSDC, created the occupational standards and framework on curriculum aligned to national standards. NSDA, established in 2013, had an impact on school education as it gave an impetus to vocational education. Simultaneously, the impact of other programmes like the *Sarva Shiksha Abhiyaan* (SSA), launched in 2000, *Rashtriya Madhyamik Shiksha Abhiyaan* (RMSA), launched in 2009, and the Right to Education Act, 2010 (RtE) also had an impact on the design and implementation of the vocational education scheme. For instance, it was observed that there was an urgent need to accommodate all the pass-outs from these schemes in the skill sector so that they could gain the skills required for leading a self-sustainable life.

Despite many efforts, the vocational education is still quite limited, with only a few options for upward mobility in the selected skills through advanced courses. Modular courses, with the integration of technology and incorporating practical

knowledge, with learner-centric approach, is yet far to be achieved. Besides, it needs to be further strengthened by better linkages with industry and employers, updated curricula and teacher-training programmes (Mehrotra 2017). The financial support needed for upgradation of facilities necessary for vocational education to attain world standards is enormous. The students, opting for vocational education in schools, are usually from the rural areas and from the disadvantaged groups for whom the need-based skills will be relevant.

5 Way Forward

While exploring the process of design and implementation of vocational education, this paper reveals that vocational education had been a part of twists and turns since its inception. The changing economic and demographic landscape, in the Indian context, requires a fresh approach towards education planning. The process of development happens simultaneously with these changes, if addressed at the right time and with the right approach. The vocational education had always been an integral part of the education system but had not made any significant demand for the vocational streams. It was assumed that vocational education would automatically have a greater demand than higher education, given its orientation towards skill acquisition for employability.

The analysis of implementation also illustrates that the demand and supply link had been weak and, thus, it remained quite limited in its ambit and approach. Initially, the scheme covered higher secondary schools, but later on, it was extended to the secondary schools. The review of educational policies and committee reports with reference to vocational education, highlights the increasing demand of skill development in nineties due to economic liberalisation. However, the same demand was not reflected in the vocational education which was designed to provide opportunities for self-employment through it. The NIOS also provides the vocational education through the distance mode in different vocations.

Education is the means of reaching the development goals while vocational education is the process for attaining it. The dynamics and challenges of the global economic process can be addressed by NSQF (established in 2013), followed by the National Policy on Skill Development and Entrepreneurship (in 2015) and, in 2018, by the National Council for Vocational Education and Training (NCVET). It is expected that the focus on developing vocational education would be instrumental in attaining the goal of 'employment for all' in sync with the Sustainable Development Goals.

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Missing Middle of Educated Unemployable: A Critical Perspective on Secondary Education in India

Bornali Bhandari, Charu Jain, and Ajaya K. Sahu

1 Introduction

1.1 Motivation

Acquisition of secondary education (Grades nine and ten) is the first steps towards adulthood, acting as a bridge between childhood and young adulthood. "Secondary education completes the provision of basic education that began at the primary level and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialised teachers".[1] Secondary education, ideally, should prepare the 14–15 year old for further higher education and for the world of work.[2]

The important thing to remember is that "skills beget skills through a multiplier process", (Cunha et al. 2006; page 698 via Hanushek and Woessmann 2012). "Skills are personal qualities with three key features—(i) productive: using skills at work are productive of value; (ii) expandable: skills are enhanced by training and development and; (iii) social: skills are socially determined" (Green 2013). For the purpose of this paper, the term "skills" include cognitive, socio-emotional, psychomotor, technical and vocational and job-specific skills. There are three main questions that are explored in this paper. First, the extent of inequality in secondary education is assessed as per latest available data in 2014 and whether there has been any improvement or worsening since 2007. Second, whether the secondary education is adequately preparing

[1] WDI website.

[2] Children are in primary school (Grades 1–8) between ages 5 and 13. Therefore, 14 and 15 are the appropriate ages for children in Grades nine and ten.

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the youth with appropriate skills which would enable them to acquire further skills via higher education or work. Third is the policy implication of this analysis on the universalisation debate on secondary education. These questions are important from the policy perspective. The goal number four of the 2030 Agenda for Sustainable Development aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030.[3]

While secondary education may include attainment of education through Classes 9–12 (or 14–18 years old), this paper focusses on the first two grades of nine and ten.[4] This is because education till the 8th grade is compulsory in India due to the implementation of the Right of Children to Free and Compulsory Education (RTE) Act, 2009.[5] Therefore, at the end of the 8th grade, they are 14 years old and cannot be formally employed because they are under-age (15 years is the legal working age). If drop-out rates are high or transition rates from elementary to secondary schools are low, these two critically skill formative years are "wasted" for the youth. This is, especially, challenging for females who may be employed for household chores. It is essential to plug the leakage of these two years, if any.

Secondary education is important both from the micro- and macro-perspectives. There is a demand for workers with secondary education. Approximately 12% of the Indian workforce, aged 15 and above, had secondary education in 2011–2012 (NSSO 2014)[6] and close to 20% of the workforce had secondary education in high employment generating sectors like transport and wholesale and retail trade; repair of motor vehicles and motorcycles (NSSO 2014). The World Bank (2009) showed that returns to secondary education had steadily increased in India over time from 1984 to 2000. The returns to secondary education were highest in the 1980s to early 1990s (Singhari and Madeshwaran 2016; Rani 2014; Duraisamy 2002; Blaug 1972; Tilak 1987). The World Bank (2009) showed that the returns to secondary education were lower in 2004–05 versus 2000 but returns to higher secondary and tertiary education kept on increasing. Besides, marginal returns to secondary education were higher for females than males throughout the period 1984 to 2004. According to the World Bank (2009), attainment of secondary education contributes to higher economic growth and lowers poverty. Further, secondary education has positive externalities on health, gender equality, ameliorating living conditions while contributing to democratic citizenship and social cohesion.

[3]UNESCO website. https://en.unesco.org/education2030-sdg4.

[4]Higher secondary includes Grades 11 and 12.

[5]MHRD website. http://mhrd.gov.in/rte.

[6]Workers with higher secondary education had lower representation in the workforce of 6.7% in 2011–12, while share of workers with above higher secondary education was 10.3%. The share of workers with middle level education was 16.5% in 2011–12 and workers with up to primary level education was 54.7%. Plus, the average wage rate of secondary education in 2011–12 was Rs. 247 and higher secondary education Rs. 317. However, if the secondary education is combined with received or receiving vocational education, the average wage rate was Rs. 553. This gap is consistent across the age profiles from 15 and above. This implies that it makes sense to complete the secondary education before looking for other educational or work options.

1.2 Government Policy and Its Achievements

The Government of India had launched the *Rashtriya Madhyamik Shiksha Abhiyan* (RMSA) scheme in 2009[7] with the objective of increasing the enrolment rate to 90% at secondary stage, by providing a secondary school accessible within a reasonable distance. It had also aimed to improve the quality of secondary education by making all secondary schools conform to prescribed norms, removing gender, socio-economic and disability barriers, and providing universal access to secondary-level education by 2017. Recently, RMSA scheme had revised its targets to achieve universal completion of Grade 10 by 2020 and achieving GER of 75% by 2017 (Ministry of Human Resource Development (MHRD) 2016).

The last thick round of household survey in India (NSSO 2014) with education and employment data revealed that in 2011–12, 10% of youth aged 14–16 years were working, 1.3% were working and attending educational institutions, 9.9% were neither attending educational institutions nor working and 78.8% were attending educational institutions.

The transition rate from elementary to secondary education in 2014–15 was 90.62%.[8] Latest available data from 2015 to 16 showed that the gross enrolment ratio (GER) in secondary education was 80.01, with 79.16 for boys and 80.67 for girls (NUEPA 2016),[9] suggesting that India may meet its revised RMSA targets. However, the net enrolment ratio was significantly lower at 51.26 for the corresponding year (NUEPA 2016).[10] The corresponding number for 2012–13 was 41.9 (NUEPA 2013). The relatively lower NER confirms that many students in secondary school are overage. Besides, the average annual drop-out rate in secondary education was 17.06 in 2014–15 (NUEPA 2016).[11] Further, the transition rate from secondary to higher secondary education in 2015–16 was 69.04; annual average repetition rate was 3.03 in 2014–15 in secondary education; GER in higher secondary education was 56.16 while NER was 32.3 in 2015–16.

[7] RMSA website. http://rmsaindia.gov.in/en.

[8] *Transition Rate*: The number of pupils admitted (new entrants) to the first grade of a higher level of education in a given year, expressed as a percentage of number of pupils enrolled in the final grade of the lower level of education (i.e. Grade V) in the previous year.

[9] *Gross Enrolment Ratio*: Total enrolment in primary education (Grades 9–10), regardless of age, expressed as a percentage of the eligible official primary school-age population (14+ to 15+ years) in a given school-year (NUEPA 2016).

[10] *Net Enrolment Ratio*: Enrolment in primary education (Grades 9–10) of the official primary school age group (16+ to 17+) expressed as a percentage of the corresponding population (NUEPA 2016).

[11] *Average Annual Drop-out Rate*: Presents average of grade-specific drop-out rates in Primary Grades and is calculated by considering grade-wise enrolment in 2013–14 and 2014–15 and grade-specific number of repeaters in 2014–15 (NUEPA 2016).

1.3 Contribution to the Literature and Policy Discussions

Issues of educational inequality continue to plague education, in general, but, more specifically, secondary education (Agrawal 2014; Chakravarty 2016; MHRD 2016).[12] This could be across socio-economic backgrounds (caste, gender, incomes, etc..) and spatially distributed (rural–urban and States). Agrawal (2014) examines this question for all types of education from primary to graduation and above for the whole population of the States. The author shows that although educational inequality has gone down between 1993 and 2009, it remained quite high (all-India Gini coefficient in education in India in 2009 was 0.51).[13] Further, there were rural-urban differences—all-India rural Gini was 0.55 in 2009 and all-India urban Gini was 0.37 in 2009. Plus there were state-wide differences. Delhi had the lowest Gini of 0.29 in 2009 and Bihar the highest at 0.61.

Chakravarty (2016) showed that the Net Attendance Ratio (NAR) varied widely across expenditure quintile groups in secondary education. The NAR was 38 for the bottom 20% of the population and 72 for the top-most quintile in 2014. MHRD (2015) showed that there are gaps in supply and quality of secondary schools. The "National Achievement Survey (NAS) data shows that at least half of all children are performing poorly, confirming that many secondary school students would fail to reach the Programme for International Student Assessment (PISA) minimum score levels in core subjects" (MHRD 2016; pp. 15). Last but not the least, anecdotal evidence informs us that the introduction of vocational education at secondary level is not able to plug the gap sufficiently because of both supply and demand reasons.[14] The Annual Status of Education Report or ASER (2018) also reports that youth are not learning vocational skills in the 14–18 age group.

The second section of the paper examines the inequities in secondary education using three key variables—attainment, attendance and expenditure. While MHRD (2016) has examined the latest available NSSO 71st round data on secondary education, the intention in this paper is to partially extend the analysis of Agrawal (2014) and compute Lorenz curves to examine inequalities in the variables mentioned above.

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[12] MHRD (2016) states that India will find it difficult to achieve universalisation in secondary education as "insufficient numbers of students are reaching and graduating from Grade 8; inadequate levels of achievement of Grade 9 entrants who may then fail to complete Grade 10 successfully; insufficient access to secondary school places in some areas and oversupply in other areas; poor attendance of students and absenteeism by teachers; wide variations between schools in staffing, class size and availability of learning materials; diversion of resources from free public provision to subsidies for private schools which do not enrol children from poor households; and failure to ensure adequate financing at State level to universalise access". Agrawal (2014) discusses about teacher absenteeism, culture, agrarian distress as possible factors contributing to high inequalities of educational attainment.

[13] Agrawal (2014) computed the Gini coefficient using educational attainment data from the National Sample Survey Organisation (NSSO).

[14] The Central Board of Secondary Education (CBSE) remodelled secondary education by discontinuing the compulsory vocational subject as the sixth subject (CBSE 2017). An yet to be published evaluation of the Apprenticeship programme showed that employers did not want to hire apprentices with secondary vocational education as they did not have enough knowledge and vocational skills.

The qualitative analysis focuses on the change between 2007–08 and 2014, especially since the RMSA was implemented during this period. Given the spread of youth currently (2011–12) attending secondary education, this paper looks at the whole youth population from 5 to 29 years old.[15] The authors find that inequality has reduced between 2007–08 and 2014 for attainment, attendance and expenditure, but at a slow pace. Further, this paper also pays attention to the state-wide differences, rural–urban and gender differences for 2014.

The inequities are then linked up with the discussion on poor quality of secondary education in the third section of this paper. Unlike previous literature, which had tended to focus on structural issues of education, this paper wants to link the issues of gaps in secondary education to those of employability. The issues of quality are directly correlated with the discussion on skills and, therefore, the employability of the youth. This is done qualitatively using more recent data from ASER (2018), which suggests that the rural youth have poor functional skills. This implies that the youth are poorly equipped to enter the world of work, and therefore, their employability is limited. Since overall the transition to higher secondary education is also limited as suggested by the Unified District Information System for Education (U-DISE) data, this poses severe challenges to the policy-makers to turn the demographic opportunity into a dividend.

The fourth section of the paper discusses the policy implications from the above quantity and quality of secondary education while the last section presents the conclusions. Two major conclusions that are derived from the analysis in this paper are that the secondary education up to Class X should be made compulsory. Second, the secondary education should focus on attainment of cognitive and non-cognitive skills. Technical and vocational education should be encouraged in the form of compulsory and graded pre-vocational curricula.

2 Revisiting Inequality in Secondary Education: Attainment, Attendance and Expenditure

In this section, the primary focus is on measuring the education inequality in terms of secondary educational attainment, attendance and expenditure patterns. As mentioned earlier in the introduction, unit-level data from 64th and 71st rounds have been used (NSSO 2007–08 and 2014) to facilitate comparisons. Further, we are examining youth in the age range of 5–29 years. This is because Fig. 1 illustrates that youth attending secondary education can range from 11 to 29 years' age although the majority are concentrated in 13–18 years' group. This happens due to measurement errors as the definition of secondary education is not uniform across States in India. Furthermore, the gap between GER and NER of secondary education also suggests that the youth currently attending secondary education may be either underage or

[15] Results would not change significantly if we take a smaller sample of 14–18 years old.

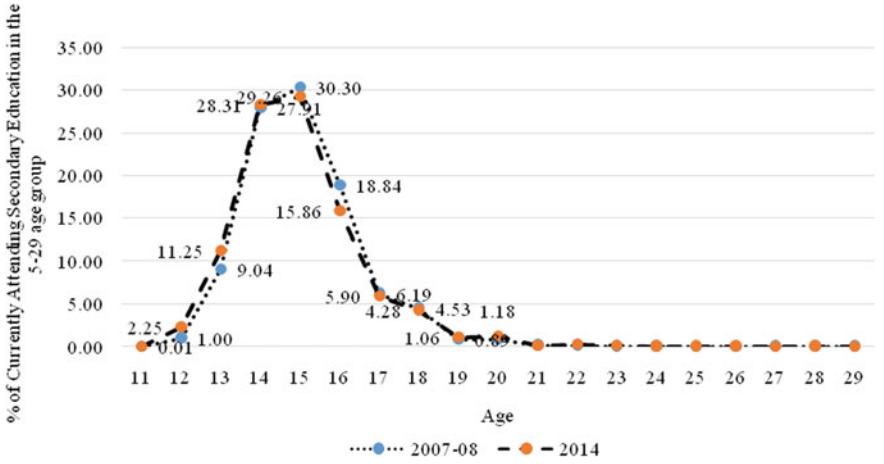

Fig. 1 Age-wise distribution of currently attending secondary education, 2007–08 and 2014. *Note* Secondary and diploma/certificate course (up to secondary) have been combined to form secondary education for 2014. In 2007–08, these were not reported separately. *Source* Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

overage. Given the vast heterogeneity of India, covering this age group makes sense. Results are broadly similar for the age range of 14–18 years.

This section is further divided into three sub-sections. The first sub-section gives an overview or descriptive statistics of the youth aged 5–29 years on all-India basis. The second sub-section assesses the inequalities in secondary education attainment, attendance and expenditure for 2007 and 2014 by expenditure quintiles. The third sub-section, on its part, examines state-wise data.

2.1 Descriptive Statistics of Youth 5–29 Years Old, 2007–08 and 2014

At the all-India level, the proportion of population in the age group of 5–29 years was nearly 46% in 2014. The statistics broadly shows that educational attainment and current attendance levels have gone up between the seven years of 2007–08 and 2014. In 2007–08, 31% of the youth had either attained at least secondary education or were attending secondary education. This figure went up to 41.9% in 2014. The interesting fact to note is that average expenditure on secondary education has gone up barely by 2.6% on an annual basis.

Of the total 5–29 population age group, the proportion of individuals to have attained formal education at various levels has gone up from 86% in 2007 to 89.5% in 2014 (Fig. 2). The share of youth population to have attained at least secondary education has gone up from 18% in 2007–08 to 27% in 2014 (Table 6). The share

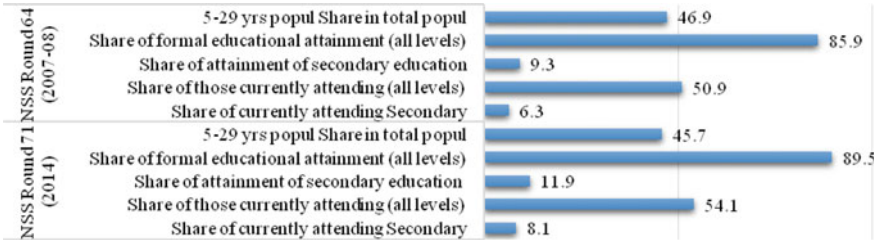

Fig. 2 All-India percentage share of population (5–29 years), attainment and currently attending: All India (2007–08 and 2014). *Notes* (1) To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014. (2) Share of educational attainment and current attendance have been calculated from total MPCE-wise population in the 5–29 years' age group. (3) The share of attainment of secondary education has been shown at that level and does not cover those having more than secondary education. 4. When the percentage of those currently attending secondary education is computed as a share of the youth population that have not attained secondary education, the share of currently attending secondary goes up to 7.8 and 11.1% for 2007–08 and 2014, respectively. *Source* Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

of formal secondary educational attainment has also gone up from 9.3% in 2007–08 to 11.9% in 2014. Similarly, the share of those attending secondary education in the 5–29 years' age group also went up from 6.3% in 2007–08 to 8.1% in 2014 (Table 5).

Figure 3a, b shows that there has been a shift from lower to higher levels of educational attainment between 2007–08 (NSSO Round 64 or R64) and 2014 (NSSO Round 71 or R71). The percentage share of individuals with middle- and higher-level educational attainment also shows improvements between the two rounds, whereas

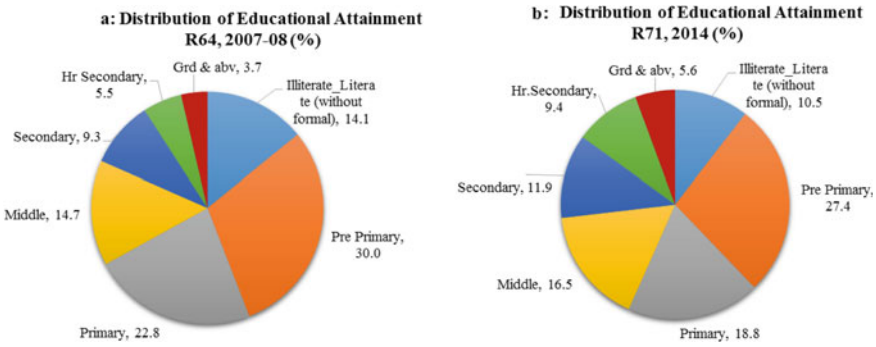

Fig. 3 Distribution of educational attainment in 5–29 years: All India, 2007–08 and 2014 (%). *Note* To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014. Likewise, higher secondary and diploma/certificate courses (up to higher secondary) have been combined to form higher secondary education. The 2014 prices are used to compare the average expenditure for the two years. *Source* Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

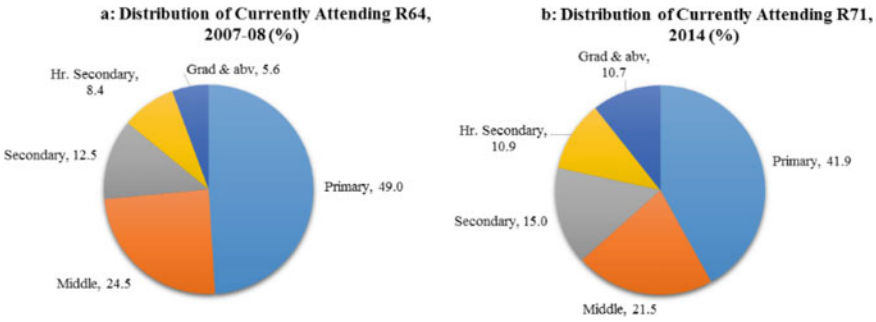

Fig. 4 Distribution of currently attending in 5–29 years: All India, 2007–08 and 2014 (%). *Note* Secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014. Similarly, higher secondary and diploma/certificate course (up to higher secondary) have been combined to form higher secondary education. In 2007–08, these were not reported separately. *Source* Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

for primary and below levels, it has declined although in percentage terms, the change is not very significant.

In the case of those currently attending, significant improvement in the pattern of distribution is recorded for tertiary level of education, going up from 5.6 to 10.7%, showing a rise of 5.1 percentage points. However, in cases of secondary and senior secondary levels, the percentage share has gone up by 2.5 percentage points each in R71 over R64. This indicates that although progress in secondary level of education has been registered over the years, the pace of change was quite slow (Fig. 4).

Figure 5 shows that real average education expenditure has gone up for all levels of education, but growth in expenditure is negatively correlated to the levels of education. For secondary education, the compound annual growth rate of education expenditure is 2.6%.

2.2 Inequality in Attainment, Attendance and Expenditure for 2007–08 and 2014 by Expenditure Quintiles

The attainment in secondary education, current attendance and average expenditure in secondary education is examined by monthly per-capita expenditure (MPCE) class-wise for both 2007–08 and 2014 for the 5–29 years' age population (Table 1). In 2014, the secondary educational attainment of the top quintile was double that of the bottom-most quintile. The change in attainment between 2007–08 and 2014 was relatively slow, but among all quintiles, the highest growth was seen in the middle quintile, while the least change was experienced in the top-most quintile. Table 6 in the appendix shows the educational attainment in other levels of education by MPCE classes for both 2007–08 and 2014.

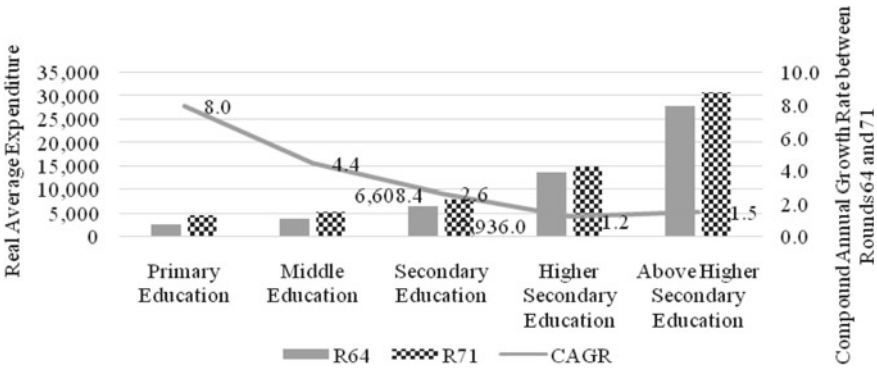

Fig. 5 Real average education expenditure by education level, 2007–08 and 2014 and CAGR (%change between 2007–08 and 2014). *Note* To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014, while higher secondary and diploma/certificate courses (up to higher secondary) have been combined to form higher secondary education. The 2014 prices are used to compare the average expenditure for the two years. *Source* Authors' computations from NSSO data rounds 64 and 71

The changes in current attendance in secondary education have been very slow over the seven years between 2007–08 and 2014. When one looks at current attendance in secondary education by quintiles, the shares of each quintile are broadly close to each other, with the exception of the bottom-most quintile. Only 6.3% of the youth, aged 5–29 years in the bottom-most quintile, were attending secondary education.

However, when we look at the 13–18 year age group, the share of secondary education was 23% in 2014 for the bottom-most quintile (NSSO R71). The shares for the other four quintiles, in ascending order, for the age group 13–18 years were 29, 31, 31 and 32% (NSSO R71). Interestingly, 42% in the bottom-most quintile in the 13–18 years' age group were not attending school or college at any level (NSSO R71). The corresponding numbers for the other four quintiles, in ascending order, were 32%, 25%, 21% and 13%, respectively. Table 7 in the appendix shows the current education of other education levels by MPCE class.

Last, but not the least, is the average expenditure on secondary education by MPCE—the average expenditure of the top-most quintile is four times that of the bottom-most quintile.[16] It is even double that of the second quintile. Average expenditures have gone up for all quintiles between 2007–08 and 2014, but it has increased the most for the top-most quintile (5%) as shown in Table 1. The average expenditure has experienced the least rise for the bottom-most quintile.

[16]Why are the inequities in expenditure a problem? Desai and Vannemann (2015) show that early learning outcomes are positively linked to subsequent educational attainment. However, if one comes from a privileged background, one is able to overcome the learning handicaps, while the ones from less privileged backgrounds are not able to do so. Children from less privileged backgrounds need more inputs than not and they are the ones who attend poor quality schools.

Table 1 Secondary educational attainment, current attendance, average expenditure MPCE-wise of youth (5–29 years), 2007–08 and 2014

MPCE class	2007–08	2014	Percentage point change
Secondary educational attainment in 5–29 years' population MPCE-wise and percentage change, 2007–08 and 2014			
1	4.8	7.6	2.8
2	7.4	9.8	2.5
3	9.2	12.7	3.5
4	11.6	14.4	2.9
5	14.3	15.7	1.4
All India	9.3	11.9	2.6
Current attendance secondary education in 5–29 years' population MPCE-wise and percentage change, 2007–08 and 2014			
1	4.0	6.3	2.3
2	5.3	8.1	2.8
3	6.2	8.3	2.1
4	7.6	8.9	1.4
5	9.1	9.3	0.3
All India	6.3	8.1	1.8
Real average expenditure in secondary education in 5–29 years' population MPCE-wise and percentage change, 2007–08 and 2014			
1	3309	3734	1.7
2	4094	5172	3.4
3	5023	6243	3.2
4	6685	8090	2.8
5	11,210	15,717	4.9
All India	6608	7936	2.6

Notes (1) Share of educational attainment and current attendance calculated from total MPCE-wise population in 5–29 years' age. (2) The distribution for each type of education is shown in the appendix (Tables 5, 6, 7 and 8). This table shows attainment and attendance for that particular level of education only. (3) To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education. The 2014 prices are used to compare the average expenditure between 2007–08 and 2014
Source Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

Lorenz curve is a measure of inequality. Here, the Lorenz curves exhibit decline in inequality across MPCE classes by educational attainment (Fig. 6) and current attendance (Fig. 7) between 2007–08 and 2014 for secondary level of education. Attainment of secondary education has shown only a marginal decline, with maximum decline seen in third and fourth quintiles. In contrast, current attendance in secondary education has shown a significant decline between 2007–08 and 2014.

Table 2 shows the break-up of expenditure for those currently attending secondary education. The significant share is driven by course fees, followed by books,

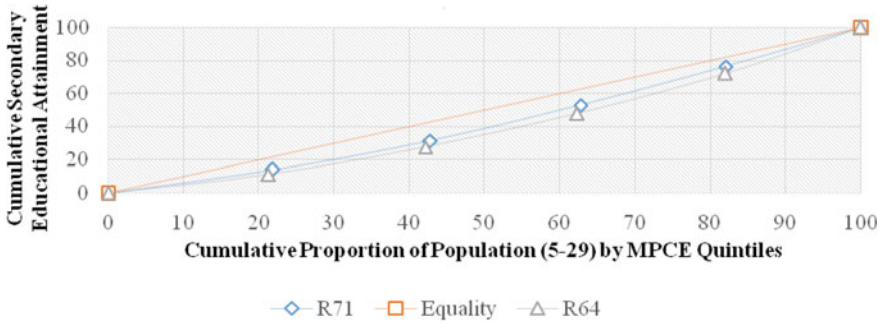

Fig. 6 Lorenz curves of secondary educational attainment of youth aged 5–29, 2007–08 and 2014. *Note* (1) To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014. (2) This graph pertains to those who have attained secondary level of education only and not anything beyond it. *Source* Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

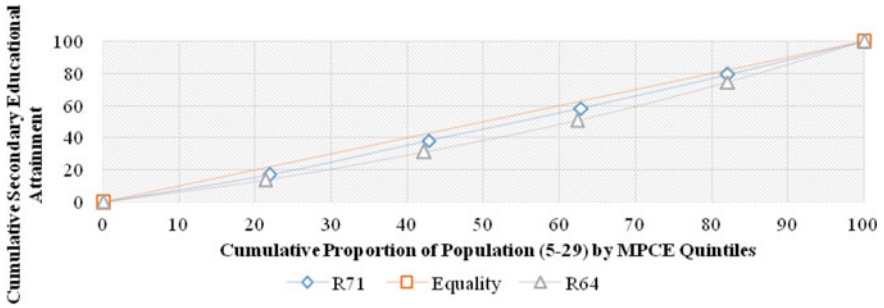

Fig. 7 Lorenz curves of secondary education current attendance of youth aged 5–29, 2007–08 and 2014. *Note* To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014. *Source* Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

stationery and uniform, and then private coaching. Average expenditure (‘) per student (in current academic session) pursuing general course for secondary education is ‘3724 for government schools, ‘9298 for government-aided and ‘15,785 for private non-aided schools (NSSO R71). The rise in average expenditure can be explained by the fact that the households in top-most quintile would be sending their children to private non-aided schools. The reason for preferring private schools is that they offer a better environment for learning, whereas the quality of government education is not satisfactory (NSSO R71).

Therefore, this section shows that inequality in secondary education has declined between 2007–08 and 2014. However, the change in secondary education has been relatively slow in the seven years. The glaring inequity is the average expenditure on secondary education in the top-most quintile. This is, approximately, twice that of even the second quintile. Not only does the top-most quintile have more

Table 2 Percentage share in total expenditure on secondary education, 2007–08 and 2014

	MPCE class	Course fee	Books, stationery, uniform	Transport	Private coaching	Other expenditure
71st round	1	32.2	33.0	6.6	23.2	5.0
	2	36.2	29.7	6.6	22.9	4.5
	3	38.5	26.5	8.5	21.7	4.7
	4	43.0	24.0	8.6	19.3	5.2
	5	48.3	17.8	9.9	18.5	5.4
	Grand total	42.7	23.4	8.7	20.2	5.1
64th round	1	16.5	49.2	4.0	16.8	13.5
	2	18.8	44.2	4.4	20.9	11.7
	3	23.2	41.1	4.8	18.8	12.1
	4	25.8	34.7	5.6	20.6	13.2
	5	31.6	28.0	7.6	19.4	13.4
	Grand total	26.5	34.7	6.1	19.6	13.0

Note To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014
Source Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

access to secondary education, it is being reinforced further by the significant gap in expenditure per student and, consequently, the quality and learning outcomes.

2.3 State-Level Analysis

Table 9 shows the share of youth population (of age 5–29 years) in each State in 2014, the percentage of youth population who have either attained or are attending secondary education and the average per-capita expenditure on secondary education. This helps to bring out State-wide differences across rural–urban and gender. There are States/UTs like Bihar, Chandigarh, Daman and Diu, Jharkhand, Madhya Pradesh, Nagaland, Rajasthan, Sikkim and Uttar Pradesh and Union Territories where approximately half the population is young. At the other end of the spectrum, less than 40% of the population are young in Kerala, Goa and Tamil Nadu. These States are at the more advanced stage of demographic transition.

The percentage of youth who have attained or are attending secondary education is 35% in 2014. States which perform below the Indian average are Assam, Bihar, Chhattisgarh, Meghalaya, Mizoram, Odisha, Rajasthan, Tripura, Uttar Pradesh and West Bengal. Chandigarh is the best performer, with 61% of the youth having attained secondary education or attending it, followed by Kerala. Both Himachal Pradesh and Nagaland have 55% of the youth who have either attained secondary education or are attending it.

Urban–rural gaps are large with percentage of the urban young, who have either attained secondary education or are attending it, significantly larger than rural. In Puducherry and Daman and Diu, the rural shares are higher than the urban ones. In Haryana, there is no rural–urban gap, with 41 and 42% of the relevant population having either attained or attending secondary education, respectively.

Surprisingly, Table 9 shows no discernible trends in the gaps between male and female attainment of secondary education and attending it. There are 13 States wherein the percentage of female attainment in secondary education and currently attending it are higher than the percentage of males. Delhi and Daman and Diu significantly stand-out in that respect. Between Nagaland, Meghalaya and Andaman and Nicobar Islands, there is not much difference. The highest gap between males and females is in Uttarakhand, Bihar and Manipur.

Additionally, one looked at the percentage of youth population (net of the youth who have already attained secondary education), who are attending secondary education for both the NSSO Rounds 64 and 71. The change is positive between the two years but there is spatial variation, with Chandigarh and Goa leading the change (Fig. 8). There are States like Kerala and Himachal Pradesh, which had very secondary education attendance in 2007–08 itself and, therefore, registered lower change.

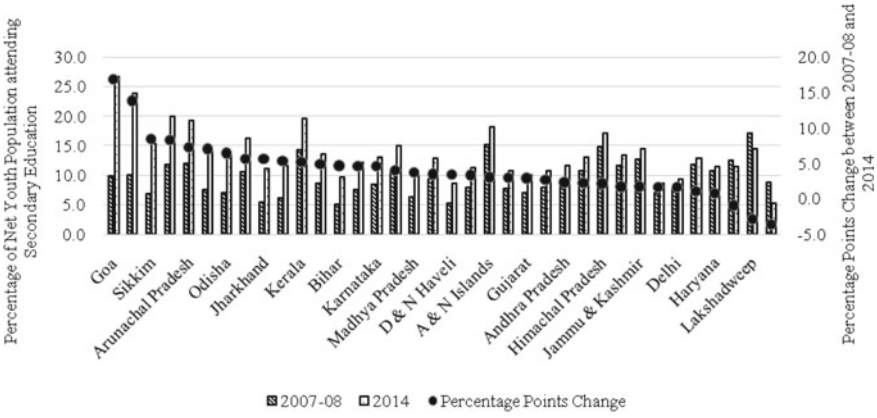

Fig. 8 Percentage of net youth population attending secondary education and percentage points change, 2007–08 and 2014. *Notes* (1) To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014. (2) The population between 5 and 29 years of age is defined as youth population. The net youth population is derived by subtracting the youth who have already attained secondary education from the total youth population. *Source* Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

2.4 Main Issues

The above sections indicate that India may meet its downwardly revised target of universalisation of secondary education. The change over the seven years has been slow. The aggregate, however, hides variations across income class and spatially, both rural–urban and State-wise. Rural aggregates, on an average, tend to be lower than urban ones. The good news is that there is no firm trend of male–female gaps, with the gaps varying from State to State. The most worrisome feature is the jump in average expenditure in education between the seven years. Significantly, the average expenditure in education of the top 20% is double that of the second tier in terms of MPCE. This tends to perpetuate inequalities in education. The policy implication is that since secondary education is critical for economic growth and development, it is, perhaps, time to make it compulsory.

3 Quality of Secondary Education: An Outcomes Approach

The pertinent question that one should pose is whether educational attainment, per se, is enough. Does acquiring secondary education result in children acquiring skills that help them in future to acquire further skills, whether in higher secondary education or jobs? Hanushek and Woessmann (2008) and Hanushek (2013) empirically prove that acquiring education and acquiring skills may not be necessarily equivalent and the latter has a stronger relation to economic growth. Education happens to be just one channel of acquiring skills (Pilz and Wilmshöfer 2015).

This, then, ties up directly with the discussions on the quality of secondary education. There are multiple perspectives on the definition of the term "quality of education" and many differing traditions to approaching the question of quality of education (UNESCO 2004). The UNESCO (2004) states that there should be three-action principle on the quality of education—relevant, equitable access and outcome and proper observance of individual rights. Essentially, "education should allow children to reach their fullest potential in terms of cognitive, emotional and creative capacities" (UNESCO 2004, p. 30). There are five dimensions of quality, viz. learners, environments, content, processes and outcomes (UNICEF 2000). Based on students' survey, Jain and Prasad (2018) have comprehensively assessed the quality of secondary education and its impact on students attaining distinction. Factors like cleanliness of school, well-qualified teachers with a positive attitude, quality of school infrastructure had a positive impact on students obtaining distinctions (above 75% in their report cards).

In contrast to Jain and Prasad (2018), for tractability purposes, this paper specifically focusses on the dimension of outcomes in the discussion on the quality of education. The outcomes include literacy, numeracy and life skills, creative and emotional skills, values and social benefits (UNESCO 2004). While numbers on secondary

educational attainment, attendance and expenditure are available, numbers on the quality of secondary education are, at best, sparse.

Therefore, we cite two different sources, which have used different measures of quality to inform us about the quality of secondary education. These include digital skills from the NSSO (R71) data for youth aged 14–29 years and ASER (2018) which assesses functional skills of youth aged 14–18. These are:

- Digital Skills from the NSSO 2014 (R71): The Sustainable Development Goals actually use indicators on ICT and digital literacy skills for measuring skills for work (UNESCO 2017). The 74th Round of the NSSO had assessed youth on their digital skills, the reports of which are available in Table 3. Less than 30% of youth are able to operate a computer and only 16.6% of youth are able to use the internet for sending e-mails. Considering the huge gap between the GER of secondary and higher secondary education, indicating high drop-out after secondary education, the numbers in Table 3 are alarming. The secondary educational system is ill-equipping secondary education attendees or those who have already attained the level with poor digital skills. This is a skill that the majority of firms want in their workers.

Further, the ASER (2018) showed that functional skills varied a lot among the rural youth aged 14–18 in 2017: 76.6% could read standard two level text, 43.1% could divide, 58.2% could read a sentence in English, 75.7% could count money, 55.7% could add weights, 82.7% could tell time in hour terms while 59.3% could tell the time more specifically in terms of hours and minutes, 50.2% could apply unitary method, 38.6% could calculate time, 53.5% could read at least three out of four instructions, 63.8% could manage a budget, 64.1% could take a purchase decision, 37.7% could apply a discount, 15.4% could calculate repayment, 86.3% could recognise the map of India, 64.1% could name India's capital, 78.6% could name their own State and 42% could identify their own State on the map. Further, while only 17.6% of youth had never used a mobile, 63.7% had never used internet and 59.7% had never used a computer. Media exposure of the youth varied, with 6.8% of them having never been exposed to television, 35.5% had never used the radio and 29.1% having never read a newspaper.

In order to assess learning outcomes, there is a third source, which is the National Achievement Surveys conducted by the National Council of Educational Research and Training. They were conducted twice—once in 2015 and, thereafter, in 2018—for secondary education. The survey tools included multiple test booklets for various subjects, including mathematics, Modern Indian Language, English, sciences and social sciences. Along with the test items, questionnaires pertaining to students, teachers and schools were also used. The problem was that the results in the NAS surveys were reported subject-wise and not "outcome-wise". The 2015 results indicate that students' performance was below average, and this was due to a lack of conceptual clarity and understanding in the subjects/themes tested (NCERT 2015).

As mentioned earlier, vocational secondary education in India is characterised by uncertain quality. Further, the quality of the pre-vocational curricula leaves much to be desired while not actually preparing the students for work (Pilz et al. 2016). In

Table 3 Digital skills of youth aged 14–29 who have attained or are attending secondary education, 2014

Percentage of those attained secondary				Percentage of those attending secondary			
Able to operate a computer	Able to use computer for word processing/typing	Able to use internet for searching for desired information	Able to use internet for sending e-mails	Able to operate a computer	Able to use computer for word processing/typing	Able to use internet for searching for desired information	Able to use internet for sending e-mails
33.6	30.1	28.0	24.3	27.7	24.2	20.4	16.6

Source Authors' computations from the NSSO data 71st round (2016)

conclusion, whether in terms of content outcomes, skills for work, specifically digital skills or functional skills, the evidence seems to be a pointer to the poor quality of secondary education in India.

4 Policy Discussion: A Way Forward

The last two sections have indicated that secondary educational attainment showed slow improvement between 2007–08 and 2014. Although educational inequality has declined over time, the average expenditure of the top quintile on education indicates a perpetuation of inequities. There are spatial variations. Even if people have acquired secondary education, there is no guarantee of its quality.

In this scenario, it is important that one should make secondary education compulsory in India with the nature of education being so unequal. This boils down to the basic question as to what are the desirable outcomes that we want from secondary education in India. It is the bridge to adulthood and should prepare the students for both work and higher education. Besides, as UNESCO (2004) states, secondary education should also build good citizens. Given that India is a low middle-income country with limited resources, it is in its comparative advantage to concentrate on giving "general training" in secondary education (Becker 1962). General training would prepare students simultaneously to be good citizens while also pursuing their respective career paths (higher secondary education or jobs). In addition, the World Bank (2009) shows that the social returns to education are higher than the private returns to secondary education, while stressing on the need for more public investment in secondary education.

What should general training involve? Essentially, the secondary education should give students foundational skills. "Foundational skills are the fundamental and portable skills that are essential to conveying and receiving information that is critical to training and workplace success" (ACT website). There are two key words in the definition—fundamental and portable. The word 'fundamental' signifies that it serves as a foundation for supporting additional operations/tasks and learning (ACT website). The second key word 'portable' signifies that it is not job-specific but can be applied at some level across a wide variety of occupations.

Using the NCAER (2018) report, there are four types of skills included in this paper—cognitive, non-cognitive, physical/psychomotor and technical and vocational skills. Cognitive skills are attributes which are used for "thinking activities" (Green 2013) like reading, writing, etc. Non-cognitive/soft/socio-emotional skills are personality traits which matter for success at the job market place. One has to use one's emotions to get the job done from others (Green 2013). International literature has identified from the psychology literature that there are Big Five Personality factors that matter for success in the job market—conscientiousness, openness to experiences, extraversion, agreeableness, neuroticism/emotional stability that encompass the idea of soft skills (Heckman and Kautz 2012). Physical or psychomotor skills cover areas which require strength and dexterity (Green 2013, p. 22) and involves

manual skills. Occupation-specific or technical and vocational skills are specific skills that are required to carry out a particular job.

If for the secondary education system, priority is to provide general training which boosts both students' employability and ability to get higher education, this is a supply-side problem. Technical and vocational skills are job-specific and, in many instances, firm-specific skills. These should be either provided by firms or in partnership with them. It would be impossible for a secondary school to provide the exact set of skills that a firm would want. However, it can provide pre-vocational skills that teach attitude to work rather than just "trades" and focus on situation and personality (Pilz et al. 2016). Teaching of trades and such skills should be done at the higher secondary level in collaboration with firms.

From this perspective, Indian secondary schools should be concentrating on foundational cognitive and non-cognitive skills, physical/psychomotor skills and pre-vocational skills, which concentrate on attitudes to work. Besides, the Indian secondary schools need to think ahead about the twenty-first century as technological changes are changing the nature of work and, consequently, the attributes required from their workers (NCAER 2018). Table 4 lists the foundational skills that would be required in the Indian context using Scott (2015) and P21 framework. The P21 framework emphasises on the 4Cs for twenty-first century learning: collaboration, communication, creativity and critical thinking.

As the list in Table 4 shows, the skills needed for twenty-first century are onerous and the Indian secondary education system in its current form is inadequate to address the gaps. The processes are simply not in place (Jain and Prasad 2018). Worse is that if the top quintile is spending four times that of the bottom-most quintile in preparing them for the twenty-first century, there will again be a small minority of people with the "right" set of skills, leading in the perpetuation of inequities.

5 Conclusion

The secondary education system in India is characterised by inequities in attainment, attendance and per-capita expenditure. Although inequities in the former two categories have gone down between 2007 and 2014, the gap between GER and NER indicates that children in secondary education are lagging behind. This is also evident in the spread of age in the people who are taking secondary education. Further, sparse details available on the quality of education in terms of outcomes indicate that India is lagging behind. These have serious consequences for India in terms of economic growth and development, especially as GER in secondary higher education is even lower. This means lots of youth choose to join work after secondary education.

In this scenario, the best suggestion is to make secondary education compulsory. Further, the secondary education system should be reformed in such a way that it produces twenty-first century citizens with openness and flexibility to pursue lifelong learning, work in a cooperative manner, solve problems and respect diversity of backgrounds and opinions. Further, this has the added advantage that employers need and desire workers having these kind of attributes.

Table 4 Foundational skills: Outcomes for the twenty-first century Indian secondary education

S. No.	Type of skills	Skill	Definition
1	Knowledge	English, reading or language arts, World languages, Modern Indian languages (other than the mother tongue), Arts, mathematics, economics, science, geography, history and government and civics	
2	Foundational cognitive skills	Reading	Not only know how to read fluently but also ability to process the information like following instructions
3		Writing	Writing to convey the ideas in a bilingual framework
4		Mathematics	Not only know how to add, subtract, multiply and divide but also apply it to a variety of tasks like ASER (2018)
5		Communication	Articulate thoughts and ideas using a variety of means and listen effectively, especially in a country as diverse as India
6		ICT literacy	Use and apply technology effectively
7		Global awareness	Awareness, address global issues and ability to work with people around the world
8		Financial, economic, business and entrepreneurial literacy	Make appropriate economic choices, role of economy in society and use of entrepreneurial skills
9		Health literacy	Use and interpret health-related information
10		Environment literacy	Use and interpret environment-related information

(continued)

Table 4 (continued)

S. No.	Type of skills	Skill	Definition
11		Active learning	Active learning is defined as a form of learning in which the learner uses opportunities to decide about aspects of the learning process. A second definition of active learning connects it to mental activity in another sense: it refers to the extent to which the learner is challenged to use his or her mental abilities while learning. Thus, active learning, on the one hand, has to do with decisions about learning and, on the other hand, making active use of thinking. The first kind of active learning is called self-directed learning and the second independent work" (Van Hout-Wolters et al. 2000)
12		Active listening	Listening to others in a concentrated fashion
13		Critical thinking and problem-solving	Reason effectively, use systems thinking, make judgements and decisions and solve problems (not numerical problems but solve different kinds of non-familiar problems in both conventional and innovative ways and identify and ask significant questions that clarify various points of view which lead to better solutions)
14		Creativity and innovation	Think creatively (brainstorming) and work creatively with others; applying innovations

(continued)

Table 4 (continued)

S. No.	Type of skills	Skill	Definition
15		Communication and collaboration	Ability to work with others effectively and respectfully; exercise flexibility and willingness
16	Foundational non-cognitive skills	Civic and digital citizenship	Civic citizenship involves exercising rights and obligations of citizenship at local, State, national and global levels and basically staying involved. Digital citizenship involves doing all the above using digital modes
17		Seek and value diversity	Gender, socio-economic diversity
18	Physical/psychomotor skills		Flexibility and confidence, especially for Indian females which gives them the ability to deal with a variety of situations
19	Technical and vocational skills	Pre-vocational curricula	Attitudes to work, creativity and collaboration, problem-solving at work, agreeing to disagree at work, anger management etc.

Sources Scott (2015) and P21 website

Of course, one recognises that this is easier said than done in a resource-constrained country like India. It will also require major changes in the current education system. However, the long-term costs are immense versus "business-as-usual".

Appendix

See Tables 5, 6, 7, 8, and 9.

Table 5 Percentage share of population (5–29 years), attainments and currently attending: All India MPCE -wise

MPCE class	NSS round 64 (2007–08): % share[a]					NSS round 71 (2014), % share[a]				
	Youth (5–29) in total pop	Formal educational attainment	Attainment of secondary education	Currently attending	Currently attending secondary	Youth (5–29) in total pop	Formal educational attainment	Attainment of secondary education	Currently attending	Currently attending secondary
1	50.0	77.4	4.8	47.4	4.0	50.0	82.6	7.6	49.6	6.3
2	49.0	83.3	7.4	49.2	5.3	47.8	87.0	9.8	52.6	8.1
3	47.3	86.2	9.2	50.5	6.2	45.7	90.9	12.7	53.5	8.3
4	46.2	89.8	11.6	52.6	7.6	44.1	92.3	14.4	56.2	8.9
5	42.2	94.2	14.3	55.6	9.1	41.0	96.3	15.7	59.7	9.3
All India	46.9	85.9	9.3	50.9	6.3	45.7	89.5	11.9	54.1	8.1

Notes [a]Share of educational attainment and current attendance calculated from total MPCE -wise population in 5–29 years. To make 2007–08 and 2014 data comparable, secondary and diploma/certificate course (up to secondary) have been combined to form secondary education for 2014. And higher secondary and diploma/certificate course (up to higher secondary) have been combined to form higher secondary education. 2014 prices are used to compare the average expenditure for the two years

Source Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

Table 6 Percentage Share of Educational Attainment in 5–29 years population MPCE–wise, 2007–08 and 2014

MPCE class	NSS round 64					NSS round 71				
	Primary	Middle	Secondary	Higher secondary	Above higher secondary	Primary	Middle	Secondary	Higher secondary	Above higher secondary
1	22.6	10.8	4.8	2.0	0.8	20.2	15.5	7.6	4.0	1.5
2	23.9	13.9	7.4	3.3	1.5	20.2	17.6	9.8	6.0	2.5
3	24.1	15.1	9.2	4.6	2.5	20.1	17.5	12.7	9.2	4.7
4	23.3	16.9	11.6	6.5	4.3	18.2	16.6	14.4	11.7	6.9
5	19.9	17.2	14.3	12.0	10.2	14.6	15.3	15.7	17.5	13.8
All India	22.8	14.7	9.3	5.5	3.7	18.8	16.5	11.9	9.4	5.6

Notes [a]Share of educational attainment and current attendance calculated from total MPCE -wise population in 5–29 years. To make 2007–08 and 2014 data comparable, secondary and diploma/certificate course (up to secondary) have been combined to form secondary education for 2014. And higher secondary and diploma/certificate course (up to higher secondary) have been combined to form higher secondary education. 2014 prices are used to compare the average expenditure for the two years

Source Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

Table 7 Percentage share of currently attending in 5–29 years population MPCE-wise, 2007–08 and 2014

MPCE class	NSS round 64					NSS round 71				
	Primary	Middle	Secondary	Higher secondary	Above higher secondary	Primary	Middle	Secondary	Higher secondary	Above higher secondary
1	29.4	11.5	4.0	1.8	0.7	27.1	11.3	6.3	3.1	1.8
2	27.6	12.4	5.3	2.6	1.3	24.9	12.3	8.1	4.4	2.9
3	25.7	12.6	6.2	3.9	2.1	22.4	12.3	8.3	5.6	5.0
4	23.0	13.2	7.6	5.5	3.3	20.9	11.7	8.9	7.2	7.4
5	17.9	12.7	9.1	8.3	7.7	17.0	10.4	9.3	9.9	13.2
All India	25.0	12.5	6.3	4.3	2.9	22.7	11.6	8.1	5.9	5.8

Notes [a]Share of educational attainment and current attendance calculated from total MPCE-wise population in 5–29 years. To make 2007–08 and 2014 data comparable, secondary and diploma/certificate course (up to secondary) have been combined to form secondary education for 2014. And higher secondary and diploma/certificate course (up to higher secondary) have been combined to form higher secondary education. 2014 prices are used to compare the average expenditure for the two years

Source Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

Table 8 Average expenditure on education in age group of 5–29 years MPCE-wise, 2007–08 and 2014

	NSS round 64					NSS round 71				
MPCE class	Primary	Middle	Secondary	Higher secondary	Above higher secondary	Primary	Middle	Secondary	Higher secondary	Above higher secondary
1	1042	1828	3309	7041	9395	1666	1978	3734	6730	11,878
2	1583	2414	4094	7539	11,556	2834	3125	5172	8812	14,722
3	2229	3208	5023	9692	18,091	4139	4424	6243	11,681	19,070
4	3385	4334	6685	12,124	19,814	5994	6138	8090	14,026	23,511
5	7663	8514	11,210	20,804	39,605	12,253	13,418	15,717	23,907	47,596
All India	2693	3975	6608	13,672	27,846	4610	5387	7936	14,892	30,888

Notes [a]Share of educational attainment and current attendance calculated from total MPCE-wise population in 5–29 years. To make 2007–08 and 2014 data comparable, secondary and diploma/certificate course (up to secondary) have been combined to form secondary education for 2014. And higher secondary and diploma/certificate course (up to higher secondary) have been combined to form higher secondary education. 2014 prices are used to compare the average expenditure for the two years

Source Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

Table 9 State analysis, 2014

S. No.	State	Share of youth population (5–29) as a percentage of their relevant all-population groups					Percentage of youth of 5–29 relevant Population who have attained or are attending secondary education					Average per-capita expenditure on secondary education				
		R	U	M	F	T	R	U	M	F	T	R	U	M	F	T
1	A & N Islands	41	43	40	44	42	47	59	54	54	52	6229	12,789	12,431	4703	9376
2	Andhra Pradesh	42	43	45	40	43	38	49	44	40	42	5274	14,237	8413	6990	8173
3	Arunachal Pradesh	49	44	47	49	48	38	56	43	39	41	7657	11,530	6767	9393	8260
4	Assam	43	40	43	41	42	29	46	32	30	31	3968	12,837	5550	4298	4992
5	Bihar	50	51	51	50	50	22	36	27	21	24	4954	11,399	5688	5728	5708
6	Chandigarh	–	–	49	52	50	–	–	60	69	61	–	–	23,835	16,390	20,610
7	Chhattisgarh	46	44	48	44	46	28	36	32	29	29	1978	10,978	3736	2403	3163
8	D & N Haveli	49	44	48	46	47	13	56	35	42	31	3202	9694	4110	12,702	7627
9	Daman & Diu	49	60	62	52	58	47	38	28	55	39	10,419	15,176	20,824	7401	12,265
10	Delhi	–	–	47	43	45	–	–	45	60	47	–	–	17,302	18,335	18,161
11	Goa	36	40	40	37	38	51	56	58	64	54	6514	13,957	15,024	9807	11,679
12	Gujarat	44	42	44	42	43	29	43	39	33	34	6626	15,807	10,721	7506	10,229
13	Haryana	47	45	48	45	47	41	42	42	43	42	9685	21,132	17,578	7364	12,345
14	Himachal Pradesh	42	43	44	41	42	55	61	56	56	55	7320	19,127	7714	8389	8312

(continued)

Table 9 (continued)

S. No.	State	Share of youth population (5–29) as a percentage of their relevant all-population groups					Percentage of youth of 5–29 relevant Population who have attained or are attending secondary education					Average per-capita expenditure on secondary education				
		R	U	M	F	T	R	U	M	F	T	R	U	M	F	T
15	Jammu & Kashmir	46	42	48	43	45	37	43	38	39	38	6443	12,260	7434	6439	7230
16	Jharkhand	50	51	51	50	50	26	41	32	28	29	4235	12,064	7089	4940	6042
17	Karnataka	42	43	43	42	42	38	52	45	43	43	4333	13,624	7877	7721	7799
18	Kerala	39	37	38	38	38	57	59	57	54	58	8614	10,785	9188	9648	9493
19	Lakshadweep	47	46	47	45	46	51	47	47	56	48	485	2285	2354	1303	1725
20	Madhya Pradesh	49	48	49	48	49	23	43	31	26	28	3729	11,289	6839	4864	6028
21	Maharashtra	43	42	44	41	43	38	51	44	46	44	5651	19,284	11,248	10,884	11,344
22	Manipur	43	42	44	41	42	43	49	48	42	45	11,051	16,975	13,461	10,507	13,249
23	Meghalaya	52	50	51	51	51	27	51	31	31	31	6536	15,413	6950	9788	8094
24	Mizoram	49	47	48	48	48	26	45	36	34	35	10,456	13,703	11,738	12,373	11,915
25	Nagaland	49	49	47	52	49	53	59	54	54	55	9615	15,199	10,440	11,420	10,694
26	Odisha	45	44	45	44	45	30	47	35	33	33	4168	14,642	6207	5219	5768
27	Puducherry	48	43	49	40	45	54	49	47	51	51	2647	12,059	8582	5827	8701
28	Punjab	44	44	46	41	44	40	55	46	49	45	11,628	17,989	16,301	9338	13,966
29	Rajasthan	50	48	51	48	50	27	38	34	28	30	6884	12,062	9156	6066	8002
30	Sikkim	49	49	47	50	49	32	49	33	41	36	4735	21,680	8573	6269	7259

(continued)

Table 9 (continued)

S. No.	State	Share of youth population (5–29) as a percentage of their relevant all-population groups					Percentage of youth of 5–29 relevant Population who have attained or are attending secondary education					Average per-capita expenditure on secondary education				
		R	U	M	F	T	R	U	M	F	T	R	U	M	F	T
31	Tamil Nadu	39	39	40	38	39	46	52	49	46	49	6600	11,470	9564	7466	8796
32	Tripura	43	42	44	41	43	25	36	30	24	27	7241	12,961	7807	10,210	8376
33	Uttar Pradesh	51	50	52	49	51	27	37	30	29	29	5067	12,345	7598	5270	6716
34	Uttaranchal	45	45	46	44	45	40	48	44	37	42	5176	13,530	7140	5274	6653
35	West Bengal	45	39	43	44	44	26	43	30	31	31	6170	14,856	9165	8288	8684
	India	47	44	47	45	46	31	46	36	34	35	5525	14,102	8502	6934	7936

Notes R stands for rural; U for urban; M for male; F for female and T for total. To make 2007–08 and 2014 data comparable, secondary and diploma/certificate course (up to secondary) have been combined to form secondary education for 2014. Likewise, higher secondary and diploma/certificate course (up to higher secondary) have been combined to form higher secondary education. 2014 prices are used to compare the average expenditure for the two years

Source Authors' computations from NSSO Round 71st (2016)

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Shared Prosperity and Universalisation of Secondary Education

Arup Mitra

1 Growth, Productivity and Skill

The central role of the manufacturing sector in the context of rapid economic growth and catching up of the Indian economy has been debated in relation to the surge of the service sector. Some authors have argued that non-traditional *ICT*-intensive services, which are characterised by a growing tradability, increasing technological sophistication and low transport costs, are on the forefront of a third industrial revolution (see Ghani 2010 in the case of India). Others such as Aghion et al. (2008) and Stiglitz et al. (2013) still think that manufacturing remains the only realistic path towards sustained growth for low-income, low-skill and labour-abundant countries such as India.[1] However, India has come to realise that both manufacturing and services sectors will have to grow simultaneously while agriculture's role in proving food security to all is pertinent. This implies that productivity growth and employment generation will have to be addressed simultaneously. Rapid productivity growth can raise the wage rates adequately and, hence, generate 'decent employment'. Turning to the determinants of productivity growth, social infrastructure (including health and education) is seen to be the most important factor (Mitra et al. 2002). Across all the sectors, new technology which is highly skill-intensive is instrumental in driving rapid productivity growth. Hence, for the new technology to be successful, the employability of the existing labour force will have to improve significantly.

[1] In this new literature, however, industrial policy is more selective than in the past and committed to boost competitive firms in industries with comparative advantages only (see also Mitra and Tsujita 2016 for some elements on the literature on the New Industrial Policy).

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An important feature of the manufacturing policy is its financial and development incentives to the small and medium enterprises. On the whole, the policy promises to increase the share of manufacturing sector to the country's gross domestic product from the existing 16–25%. However, the national manufacturing policy's objective of raising the industrial employment to an unprecedented level may not be realised due to the poor physical and social infrastructure base in many parts of the country. It may be useful to consider the employment potential of the unorganised manufacturing sector as well and tap the potential to create quality employment in this sector. For this again, quality education and skill will play an instrumental role.

Export liberalisation may constitute another means of boosting the productivity and efficiency of the industries, justifying the export-led growth strategy adopted in India after the 1991 balance of payment crisis. Despite the doubts about its success in the future, in the face of the slowdown in the international demand (Mitra and Tsujita 2016) and an overwhelming view to shift to exports of services (Ghani 2010), the export of manufacturing could help the country reduce large-scale underemployment and release the low-skilled labour force presently engaged in low productivity and subsistence activities. But, for them to be employed in the productive activities, employability has to improve.

Issues relating to infrastructure shortage, energy supply constraints, sluggish exports growth, poor performance of labour-intensive exportable goods sector and lack of innovations required for developing appropriate technology and bureaucratic and administrative rigidities in areas where they tend to hamper growth and employment or attract foreign investment, are, undoubtedly, important. There is a need for improvement in the governance structure. The political stability and support, in creating a conducive environment, is essential for private and foreign investment to shoot up. Bureaucratic delays for clearing the projects have to be removed. Though in the reform period, such delays have declined substantially, there is a need for streamlining the process. The intensity of crime and corruption has to decline. The rural non-farm sector has to open up new opportunities, particularly for a massive workforce which needs to be shifted from the agriculture sector. Many of them cannot afford to migrate to cities, and for them, the rural non-farm sector is one of the most important outlets. Generating productive activities in this sector, utilising the local resources, is an important challenge. The services sector will have to grow alongside manufacturing as the complementary relationship between both the sectors is prevalent. Besides, manufacturing alone will not be adequate to absorb the growing labour force. The services sector follows a bimodal distribution, with both a high productivity and a low productivity segment. And the major challenge will be to shift the labour from this residual variety to the demand-induced component.

As growth is becoming increasingly skill-intensive, it is pertinent that the available labour supply meets the challenges of getting absorbed. The quality of education in institutions which are available for the low-income households has to improve steadily. Otherwise, the new sectors, which are expanding significantly, and the new technology, which demands high levels of skill, cannot benefit the vast sections of the population in sharing the outcomes of growth. Studies in the past have shown interconnections between growth, health and poverty. Effective health measures are

able to contribute to labour productivity growth which, in turn, reduces poverty and enhances economic growth simultaneously. Public spending on infrastructure, health, education and vocational training, therefore, has to increase substantially, particularly keeping in view the low-income households and their low accessibility to such facilities. The public infrastructure, education and health support need not have to remain subsidised for all economic categories. User charges from the high-income households can be raised to cross-subsidise the have-nots.

In order to reduce the wage inequality among different types of employees, wage determination has to be linked to productivity growth. We have observed that only one-fifth of the productivity gets transferred to the wage earners at the floor level in the organised manufacturing sector. There are several other activities, particularly in the informal sector, which do not get adequate compensation for price rise. The most important determinant of wage inequality is again instrumental to the quality of education and training. On the whole, from equity, shared prosperity and social justice points of view, access to education is pertinent. Elementary education is not enough to enable labour to face the labour market challenges. Nor it is adequate to develop rational thinking, particularly when it comes to mitigating corruption and enhancing efficiency. During the formative years, access to greater knowledge is instrumental to personality- building, and often, it is observed that elementary education can fill in the gaps in learning. For citizenship formation, intellectual, moral, social qualities and dignity will have to be nurtured. Particularly, in the context of globalisation, with frontiers of knowledge being constantly pushed to higher levels and a huge spectrum of information flowing in continuously, it is important that necessary churning is carried out while keeping pace with modernisation, for which again secondary education serves as the minimum threshold limit.

2 Returns to Education

Skill formation is an indispensable prerequisite for labour productivity as well as total factor productivity growth. Even if jobs can be generated in the process of growth, they may require certain skills and knowledge, which the available labour may not provide. Hajela (2012) argues that a shortage of skills is making more people unemployable in India. Froumin et al. (2007) urged that only 16% of Indian manufacturing firms offer in-service training, compared with 92% in China and 42% in the Republic of Korea. Without a skill, which has greater applicability across a number of sectors, the bargaining power of the workers and, consequently, occupational mobility tend to change sluggishly. Mitra and Tsujita (2016) argue that skill formation is not just a supply-side issue; it is just as much a function of work tasks and work organisation on the demand side. Policies on skill formation have to take into account both supply and demand.

Education levels to determine skills is a fairly blunt instrument and, more so, given that the notion of ‘skill’ is socially constructed. Based on the evidence in Asia

and the Pacific countries, Tilak (2003) observed significant effects of higher education on development. In terms of NSS data, Mehrotra et al. (2013) used educational (general, technical and vocational) attainments to understand the skill levels of the existing workforce. The authors estimated the skilling requirements, sector-wise, under different scenarios to arrive at a realistic and desirable target and find that the challenge of skill development—both in quantitative and qualitative terms—is enormous and requires a careful policy stance. Mitra (2009) noted that imported technology, which is capital-intensive in nature, tends to reduce technical efficiency in the manufacturing sector in developing countries, which could be due to the unavailability of skilled labour.

The weekly wage function, estimated on the basis of the NSS unit-level data from the 66th round (Mitra 2013), shows that education dummies (both general and technical) tend to enhance earnings. Those who had acquired secondary level education could raise their income in comparison with those who were illiterates or those who were literates without formal schooling.

Stark (1995) while comparing two societies with two different health outcomes—low and high life expectancy—argued that the former would mean inter-generational transfer of resources taking place at a younger age. As a result, the recipient, in the absence of higher educational attainments, is likely to utilise the inherited resources in productive channels which, in turn, would lead to sluggish economic growth. On the other hand, in societies with higher life expectancy, the recipient inherits at a later age, and the waiting period is spent on acquiring higher levels of education. This would mean that inherited resources are utilised in terms of productive investment, resulting in higher levels of economic growth. Also, it has been noted that higher educational attainments are creating greater awareness and better health seeking behaviour which is raising the productivity and contributing to economic growth.

Based on the cross-country data, the interconnections between economic growth, health and poverty are brought out distinctly (Kumar and Mitra 2009). Economic growth enhances health, measured in terms of life expectancy, which, in turn, contributes to economic growth positively. Though both higher growth and improved health are expected to reduce poverty, the effect of economic growth on poverty appears to be statistically insignificant. This is understandable because unless growth is accompanied by rapid employment growth for the poor, its effect would rather be unequal. In fact, the adverse effect of capital-intensive technology which slows down the employment growth, particularly for the semi-skilled and unskilled workers, and tends to aggravate poverty is well documented. Access to improved water, education and better health facility at the time of birth all show positive effect on life expectancy, which, in turn, reduces the consumption poverty. The close nexus between health and poverty suggests that better health enhances the capability to work, which, in turn, enhances productivity and income. The policy implication of the study relates to investment in basic amenities and improvement in educational attainment from primary to secondary level and health facility.

3 Job Market and Education: Low-Income Households

The informal sector workers form their own strategies to cope with poverty and overcome uncertainties relating to employment, consumption, health and housing. Informal institutions and networks have been developed, over the decades, to access information pertaining to the job market, enhance earnings and help experience upward occupational mobility over time. Banerjee's work (1986), on urban labour market and migrant households in Delhi, brings out the importance of rural-based search for urban jobs through contacts. These contacts operate through relatives, friends, members of own caste groups and covillagers. About half of his sample of migrants seem to have migrated only after pre-arranging a job or after receiving assurance of employment from an urban-based contact. As job expectations were guided by information received from urban-based contacts, migrants were, in general, successful in obtaining their desired employment in the first instance. And informal non-wage workers were no more likely than formal sector entrants to keep searching for jobs (Banerjee and Bucci 1994). It is interesting to note that migrants, whose contact persons were engaged in unskilled manual occupations, were informed about the same job more frequently than those whose contacts worked in non-manual and in skilled manual occupations (Banerjee 1986). Another major feature of these studies on labour market is that caste, income from the first job, land ownership and sector of ownership are quite important in explaining the job search by rural migrants though, among urban migrants, they are not so important (Banerjee and Bucci 1994). Scheduled Caste migrants displayed a greater propensity than non-Scheduled Caste migrants for on-the-job search in the formal sector but not in the informal sector. This is primarily due to the reservation policy applicable to the Scheduled Castes in the formal sector. On the whole, the assumptions of the probabilistic models, that job search is entirely an urban-based activity and that employment in free-entry activities is a means of financing the search for high-income or high-productivity jobs, have been challenged. This has highlighted the importance of contact variables in rural–urban migration and rural-based search for urban jobs, which could be largely in the informal sector also, instead of being confined to the formal sector alone.

On the whole, it is, by now, widely acknowledged that rural migrants access information on the urban labour market through various informal channels and tend to experience upward income mobility by migrating to the urban areas. Besides, the segmented nature of the urban labour market, due to specialisation of activities in different areas within a city, is important. Hence, occupational choice is greatly determined by the narrow spectrum of jobs available within the geographic area where the migrants reside rather than by what they are capable of pursuing. Contact-based migration tends to end up providing jobs in close neighbourhoods of the contact's residence. Thus, the early settlers help their relatives, friends, members of same caste groups and covillagers to migrate to the city, by providing information on job and habitation space, which is often in the same gamut of space and activities that they themselves have access to.

In relation to the importance of informal contacts for accessing means of livelihood, particularly among low-income households, Elliott (1999) noted that workers from high-poverty neighbourhoods were substantially more likely to use informal job-search methods than those from low-poverty neighbourhoods. Through the informal networks, mutual benefits are ensured (Stark 1995; Mitra 2004). Job-search theory, as Mortensen (1986) writes, portrays the decision-makers' acquisition and use of information to take rational action in an environment that is ever-changing and uncertain. The 'social capital' concept supplies this link between the decision-makers' willingness to pursue rational action and the information required to do so.

The other dimension of a social network relates to its variations across activities. Even within a set of informal networks, differences across activities can be located: depending upon the kind of network that one has, his/her occupational choice gets determined accordingly. Networks, which operate through purely familial ties, are less likely to provide skilled jobs (Ioannides and Datcher Loury 2004). Elliott (1999) noted that, for less educated workers, the use of informal contacts results in significantly lower wages. The paper by Kono (2006) demonstrates that hiring workers through employee referrals reduces the new applicants' pay, while a diversification of networks can raise their pay. In a market with information asymmetry, the 'lemon effect'—that is, the decrease in the market equilibrium wage, induced by the increase in network density (Montgomery 1991)—is caused by network extension or pursuance of similar networks, while network diversification raises referral wages through a bargaining effect (Kono 2006). Empirically, Munshi and Rosenzweig (2006) noted that male 'working-class/lower-caste networks' in Bombay continue to channelise boys into local language schools that lead to traditional occupations although returns to non-traditional white-collar occupations rose substantially in the 1990s. On the whole, the benefits of the network come with social obligations (Munshi 2003) and, thus, may result in sluggish or no upward mobility of both the contact persons and the new entrants. Munshi (2003) observed that there is an externality associated with the individual's migration decision: the members of the Mexican migrant group in the USA face a strong pressure to remain in the low-skill jobs that have traditionally been chosen to maintain the stability of the network. In other words, stability of the network has implications in terms of low levels of education and low-skill occupations. On the whole, the debate in the area of social capital and urban job market accessibility relates, on the one hand, to the importance of networks in seeking a livelihood and, on the other, to the negative role of social capital in experiencing upward mobility.

The findings tend to suggest that those with above primary level education are more likely to diversify their network and experience upward mobility subsequently (Mitra 2010). Those who remain confined to the informal networks are not able to experience any rise in real income over time. On the other hand, those who shift from networks which operate along the caste-kinship bonds to new networks at the place of destination via colleagues, neighbours, employer in the previous job, etc., gain sizeably. And the ability to diversify depends entirely on the level of education, which determines the first job at the place of destination. With secondary level education,

not only the job at the entry level is better but also the probability to widen the ambit of network formation increases which, in turn, contributes to higher pace of upward mobility. Even within the informal sector, upward mobility is seen to be occurring ostensibly through the graduation from the informal to the formal sector.

Based on the household panel data from Delhi slum clusters, Mitra and Tsujita (2016) reflected on the determinants of income mobility in terms of a probit regression. Several of the variables/dummies turn out to be significant. The education dummies suggest that those with higher secondary qualification were more likely to undergo a rise in income. Males showed a higher probability of experiencing upward mobility compared to the females. Among the caste-cum-religion dummies, OBCs seemed to have a higher probability in relation to the reference category. Accessing a public sector job resulted in income increase due to pay hike in recent years. The occurrence of any kind of crisis/exigency (capturing the individual health effect) seemed to have a negative impact on mobility.

With secondary level education as the threshold limit, individuals are seen to form better labour market strategies which reduce risk and uncertainties relating to incomes. The possibility to take recourse to multiple sources of livelihood is explored if one source is highly inadequate to meet the consumption requirements of the households. Inter-temporally, the households are able to change swiftly from one occupation to another. Even at a given point in time, the workers are able to pursue a number of activities simultaneously if they have relatively higher levels of education.

4 Quality of Education and Training

Improving the quality of education and training and integrating the general education with vocational courses are instrumental in improving the employability of the workforce. In many households, children are usually withdrawn from schools after the completion of the primary level education as they are required to join the job market. Instead of spending further time in the school on secondary education, informal arrangements are made to create future livelihood options. For example, many informal sector activities, such as automobile repair services, need certain training which can be obtained only when a child joins a motor garage. Hence, parents view secondary level education as waste of time. On the other hand, poor quality of secondary education in schools meant for low-income households does not offer any alternative job possibility. However, if secondary education can be combined with vocational training, it may motivate many low-income households to send their children to schools rather than withdrawing them. Since the return to the prevailing pattern of education is low and the low-income households cannot afford to send their children to quality schools, such withdrawal symptoms are widely prevalent. Unless schooling can be linked with job market participation, secondary education will continue to be viewed as a waste of time.

At the secondary level, the education system must recognise multiple intelligence and the differences in aptitude. Linguistic and verbal intelligence, logical and mathematical intelligence, spatial intelligence, interest in sports and music tend to vary across children. Hence, introduction of specialised courses for different children rather than offering a commonly designed course can be more beneficial from the practical point of view.

Fields (2000)[2] describes five basic approaches to conceiving income mobility: time dependence measures the extent of change in one's current position determined by the past position; positional movement gauges changes to an individual's position in the income distribution; share movement captures changes in the share of income; symmetric income movement identifies the magnitude but not the direction of movements and directional income movement weighs fraction of upward and downward movers and the change in the average amount of the gainers and losers. Baulch and Hoddinott (2002) present studies using household longitudinal data, ranging from 18 months to 18 years, to examine poverty dynamics and economic mobility. In studying such movements, households, which move in and out of poverty over time, can be identified and so also their vulnerability changes, in relation to changes in their endowments and the returns to those assets. Educational attainments tend to reduce the probability of returning to poverty. Particularly, with secondary level education, workers are quick enough to explore newer opportunities before the existing ones are about to shrink.

Children of nowhere are quite large in number. Ban of child labour does not permit children to participate in the labour market explicitly. At the same time, poor quality education with no return does not motivate them enough to attend schools. In such situations, job-oriented secondary education can be profitable and contribute to their mental growth significantly. Access to information on marketing, entrepreneurship development and tastes and preferences for different products in various geographical areas can form the building blocks of the new secondary education system in the country. For example, Chinese entrepreneurs are able to visualise the nature of tourist demand in European cities, and thus, mementoes manufactured in China are sold in European cities. The role of ICT in opening new horizons has to be realised, and the teaching methods will have to be developed accordingly.

How finances will have to be mobilised to make secondary education free is a key question. Imparting of quality education, with ICT-base and with an orientation towards livelihood development, would demand knowledgeable teachers and instructors who will have to be paid adequately. Creation of proper infrastructure in schools is another prerequisite. If the gaps between different types of schools have to be reduced and efforts pursued to develop a uniform education system at the secondary level, it would entail huge investment. How both government and the corporate world can be engaged in this area would pose a major challenge. What incentives can be provided to the corporate bodies for channelisation of resources is another important question. There is also scope to involve the NGO sector so as to enhance the efficiency of the system. However, the inefficiency of the NGO sector has also been

[2]As summarised by Narayan and Petesch (2012).

noted significantly in certain areas, which led to the dominance of contractors in so far as business sub-contracting in the informal sector is concerned (Kumar and Mitra 2009). Marginal involvement of the NGO sector or eventual shift towards profit-making ventures can hamper the basic purpose of engaging this sector in delivering effective services towards development. A vigilant role of the NGO sector, in so far as the government-run schools are concerned, as well as sufficient control over the players will be some of the steps necessary for improving secondary education in India. Social auditing will have to assume a much more intensive role if secondary education has to be made compulsory, job-oriented and quality-enriching.

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Financing Secondary Education

Public Provisioning for Secondary Education in India: A Situation Assessment

Praveen Jha and Satadru Sikdar

1 Introduction

It is often well-acknowledged that public policies and provisioning for secondary education in India have been inadequate. As the Millennium Development Goals (MDGs) aimed to achieve Universalisation of Elementary Education (UEE), and India also focussed on it, there was indeed an improvement in the enrolment at elementary level. As is well known, the so-called Sustainable Development Goals (SDGs), adopted in 2015, targets '*that all girls and boys complete free, equitable and quality primary and secondary education*' by 2030. In 2011 census, India had almost 10 crores (9.96 crores) population between 15 and 18 years' age group. According to National Sample Survey (NSS) 71st round (2014), almost 26% of children in this age group were not enrolled in secondary education and 21.52% of enrolled children dropped out for various reasons. These numbers are powerful reminders of deficits, at present, and underline the urgency for improvising public policies and provisioning towards secondary education. However, given that secondary education is largely a State subject, there are significant differences in policies and performance across States. As such, it is imperative that both the Union and State governments focus on this jointly to facilitate universalisation of secondary education of good quality. This paper seeks to investigate and analyse some of the major issues relating to financing for secondary education in contemporary India, along with a brief overview of the relevant policy challenges.

After the introductory section, we briefly discus our adopted methodology and the relevant data sources, in Sect. 2. Section 3 presents an overview of the sources of

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financing and the expenditure patterns and trends by States and the Union government for secondary education, including under the Rashtriya Madhyamik Shiksha Abhiyan (RMSA), and a brief snapshot of 'out-of-pocket expenditure'. Section 4 provides a glimpse of recent initiatives to increase support for public provisioning and to contextualise the contemporary situation. Section 5 summarises and concludes the paper.

2 Methodology and Data Considerations

This paper is largely based on the available relevant literature and databases related to secondary education in India. Government expenditure data are largely drawn from the States' Finance Accounts databases, published by Comptroller and Auditor General of India (CAG) and Centre's Finance Account databases, published by Controller General of Accounts (CGA). We have also drawn on other sources such as Budget documents, Educational Statistics at a Glance (ESG), Economic Survey of India etc. However, as it happens, information on expenditure culled from different sources often show significant variations, mainly on account of their differences in coverage of departments and heads.

Information on public expenditures on education is available in many different documents published by GoI. However, there are important differences in their methodologies. For instance, MHRD's 'Analysis of Budgeted Expenditure on Education' sometimes double count grants by Union government to State government, while reporting total expenditure on education. Besides, Indian Public Finance Statistics, published by Ministry of Finance, sometimes does not add expenditure on education by departments other than education. These issues have been analysed in some detail by Jha et al. (2008); as suggested there, it may be better to use Finance Accounts data by CAG to analyse expenditure patterns on education by States and Union Governments.

As we know, information available from Finance Accounts is based on functional classification by the selected expenditure heads. For expenditure analysis, we have considered both secondary and higher secondary as secondary education expenditure, as the budget heads provide the combined information for expenditure from Classes 9 to 12. We have collected expenditure on secondary education as revenue expenditure (budget head 2202–02) and capital expenditure (budget head 4402–102) from 1991–92 to 2015–16 from State Finance Accounts. However, as mentioned earlier, this does not give us the complete story as some of the relevant expenditure happens through other major heads; for instance, a substantial portion of administrative expenditure is incurred under the head 2251 (Secretariat of Social Services), and partly the construction of school buildings is covered under the major head 2059 (Public Works). We may also note that some scholarships and incentive programmes for children from SC/ST and minorities groups are captured under the major head 2225 (Welfare of SCs/STs/OBCs). However, on the whole, the share of expenditure

outside the revenue and capital budget heads tend to be relatively small and, hence, in our analysis we have focussed on these heads (i.e. 2202–02 and 4202–202).

Further, given that the finance accounts and budgets provide information in terms of current (nominal) prices, for inter-temporal comparison, these need to be adjusted through appropriate deflator to arrive at the relevant expenditure at constant (real) prices (Tilak 2008). The information for Net State Domestic Product (NSDP) for different years has been collected from Central Statistical Organisation (CSO), GoI and 2011–12 prices have been used as the base year to construct the deflator, which has been applied for inter-temporal comparison of revenue and capital expenditure on secondary education. For some States, there were gaps in data availability in NSDP figures for particular years; in all such cases, proximate values were arrived at by using the information available for growth rates for the adjacent years.[1] Obviously, there are some limitations in any such statistical exercise and, one may argue that the sectoral deflators are likely to be different from overall NSDP deflators. However, it may be suggested that such differences may not influence the overall expenditure trends in any significant manner, for the period under consideration.

As mentioned at the outset, apart from the trends in public provisioning, this paper also examines the recent situation regarding out-of-pocket expenditure, based on the National Sample Survey (NSS) data (Social Consumption: Education) 71st round, which was conducted between January and June, 2014. This data set provides information on enrolment, current level of education, distance of schools, along with out-of-pocket expenditure on different heads, such as course fee, purchase of books, stationery, uniform, transport, private coaching and others. It may be noted that there are some challenges in using this source without due qualification. For instance, some of the observations for current attendance at secondary or higher secondary level report age as less than 14 years or above 19 years; to be precise, 9.82 and 3.07% of total children reported to be currently attending secondary level are below 14 or above 19 years respectively. Although the standard age group for enrolment at secondary level should be 15–18 years', in view of the above-noted figures, we have decided to consider 14–19 age band, thus accommodating one-year grace on both sides, as appropriate for secondary education to arrive at our out-of-pocket expenditure estimates. In case of students currently enrolled for diploma and certificate course also, for out-of-pocket expenditure, we have used the age-band 14 years or more in our calculation.

At the most basic level, it is absolutely critical to have adequate and reliable data to assess the progress, identify gaps, etc., to provide support to education institutions, devise appropriate policies and so on. The recent technological improvements in data availability have improved access to many variables related to the overall education system in the country, but significant limitations and problems continue to plague our large-scale data systems. For instance, information on enrolment is

[1] For instance, NSDP at constant prices (2011–12 base) for Tripura in 2015–16 has been calculated by applying the 2014–15 growth rate. Similarly, for Uttar Pradesh for 1999–2000, and Sikkim for 1992–93 and 1993–94. Also, in West Bengal, NSDP at 2011–12 prices are not available. Thus, we have applied the average ratio of NSDP 2011–12 at 2004–05 and 2011–12 base among all other States and two UTs to get the deflator at 2011–12 prices.

available from different data sources, but we do not know enough regarding child attendance, students' ability and performances, teacher's teaching skills, education quality, concept realisation by students, knowledge and ability of teachers, language skills, etc. As is well known, information on even most basic indicators, like the GER, NER, school infrastructure etc., from different sources, such as the ESG of the MHRD (GoI), NSSO, District Information System for Education (DISE), ASER etc., show significant variations. We may also note that for the same variable, information emerging from school-based surveys and household-based surveys tend to vary quite a lot. Some of these discrepancies are understandable and one has to be careful as regards the use of relevant statistics. It should be evident from the above-noted brief remarks, that we are not in a comfort zone with regard to our data on education and quite a lot needs to be done.

3 Financing for Secondary Education: Issues and Challenges

As is well-known, post-elementary school education in most States of India is often separated between two segments, viz. secondary and higher secondary, the former consisting of IX and X and the latter of XI and XII respectively. As mentioned earlier, given India's federal system, education is largely a responsibility of State governments and, hence, there are significant inter-State differences at all levels (elementary, secondary, tertiary, etc.) with respect to structure and administration of education.

We may note that the importance of adequate financing for education, including at the secondary level, has been emphasised frequently in policy documents for a very long time. In fact, one may go back to the famous 'Wood's Despatch' of 1854, when the then Secretary of State, Sir Charles Wood recommended some changes in the structure of secondary education, along with additional financial support. Subsequently, important recommendations were made through a number of commissions, both before and after Independence, which often stressed the importance of public provisioning. In relatively recent times, it may be recalled that the National Policy on Education (NPE), 1986, strongly recommended access of secondary education to all children across various socio-economic sections of the country. Some important recommendations of the NPE 1986 were improvement of computer literacy and other required skills through vocational education, setting up residential schools like Navodaya Vidyalayas to encourage talented children from different parts of the country attain quality education and fulfil the reach of secondary education with the objective of equity and social justice, etc.

In 2005, with the aim of 'Universalisation of Secondary Education', a committee was set up under the chairmanship of Ghanshyam Tiwari by the Central Advisory Board of Education (CABE). Its major recommendations included a significant enhancement in expenditure towards elementary and secondary education, along

with adoption of 'norm of schooling', with common national parameters for each State, and decentralised planning. That apart, in the mid-term review of 10th Five Year Plan as well as in 11th Five year Plan, the need for substantial investment on secondary and higher secondary education was again highlighted.[2]

Unfortunately, however, the public provisioning of secondary education, by any meaningful yardstick, has continued to suffer serious neglect. As is well known, important sources of financing for education at different levels of education in India happen through both 'external' and 'internal' sources (Varghese and Tilak 1991). The 'domestic' or the 'internal' includes public (mostly government) and private sources, includes 'out-of-pocket' or households' funding. During the last 25 years, there have been some significant changes in the overall financial architecture on education.[3] Some of the relevant issues relating to secondary sector in India have been discussed in the following. It may be noted that in this paper, we have considered both 'secondary' and 'higher secondary' together as constituting secondary education, in line with the accounting practice of the Finance Accounts, CAG, GoI.

3.1 Patterns and Trends Relating to Government Financing

Before we come to the details regarding the trends and structure of allocations on secondary education, it may be useful to recall the current comparative picture of public expenditure at different levels, which is captured in Table 1. As is evident from the Table, the share of public provisioning on secondary education has been roughly constant in recent years, covering below one per cent and approximately half of the expenditure on elementary education. Although the enrolments in elementary education are substantially higher than at the secondary education level, it is important to keep in mind that the technical and physical infrastructure requirements are relatively more cost-intensive.

Table 2 provides State-wise comparison of expenditure on secondary education during 2011–12 to 2015–16. As may be seen, north-eastern and hilly States are spending relatively more, as a proportion of their GSDP, compared to other States (which may be partly on account of relatively larger contribution from the Union government for the States). For instance, Tripura and Nagaland have a higher share of expenditure on secondary education, in spite of their lower levels of GSDP. On the whole, the picture across States is quite uneven, and a major concern, along

[2]"The norm will be to provide a secondary school within 5 km and a higher secondary school within 7–8 km of every habitation.", Eleventh Five Year Plan (2007–12), vol. 2, page. 17. However, report of the 'Working Group on Secondary and Vocational Education for 11th Five Year Plan', also pointed to a requirement of 2.39 lakh new classrooms and 3.58 lakh new teachers, with the projected enrolment in Class IX–X till 2012.

[3]For instance, as a relatively recent addition, the corporate business houses, which have net worth of Rs. 500 crore, or have turnover more than Rs. 1000 crores or net profit of Rs. 5 crore or more in a financial year, are required to create a Corporate Social Responsibility (CSR) Committee and spend on different social development sectors like education etc.

Table 1 Share of expenditure as % of GDP (Union and State Government combined) at different levels

		Elementary education	Secondary education	University and higher education	Adult education	Technical education	Total (education)
2011–12	State/UTs	1.30	0.86	0.40	0.00	0.27	2.84
	Centre	0.41	0.12	0.22	0.01	0.23	0.99
	Total	1.71	0.98	0.62	0.01	0.51	3.82
2012–13	State/UTs	1.22	0.81	0.44	0.00	0.33	2.8
	Centre	0.39	0.10	0.19	0.010	0.22	0.90
	Total	1.61	0.91	0.62	0.01	0.51	3.70
2013–14 (RE)	State/UTs	1.25	0.86	0.49	0.01	0.36	2.97
	Centre	0.38	0.10	0.20	0.00	0.22	0.90
	Total	1.63	0.96	0.69	0.01	0.58	3.87
2014–15 (BE)	State/UTs	1.42	0.87	0.44	0.01	0.32	3.06
	Centre	0.40	0.11	0.22	0.00	0.25	0.98
	Total	1.82	0.98	0.66	0.01	0.57	4.04

Source Education Statistics Glance, 2016, Table 17(D) and 2018, Table 24(A), 24(B) and 24(C), MHRD, GoI

with low levels of spending, in general, is the fact of a decline in the recent years in several States, including those whose levels of spending was on the lower side (e.g. in Karnataka, Bihar, Haryana, Gujarat and Punjab) and near stagnation in many other States.

Table 3 provides the average annual growth rate of total expenditure by States on secondary education since the early 1990s (during1991–92 to 2015–16), for the period as a whole, and for five-year sub-periods within this. As should be evident from Table 3, some of the backward States like Chhattisgarh, Uttarakhand, Jharkhand reported much higher increment rate on secondary education expenditure. Among the major States, Andhra Pradesh, Rajasthan, Maharashtra, Madhya Pradesh and Himachal Pradesh have reported considerable increment during the last 25 years. However, major States like Uttar Pradesh, West Bengal, Punjab, Gujarat and Bihar have reported substantial low increment during 1991–92 to 2015–16. However, the long 25 years' period has also witnessed some fluctuations in terms of expenditure growth.

Columns 2–6 in Table 3 are representing the five years' average growth of State-wise expenditure on secondary education at constant prices. As may be seen, between 1991–92 and 1995–96 and between 2001–02 and 2005–06, the AAGR of expenditure on secondary education was very low and even negative for many States, and between 2006–07 and 2010–11 showed a better performance in this regard. For the latest quinquennium in our Table, i.e. from 2010–11 to 2015–16, again the story tends to worsen compared to the preceding quinquennium. For most States in the country, the picture appears to be worrisome on the whole.

Table 2 Recent State-wise public expenditure on secondary education (revenue+capital) as compared to GSDP (at 2011–12 current prices)

	2011–12	2012–13	2013–14	2014–15	2015–16
Andhra Pradesh (Including Telangana)	0.73	0.79	0.78	0.61	0.89
Arunachal Pradesh	1.22	1.18	1.22	0.97	1.31
Assam	1.25	1.41	1.58	1.53	1.34
Bihar	0.90	0.69	0.88	0.73	0.82
Chhattisgarh	0.79	0.74	1.11	1.40	1.44
Goa	1.01	1.34	1.60	1.26	1.20
Gujarat	0.53	0.49	0.47	0.44	0.44
Haryana	0.63	0.40	0.40	0.49	0.54
Himachal Pradesh	1.33	1.36	1.30	1.35	1.32
Jammu and Kashmir	1.59	1.52	1.56	1.49	1.73
Jharkhand	0.32	0.28	0.32	0.30	0.45
Karnataka	0.61	0.62	0.56	0.61	0.53
Kerala	0.98	1.00	0.94	0.96	0.98
Madhya Pradesh	0.73	0.71	0.76	0.85	0.85
Maharashtra	0.90	0.87	0.87	0.84	0.80
Manipur	1.66	1.67	1.40	1.68	1.42
Meghalaya	1.04	0.96	1.03	0.98	1.00
Mizoram	2.18	2.23	2.12	1.81	1.72
Nagaland	2.04	2.16	2.10	2.00	2.42
Odisha	0.72	0.71	0.70	0.82	0.83
Punjab	1.31	1.32	1.30	1.28	1.22
Rajasthan	0.86	0.83	0.96	1.02	1.28
Sikkim	2.13	2.01	2.01	1.98	1.88
Tamil Nadu	0.84	0.81	0.86	0.88	0.91
Tripura	2.60	2.34	2.43	2.37	2.36
Uttarakhand	1.40	1.37	1.27	1.31	1.23
Uttar Pradesh	0.93	0.92	0.95	0.63	0.61
West Bengal[a]	NA	NA	NA	NA	NA

Source Calculated by authors from finance accounts and MOSPI data
Note [a]In case of West Bengal, the expenditure data is available, but GSDP at 2011–12 series are not available

However, the comparison for public provisioning across the State may be captured in a better fashion by 'per child' and 'per student' expenditure. By 'per child' expenditure, we mean here the overall expenditure for secondary education divided by total population between 15 and 18 years' age groups, whereas in estimating 'per student' expenditure, we have considered only children enrolled in government schools. Further, for government schools, we have considered schools managed by State

Table 3 Annual average growth rate (AAGR) of expenditure on secondary education (constant 2011–12 prices)

	AAGR 1991–92 to 2015–16	AAGR 1991–92 to 1995–96	AAGR 1996–97 to 2000–01	AAGR 2001–02 to 2005–06	AAGR 2006–07 to 2010–11	AAGR 2010–11 to 2015–16
(0)	(1)	(2)	(3)	(4)	(5)	(6)
Andhra Pradesh (including Telangana)	8.64	1.76	9.17	3.30	14.51	14.44
Arunachal Pradesh	8.32	4.28	11.62	2.55	11.39	11.75
Assam	6.82	5.91	7.48	0.87	14.03	5.80
Bihar	5.85	−0.81	7.56	−0.84	9.95	13.42
Chhattisgarh	19.53	–	–	11.90	21.00	24.18
Goa	4.66	−2.42	5.15	1.78	15.88	2.93
Gujarat	5.78	6.08	7.54	−0.98	12.71	3.55
Haryana	6.90	3.11	10.98	4.85	11.39	4.18
Himachal Pradesh	7.44	5.31	10.67	6.85	7.37	7.01
Jammu and Kashmir	7.21	4.74	7.97	1.88	13.92	7.54
Jharkhand	9.01	–	–	−0.66	12.59	13.17
Karnataka	6.83	7.22	8.65	1.24	11.09	5.95
Kerala	6.81	2.21	8.71	4.58	9.27	9.25
Madhya Pradesh	7.63	3.06	2.21	−3.92	25.03	11.78
Maharashtra	8.21	5.21	16.97	1.84	13.01	4.02
Manipur	5.15	4.33	6.95	−0.23	11.41	3.28
Meghalaya	5.55	0.53	6.22	2.08	17.79	1.15
Mizoram	8.05	–	10.70	4.77	14.76	4.10
Nagaland	13.44	14.75	−0.66	14.18	29.73	9.22
Odisha	6.82	2.54	9.36	4.18	10.48	7.53
Punjab	5.76	0.75	12.14	2.99	5.37	7.51
Rajasthan	8.23	5.62	8.08	4.21	9.11	14.13
Sikkim	7.70	−6.04	14.23	15.33	14.33	0.64
Tamil Nadu	6.69	1.01	9.20	1.27	13.23	8.75
Tripura	6.69	0.22	6.69	3.46	16.74	6.33
Uttarakhand	9.49	–	–	10.16	13.21	5.22
Uttar Pradesh	4.29	3.32	6.51	3.26	9.78	−1.42
West Bengal	5.47	1.25	12.49	−0.23	13.52	0.34

Source Calculated by authors

government, local bodies and government-aided schools. The population figures between 15 and 18 years by States are available in Census for 1991, 2001 and 2011. Using the figures for these years, we have applied the exponential growth rate to project population for other years.

As one may expect, figures for per child expenditure are quite low, but we need to factor in the fact that more than half of the population in the relevant age group is either not enrolled or may be enrolled in private schools. However, it is our considered view that education at every level must be responsibility of the government. It is also because of poor public provisioning that sections of children either stay away from the school or opt for the private sector. Hence, it is important to check the trends of per child secondary education expenditure during the last 25 years by each State.

Table 4 reports the trends relating to per child expenditure on secondary education, by different States, at the 2011–12 constant prices for selected years. As may be seen, Goa, Kerala and Himachal Pradesh are consistently performing better than all the other States. On the other hand, Bihar, Jharkhand, Uttar Pradesh and Madhya Pradesh are among the poorest performing States in this respect. It may also be noted that many of the poor-performing States are relatively populous with relatively lower enrolment at the secondary level. If we compare Bihar with Goa, per child expenditure on secondary education in the latter case is 35 times more than the former in 2015–16. It is also worth noting that the gap, in this respect, between economically better and backwards States has been, by and large, growing, although the overall picture is complex.

The figures for per student expenditure may be compiled from two different sources: (i) different rounds NSS surveys on participation of education, i.e. 52nd (1995–96), 64th (2007–08) and 71st (2014) rounds, which also provide the types of schools reported by the household members, and (ii) 'Secondary Education in India: Flash Statistics', based on U-DISE data. U-DISE data provide information for secondary level from 2010–11 onwards. However, we have used the latter source for our compilation as it provides more recent and continuous data; number of children enrolled in State governments' schools under different departments, as well as run by local bodies, and government-aided schools are taken into account while arriving at the above-noted estimate. However, in this exercise, we have not included Kendriya Vidyalaya, Navodaya Vidyalayas, etc. (i.e. schools under the management of Union Government) as we are interested in inter-State comparison.

Figure 1 represents a comparative picture of per student and per child State governments' total (revenue and capital) expenditure on secondary education at 2011–12 constant prices. Huge differences between these two clearly indicate the poor enrolment of children in government schools at the secondary education level. However, per student expenditure on secondary education of States, with regard to per student indicator, also happens to be very uneven; for instance, for 2015–16, Goa spends 12 times more than what Bihar does.

Average growth rates of per child and per student expenditures on secondary education by States are presented in Table 5. As mentioned earlier, we are able to calculate per child expenditure for a longer period, whereas per student expenditures are calculated for the most recent years for which the information is available

Table 4 Per child secondary revenue and capital expenditure by States (in rupees) (constant at 2011–12 prices)

	1991–92	1995–96	2000–2001	2005–2006	2010–2011	2015–16
Andhra Pradesh (including Telangana)	909.25	922.17	1353.25	1643.76	3369.13	6261.61
Arunachal Pradesh	2058.86	2239.16	2972.24	2962.13	3884.60	5919.04
Assam	1195.68	1237.42	1616.05	1620.76	2979.08	3843.03
Bihar	441.10	478.33	591.09	489.65	570.83	821.40
Chhattisgarh			193.57	818.65	1946.23	5060.65
Goa	8679.26	8864.11	11,429.73	12,568.37	24,667.22	28,766.79
Gujarat	1232.93	1485.72	1930.66	1764.61	3043.49	3500.33
Haryana	1422.80	1481.91	2002.96	2454.99	4225.32	4649.15
Himachal Pradesh	2245.52	2593.06	4115.05	5806.09	8398.82	12,205.14
Jammu and Kashmir	1675.72	1660.96	2376.22	2531.81	4623.74	6329.45
Jharkhand			150.13	394.54	599.33	1016.86
Karnataka	993.32	1255.32	1792.36	1937.52	3367.95	4641.23
Kerala	1589.58	2013.68	3051.69	3780.31	5939.55	9243.39
Madhya Pradesh	545.63	616.51	601.87	464.77	1314.36	2212.67
Maharashtra	1555.55	1766.49	2951.06	3214.86	5899.86	7332.73
Manipur	2570.79	2481.38	2864.72	2589.13	4222.22	4575.13
Meghalaya	1584.92	1382.58	1514.11	1509.21	3014.56	2910.94
Mizoram			3812.91	4415.88	8249.16	9515.77
Nagaland	1556.96	2272.09	1358.07	2172.66	5133.35	8389.62
Odisha	751.18	866.70	1235.94	1430.06	2177.00	3117.01
Punjab	2556.07	2478.96	3944.67	4676.69	6361.25	9517.19
Rajasthan	1080.31	1272.92	1597.14	1826.28	2616.94	4698.91
Sikkim	4632.97	3945.10	6041.27	12,205.96	24,238.50	25,682.07
Tamil Nadu	1575.04	1762.45	2746.65	2905.59	5359.76	8065.19
Tripura	1925.82	2057.94	2669.76	3274.23	7278.16	10,402.50
Uttarakhand				4175.99	7442.13	9462.53
Uttar Pradesh	796.88	766.89	893.56	951.62	1390.21	1156.29
West Bengal	1356.58	1459.62	2260.51	2279.48	4211.29	4459.97

Source Calculated by authors

from U-DISE (2012–13 to 2015–16). As is evident from our calculation, among the major States, Andhra Pradesh, Kerala, Maharashtra, Himachal Pradesh and Madhya Pradesh seem to be doing better, with AAGR above seven per cent, between 1992–93 and 2015–16. Over the same period, Uttar Pradesh, Gujarat, Bihar and Assam tend to do much worse, with lowest AAGR, compared to other States. Column 6 in Table 5 provides information for the AAGR pertaining to per student expenditure

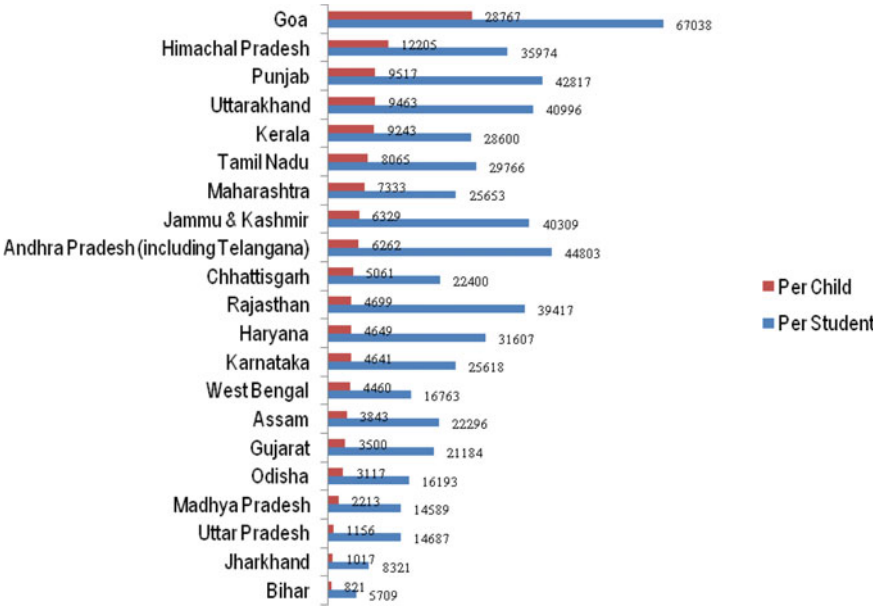

Fig. 1 Per student and per child State Government expenditures in 2015–16 (at 2011–12 prices) (in Rs.) (Figures for enrolled children in government schools in most of the North Eastern States (except Assam), appeared to be huge outliers, and, hence, we have not included estimates for these in the above figure). *Source* Calculated by authors

between 2012–13 and 2015–16; and the variation across States is dramatically huge. It may be reiterated that the quantum of government expenditure as well as number of enrolments in State government-funded schools determine the above-noted figure and the factors impacting on both these variables need to be analysed carefully.

As we have already seen in Table 1, the share of Union government expenditure on secondary education tends to be much lower than the share of the State governments. However, it may be useful to have a brief discussion here of the various programmes on secondary education, on which Union government is spending. The following are among the important programmes on secondary education by the Union government: 'National Means-cum-Merit Scholarship Scheme', 'National Scheme for Incentive to Girl Child for Secondary Education', 'Kendriya Vidyalaya Sangathan (KVS)', 'Navodaya Vidyalaya Samiti (NVS)', 'National Council of Educational Research and Training (NCERT)', 'Central Tibetan School Administration (CTSA)' and RMSA'. However, KVS, NVS, NCERT and CTSA cover both elementary and secondary education, and as these four are autonomous bodies, they have been spending according to their own vision and planning. Among all other schemes, RMSA is a flagship programme, launched in March 2009, with an aim of improving the access to good quality secondary education. Later in 2013–14, some of the ongoing centrally

Table 5 Annual average growth rate (AAGR) of per child and per student expenditur eon secondary education (constant 2011–12 prices)

In %	Per child expenditure					Per student expenditure
	AAGR 1992–93 to 2015–16	AAGR 1996–97 to 2000–01	AAGR 2001–02 to 2005–06	AAGR 2006–07 to 2010–11	AAGR 2011–12 to 2015–16	AAGR between 2012–13 to 2015–16
(0)	(1)	(2)	(3)	(4)	(5)	(6)
Andhra Pradesh (including Telangana)	9.29	8.14	4.19	15.98	15.92	36.1
Arunachal Pradesh	6.17	7.43	0.55	9.72	10.08	23.8
Assam	5.48	5.63	0.40	13.87	5.64	6.3
Bihar	5.11	6.69	−2.67	7.71	11.11	−3.7
Chhattisgarh	–	–	46.10	20.01	23.17	36.2
Goa	5.97	5.83	2.32	16.46	3.45	−20.8
Gujarat	4.87	6.22	−1.71	12.01	2.90	−3.8
Haryana	6.22	8.23	4.51	11.67	4.44	46.5
Himachal Pradesh	7.56	9.80	7.36	8.19	7.82	33.7
Jammu and Kashmir	6.15	7.51	1.43	13.43	7.08	18.5
Jharkhand	–	–	37.18	11.39	11.97	7.7
Karnataka	6.90	7.54	1.70	12.03	6.85	−8.1
Kerala	8.07	9.51	4.93	9.54	9.52	−8.9
Madhya Pradesh	7.42	2.27	−4.44	24.20	11.04	2.7
Maharashtra	7.82	15.10	1.88	13.49	4.45	0.8
Manipur	3.48	5.17	−1.09	10.62	2.55	15.7
Meghalaya	3.33	2.12	−0.01	15.93	−0.44	−20.0
Mizoram	–	–	3.50	13.68	3.12	21.3
Nagaland	13.32	−6.54	13.82	31.38	10.61	47.7
Odisha	6.93	7.96	4.07	10.61	7.65	−0.7
Punjab	5.90	10.23	3.49	6.46	8.62	14.2
Rajasthan	6.87	4.96	2.95	8.27	13.24	52.4
Sikkim	8.53	11.28	15.62	15.35	1.54	−25.6
Tamil Nadu	7.28	9.72	1.25	13.07	8.60	27.0
Tripura	7.82	5.49	4.29	18.23	7.69	19.8
Uttarakhand	–	–	–	12.97	4.99	17.3
Uttar Pradesh	2.86	3.41	1.99	8.79	−2.31	−8.4
West Bengal	5.96	11.11	0.19	14.48	1.19	−4.5

Source Calculated by authors

Table 6 RMSA expenditure by Union Government

	Rs. in billion	% Share of RMSA expenditure out of total expenditure on secondary education by Union Government (including NCERT, KV and NV)
2009–10	5.49	9.6
2010–11	14.82	22.1
2011–12	25.00	28.5
2012–13	31.72	34.3
2013–14	26.79	26.6
2014–15	33.98	34.5
2015–16	35.63	36.8
2016–17	36.98	34.6
2017–18 (RE)	39.15	31.4
2018–19 (BE)	42.13	34.2

Source Compiled from Demand for Grants for Department of School Education and Literacy, Union Government Budgets

sponsored schemes were merged with RMSA, such as 'Information and Communication Technology (ICT) in schools', 'Girls' Hostel, Inclusive Education for Disabled at Secondary Stage' (IEDSS) and 'Vocational Education'.

In recent years, RMSA has become the largest expenditure head of Union government for secondary education compared to the other relevant programme heads. Also, RMSA expenditures are transferred to the State governments on the basis of 75:25 ratio, where the States have to incur 25% of the designated expenditure; for the north-eastern region (NER), the sharing between Union and State governments is 90:10.[4] As may be seen from Table 6, in the recent years, the share of RMSA, in total government funding for secondary education, has been more than 30%. However, it is worth emphasising that the distribution of support from Union government under RMSA, across States and UTs, has been uneven, as may be seen from Table 7. In 2015–16, more than 60% ofRMSA grants were distributed among only eight States, viz. Rajasthan, Tamil Nadu, Andhra Pradesh, Karnataka, Telangana, Odisha, Madhya Pradesh and Maharashtra. Further, the variation in the amount received by particular States seems inexplicable; for instance, Bihar received Rs. 144 crore in 2014–15, whereas it got only Rs. 36 crores in 2015–16. Sure enough, allocation under RMSA, depends on many factors, such as, population size, expenditure capacities, submission of bills, etc. Yet, allocation patterns and trends across States, as hinted above, appear to be areas of concern. This, in fact, emerges in an even starker fashion if we look at per student allocation under the RMSA, figures for which are reported in Table 8. As may be seen, for Bihar, Meghalaya and West Bengal, per student grants

[4] *Press Information Bureau, 2nd May, 2013, 20:40; 'Rashtriya Madhyamik Shiksha Abhiyan (RMSA) - revision of certain norms and subsuming of other centrally sponsored schemes of secondary education under RMSA'.*

Table 7 Central share released to the States/UTs under RMSA programmes from 2012–13 to 2015–16 (Rs. in million)

State/UT	2012–13	2013–14	2014–15	2015–16	2016–17 (As on 06.12.2016)
Andaman and Nicobar Islands	6.70	0.00	6.50	15.81	32.89
Andhra Pradesh	3546.50	1986.90	867.10	2718.28	489.53
Arunachal Pradesh	243.70	0.00	13.76	212.64	16.90
Assam	1283.20	706.20	1598.11	1187.70	1450.67
Bihar	1376.50	688.49	1448.45	360.10	1849.64
Chandigarh	7.00	2.20	18.12	29.10	26.78
Chhattisgarh	3089.80	1869.34	1901.87	1803.96	1877.71
Dadra and Nagar Haveli	4.50	3.60	4.98	15.27	6.73
Daman and Diu	5.50	18.01	5.14	4.56	9.83
Delhi	0.00	44.34	211.41	195.30	134.51
Goa	0.00	10.43	32.32	13.55	33.50
Gujarat	820.50	0.00	960.08	1223.83	1359.84
Haryana	1011.20	720.43	1501.88	751.97	1369.81
Himachal Pradesh	203.60	1124.41	360.94	950.85	1820.50
Jammu and Kashmir	1093.60	1357.80	1154.42	961.44	
Jharkhand	0.00	1188.30	1112.03	620.38	1271.31
Karnataka	564.20	1288.30	3035.13	2096.88	514.92
Kerala	152.70	171.90	399.13	1019.34	95.85
Lakshadweep	0.00	0.00	0.21	0.98	0.42
Madhya Pradesh	4612.30	5245.54	2101.08	1880.33	2417.56
Maharashtra	98.50	76.81	2345.19	1816.75	898.49
Manipur	430.10	392.90	624.24	173.30	171.02
Meghalaya	16.00	34.09	5.86	4.01	
Mizoram	639.20	394.50	280.27	136.81	191.59
Nagaland	166.20	50.65	36.39	532.64	250.96
Odisha	2154.30	2655.36	2010.03	1987.10	1005.85
Pondicherry	7.20	71.66	7.54	15.26	21.76
Punjab	2584.40	926.04	993.86	390.72	685.21
Rajasthan	870.40	2671.40	3442.13	3712.99	2876.30
Sikkim	2.50	86.22	111.88	115.83	73.66
Tamil Nadu	2761.40	3593.64	3336.45	3147.18	1445.81
Telangana	NA	NA	828.91	2000.81	235.95

(continued)

Table 7 (continued)

State/UT	2012–13	2013–14	2014–15	2015–16	2016–17 (As on 06.12.2016)
Tripura	701.80	236.56	59.90	68.33	138.39
Uttar Pradesh	2208.70	968.00	1422.81	1254.38	1728.74
Uttarakhand	966.40	757.16	582.58	351.39	1086.76
West Bengal	0.00	7.65	1074.37	290.94	102.95
Total	31,628.60	29,348.84	33,895.03	32,060.71	25,692.33

Source In response to Rajya Sabha session - 237 unstarred question NO.556 and 2015–16 data from Rajya Sabha session - 238 unstarred question NO. 206; 2016–17 data from https://community.data.gov.in/stateut-wise-central-share-of-fund-released-under-rashtriya-madhyamik-shiksha-abhiyan-from-2014–15-to-2016–17/
NA Not Available

are in the range of approximately Rs. 100 or less, whereas the same was more than Rs. 2500 for Telangana and Himachal Pradesh in 2015–16.

As noted above, State governments tend to take greater expenditure responsibilities for school education. Given that there are huge differences across States with regard to per child and per student expenditure, value of intervention by the Union government may lie, at least in part, in facilitating bridging the gaps and help in the access to good quality education. Unfortunately, as noted above, the RMSA does not seem to address these issues as some of the poorest spenders are receiving much lower grant through RMSA for different reasons.

3.2 Households' Out-of-Pocket Expenditure

Private, or 'out-of-pocket', expenditure on education, particularly at the level of elementary and secondary education, must be viewed as a matter of serious concern. Unfortunately, in India, the problem has tended to aggravate, particularly in the so-called economic reform era, at all levels of education. Data clearly indicates a substantial participation in private institutions in the recent years, as may be seen from Fig. 2. It is prominently clear that larger sections of children are enrolled in government institutes for general education, more than 50% for school education and more than 40% for higher education. However, it is important to note that, for several reasons, the distribution of students between public and private institutions across different social groups, as also rural and urban areas differ a great deal.

As reported in Table 23 of Educational Statistics at a Glance (ESAG) 2018, MHRD, GoI, the average private expenditure per student at primary, upper primary, secondary and upper secondary levels in 2014 wa Rs. 4610, Rs. 5386, Rs. 7459 and Rs. 12,619, respectively. We have calculated the weighted average out-of-pocket expenditure per student at different levels of education, and by types of institutions,

Table 8 Per student central share released to the States/UTs under RMSA (in Rs.)

State/UT	2012–13	2013–14	2014–15	2015–16
Andaman and Nicobar Islands	289.0	0.0	282.3	703.4
Andhra Pradesh	1457.8	1143.7	477.7	2515.7
Arunachal Pradesh	4003.0	0.0	185.4	2825.6
Assam	947.5	696.6	1485.2	1093.2
Bihar	674.5	266.2	501.8	102.8
Chandigarh	180.1	45.2	351.1	560.0
Chhattisgarh	3540.8	1769.9	1605.3	1503.8
Dadra and Nagar Haveli	457.4	253.9	356.2	1050.0
Daman and Diu	976.7	2183.8	635.5	751.9
Delhi	0.0	51.3	243.2	236.4
Goa	0.0	159.3	432.3	269.6
Gujarat	2852.9	0.0	510.6	701.9
Haryana	1483.9	998.2	2029.9	1031.5
Himachal Pradesh	559.8	2761.5	917.9	2544.2
Jammu and Kashmir	2695.5	3863.9	2888.5	2345.9
Jharkhand	0.0	1563.6	1019.2	614.9
Karnataka	543.9	909.8	2115.9	1269.8
Kerala	195.9	140.2	259.9	665.2
Lakshadweep	0.0	0.0	43.5	203.7
Madhya Pradesh	2740.4	2894.7	873.0	785.6
Maharashtra	264.0	16.6	491.0	359.9
Manipur	8909.7	9537.2	15,487.6	4632.9
Meghalaya	2035.4	435.4	67.3	38.5
Mizoram	16,938.3	9806.9	6825.7	3277.1
Nagaland	7160.7	2074.6	1528.9	22,680.5
Odisha	2198.5	2562.0	1931.9	1849.8
Pondicherry	127.2	1436.5	156.7	328.6
Punjab	4093.5	958.3	983.6	406.8
Rajasthan	487.2	1679.1	2013.8	2255.7
Sikkim	106.2	3035.6	3382.2	3166.0
Tamil Nadu	1436.2	1223.9	1154.7	1088.7
Telangana	–	–	–	2653.8
Tripura	4462.3	1343.7	314.6	356.7
Uttar Pradesh	10,122.4	239.2	362.8	318.6
Uttarakhand	2420.0	1607.7	1222.3	744.1
West Bengal	0.0	2.1	280.8	73.8
Total	1329.1	827.1	890.2	822.7

Source Calculated by authors

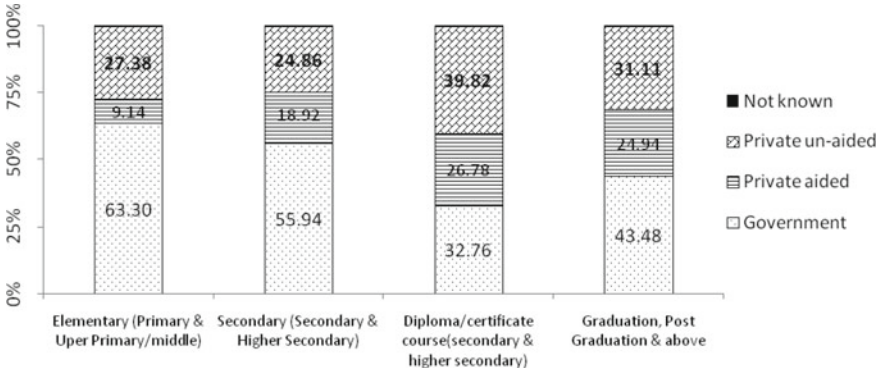

Fig. 2 Estimated share of students among different types of institutions by different levels of education, 2014. *Source* Estimated by authors from NSS 71st round

in Table 9; as may be seen, there are huge differences across both these axes of classification.

In general, students enrolled in government institutions have to incur relatively less as 'out-of-pocket' expenditure compared to the students falling in other categories, although there are significant increases as one moves from elementary to higher stages across all categories. The incidence of 'out-of-pocket' expenditures for the secondary education is almost two to three times higher in private institutions compared to government schools. Figure 3 presents the range of out-of-pocket expenditure on different levels of education. As may be seen, the value reported as lowest 'out-of-pocket' expenditure across all types of institutes for general education are approximately within a narrow band and quite low; however, there are large variation at the upper end.

To get a better sense of the dispersion of 'out-of-pocket' expenditure, we have plotted the percentile distribution of average per student expenditure, at secondary

Table 9 Weighted average of households' out-of-pocket expenditure in 2014 (in Rs.)

Level of education	Type of institutions	Government	Private-aided	Private-unaided	Not known
Elementary (primary and upper primary/middle)		1375.29	9243.31	11,631.01	7602.05
Secondary (secondary and higher secondary)		4872.80	11,871.34	18,413.98	14,689.16
Diploma/certificate course (secondary and higher secondary)		20,927.09	42,420.62	50,404.28	93,090.76
Graduation, post-graduation and above		13,777.15	26,807.09	49,643.58	52,522.91

Source Estimated by authors from NSS 71st round

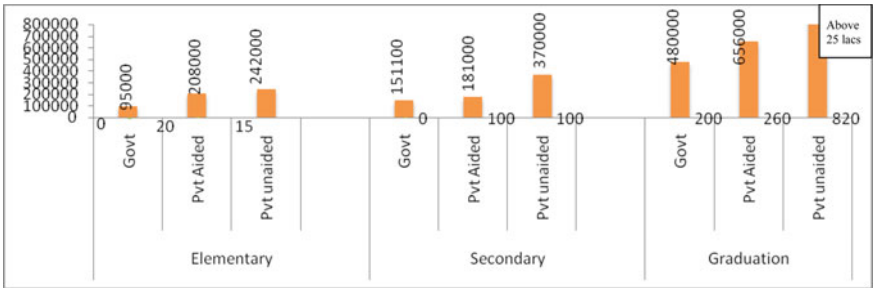

Fig. 3 Range of per student out-of-pocket expenditure (in Rs.) at different levels of education, by institute. *Source* Calculated by authors from NSS 71st round (2014), unit level data

level of education and different types of institutions in Fig. 4. It clearly emerges that at the secondary level, the 'out-of-pocket' expenditures, borne by the students in private-unaided schools, are much higher than students enrolled in government- or private-aided schools. However, the expenditure range and averages across the 25th, 50th, 75th and 90th percentile of government school students at secondary level are almost similar to the 10th, 25th, 50th and 75th percentile, respectively, of students in private-aided schools. Almost similar comparison holds for students enrolled in private-aided and unaided schools. However, the expenditure range and mean for the 50th, 75th and 90th percentile of students in government schools at secondary

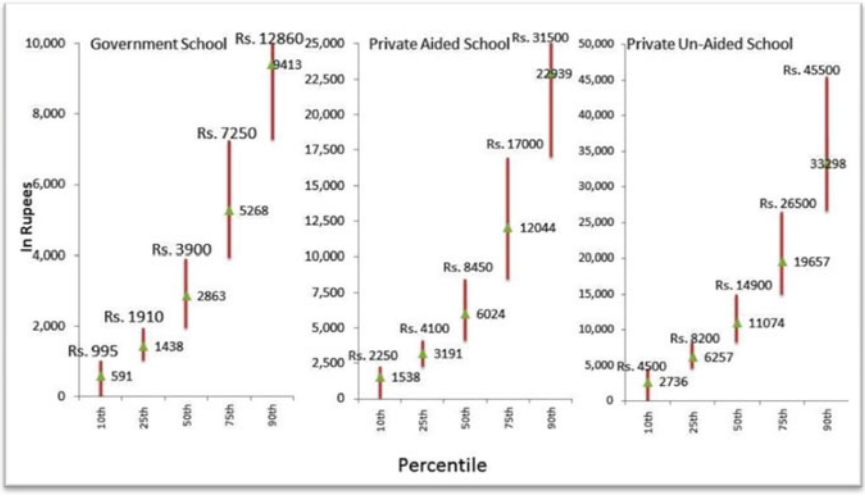

Fig. 4 Percentile distribution per student total out-of-pocket expenditure (in Rs.) at different types of institutes at secondary level of education. *Source* Calculated by authors from NSS 71st round (2014), unit level data

level are slightly lower than the 10th, 25th and 50th percentile of students in private-unaided schools. Of course, at the lower ends of the range, the values of 'out-of-pocket' expenditure for students in government schools are obviously considerably less than private-aided and unaided schools as may be seen from Fig. 4. Nonetheless, the point worth stressing is that due to substantial increase in private tuition expenses, etc., the out-of-pocket expenditure for a substantial section of students enrolled in government schools has tended to increase sharply.

To highlight some of the important numbers: for students at secondary level and enrolled in government schools, the average expenditure for the lowest 10th percentile was Rs. 591 in 2014, compared to Rs. 9413 in the 90th percentile groups; in private-aided schools, the average expenditure were Rs. 1538 and Rs. 22,939 for the 10th and 90th percentile groups, respectively; in case of private-unaided schools, the average out-of-pocket expenditure was Rs. 2736 to Rs. 33,298 for 10th and 90th percentiles. These figures clearly reflect substantial differences across private-aided and unaided institutes, in terms of fees and other expenditures need to be borne by the students.

Table 10 provides information relating to 'out-of-pocket' expenditure for students for rural and urban areas and by gender. Again, we may note that there are substantial variations across different types of schools by regions. In rural areas, average 'out-of-pocket' expenditure on secondary education in government schools is Rs. 4229 and Rs. 7488 in rural and urban areas, respectively, and the comparable figures

Table 10 Secondary education: average out-of-pocket expenditure and participation share among differently managed institutions

	Rural	Urban	All	Boys	Girls
Weighted average expenditure (in Rs.)					
Government	4229	7488	4873	5007	4719
Private aided	8327	17,031	11,871	12,610	10,908
Private unaided	12,783	26,389	18,414	18,923	17,657
Not known	13,037	16,668	14,689	15,380	14,170
Distributions of estimated students					
Government	80.25	19.75	100.00	53.38	46.62
Private aided	59.28	40.72	100.00	56.58	43.42
Private unaided	58.61	41.39	100.00	59.77	40.23
Not known	54.50	45.50	100.00	42.89	57.11
Share of estimated students					
Government	63.4	37.9	55.9	53.8	58.7
Private aided	15.8	26.4	18.9	19.3	18.5
Private unaided	20.6	35.3	24.9	26.7	22.5
Not known	0.2	0.5	0.3	0.2	0.4
Total	100.0	100.0	100.0	100.0	100.0

Source Estimated by authors from NSS 71st round (2014)

for private-unaided schools are three to four times higher. However, there are no significant differences in the reported out-of-pocket expenditure at the secondary level for boys and girls enrolled in the same type of institutions.

It is worth noting, as shown in Table 10, 63.4% of all children enrolled in secondary education, in rural areas, are in government schools, whereas the story in the urban areas is almost the mirror opposite of it, with 37.9% in government schools and the remaining 62.1% in private schools. As regards the total enrolment at the secondary level for the country as a whole, the government schools account for 55.9% and the balance by the private sector. The trend towards growing privatisation and increasing out-of-pocket expenditure, across the entire school system, has extremely serious implications for issues of equity, universal access to quality etc., which we are not dwelling on in this paper.

4 Recent Policy Initiatives to Increase the Budget and Other Possible Solutions

In the preceding section, some of the important aspects relating to trends and patterns of expenditure, with respect to secondary education, were presented. One of the major concerns we have highlighted relates to the inadequate public provisioning, a point often acknowledged even by various official committees of the Union and State governments. As is well known since the days of the famous Kothari Commission, expenditure target of six per cent of GDP on education has been frequently flagged both in official discourses and outside; however, for the last several decades, there has been a significant shortfall with respect to the above-noted benchmark target. Simultaneously, there has been a sharp and rising trend in 'out-of-pocket' expenditure associated with several heads such as transportation, books, private coaching, etc. As we know from the NSS 71st round data, of the total 'out-of-pocket' expenditure, the average incidence of coaching fees for students enrolled in government schools amounts to 35.70% per the student in secondary level. Clearly, it reflects very poorly on the state of public provisioning. We may also note, using the same data source, that the weighted sum of 'out-of-pocket' expenditure for all levels of education, taken together, works out to 1.94% to GDP!

As is well known, economically developed / industrialised countries (e.g. OECD countries) have continued to prioritise their expenditure on social sectors, including education and health, in spite of the fact that the basic requirements with respect to these had been met long ago. However, to maintain and ensure good quality provisioning in these areas, almost all these countries have continued with reasonably high levels of spending, whether as a proportion of GDP or in per capita terms. In fact, it is worth noting that even in their early stages of economic development, there was considerable fiscal attention to the social sector expenditures in these countries. As reported in the UNESCO Institute for Statistics (UIS) database, figures for government expenditure on education as a proportion of GDP, in 2013, were 5.62,

5.22 and 3.84%, respectively, for UK, USA and India. Comparable figures in most BRICS and many other developing countries happened to be better than India (see Jha et al. 2016). In terms of taking US$ in PPP terms, per student expenditure in India in 2010 happened to be 422, 225 and 224, respectively, at the secondary, lower secondary and primary levels. For the same year, USA and UK spent approximately 25 times more than India.

Unfortunately, India has shied away from adequate public provisioning for education, hiding behind the excuse of not having enough resources.[5] Furthermore, it is also quite clear that the era of so-called economic reforms has certainly not helped matters and it is amply clear that we have been seriously floundering. In fact, even in regimes of market-driven macro-economic reforms, which essentially amounts to an overall compression of the role of the State, a few countries have tended to keep at least some focus on public provisioning for education, by finding and creating appropriate fiscal space. For instance, one may recall Chile's attempt to finance free education at all levels, through corporation tax in 2014. Likewise, a series of measures pushed for by President Luiz Inácio Lula da Silva in Brazil resulted in significant expansion in some aspects of public provisioning for education.

There is no reason why India cannot make significant headway with provisioning for the needs of its social sector through some changes in overall fiscal and financial architecture. For instance, an issue which has been flagged frequently in recent discussions, including by Finance Ministers of India's Union Governments in the last decade or so, relates to that of exemptions to the better-off sections of the society. Information given in Table 11 is quite instructive in this regard.

During the last decade or so, the revenue foregone has been in the range 2.5–7.4% to GDP, which is a huge amount by any reckoning! Of course, there are several arguments and justifications put forward with regard to such exemptions made in the Union government tax system; for instance, it is claimed that exemptions can be powerful incentive for investment which would enhance the capacity of the economy and promote higher growth rates, etc. Although many of these claims are on slippery grounds, we are not making a blanket argument for and against exemptions and revenues foregone. The point we are stressing here is that when it comes to needs of the social sector, one needs to take a call on the provisioning for the same *vis-a-vis* a whole range of exemptions granted to the corporate sector as also the other economic actors. Tax exemptions need to be minimised, carefully designed and justified with sound social and economic reasons.

[5]In fact one may even argue that India has been a major failure in addressing its public policy challenges *vis-a-vis* education and health. As Prof. Amartya Sen voiced his concern in a recent interview: 'India is the only country in the world which is trying to become a global economic power with an uneducated and unhealthy labour force. It's never been done before, and never will be done in the future either. There is a reason why Europe went for universal education, and so did America. Japan, after the Meiji restoration in 1868, wanted to get fully literate in 40 years and they did. So did South Korea after the war, and Taiwan, Hong Kong, Singapore and China', LSE Blog, Nov 19, 2015; http://blogs.lse.ac.uk/southasia/2015/11/19/india-is-the-only-country-in-the-world-trying-to-become-a-global-economic-power-with-an-uneducated-and-unhealthy-labour-force-amartya-sen/.

Table 11 Amount of revenue foregone/revenue impact of tax incentives in Central Government budgets (In Rs. billion)

S. No.	Items	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16
1	Corporate income tax	621.99	669.01	728.81	882.63	617.65	687.20	577.93	650.67	768.58
2	Personal income tax	380.57	375.70	451.42	506.58	393.75	335.36	352.54	535.26	618.00
3	Excise duty	874.68	1282.93	1691.21	1982.91	1955.90	2099.40	1962.23	1967.89	791.83
4	Customs duty	1535.93	2257.52	1952.88[a]	1744.18[a]	2368.52	2540.39	2607.14	2389.67	692.59
5	Gross total (1 + 2 + 3 + 4)	3413.17	4585.16	4824.32	5116.30	5335.83	5662.35	5499.84	5543.49	2871.00
Revenue forgone as % to GDP[b]		6.84	8.14	7.45	6.57	6.11	5.69	4.90	4.45	2.09

Source Compiled from the Union Budget, Statement of Revenue Foregone, Various Years

Note [a]Custom duty foregone less export credit

[b]For 2007–08 to 2010–11, we have considered GDP at current prices with 2004–05 base, and for 2011–12 to 2015–16, we have considered GDP at current prices with 2011–12 base

We may also note here that one of the major problems of India's public finance has been relatively low tax-GDP ratio, not only in comparison to advanced countries (which may be understandable), but also several comparable ones like the so-called emerging and developing countries, such as the BRICS cohort or several East Asian countries. It is also worth noting that the era of neo-liberal economic reforms, which has witnessed some acceleration in the average GDP growth rate, has not created any significant additional fiscal space. For more than a decade and a half, since the late 1980s, there was, in fact, a downward pressure on the tax-GDP ratio, when it fell from 15.42 (three-year average for 1987–90) to 13.99 (three-year average for 2001–04). However, since 2004–05, there has been a small uptick in it, and the three-year average between 2004–05 and 2006–07 was 16.10, which improved marginally to 17.25 between 2014–17.[6] It is worth emphasising here that India's current tax-GDP ratio is approximately half of the comparable figures for Brazil or South Africa. In other words, fiscal space continues to be a huge challenge for India's policy-makers, which needs to be addressed. Without stepping up the country's tax-GDP ratio, it would not be possible for the government to provide adequate support for budgetary spending on crucial entitlements for people. There have been several suggestions from academic and policy experts in this regard, and we may flag a couple of these.[7]

For instance:

- Property and wealth tax
  - India's total property tax revenue is 0.08% to GDP only, which is lowest among the G20 countries.
  - Other BRICS nations perform much better in terms of contribution of property tax in total tax revenue: relevant figures for Brazil, Russia, China and South Africa are 4.4, 4.1, 10.3 and 4.7%, respectively, whereas for India this is only 0.4%.
  - 'Wealth tax' used to be levied upon the wealth of the taxpayer according to Wealth Tax Act, 1957. During 2015–16, the amount of wealth tax was Rs. 10.79 billion. Instead of making use of this important resource base, the government abolished it with effect from 1 April 2016.
  - Inheritance tax and estate duty does not exist in India; it was abolished in 1985.
- Gift tax and securities transaction tax can be explored as important options for resource mobilisation. Currently, securities transaction tax is barely 0.1%.
- The potential for taxing financial and capital transactions remains under-utilised.
- Plugging loopholes in international taxation, e.g. GAAR, it could raise resources through taxation on financial transactions, (whether national or international); it could consider expansion of tax net to cover luxury services, in particular.

The above-noted options for resource mobilisation have often been emphasised by several researchers; in addition to these, there are other possibilities as well. However, we do not wish to get into a detailed discussion on this issue here. Our

[6] Indian Public Finance Statistics, 2016–17, Ministry of Finance, GoI.

[7] See, Jha and Acharya (2013) and Jha et al. (2013).

basic motivation in highlighting some of these resource mobilisation options is to question those who keep repeating that India has no or few options to expand its fiscal space. Finally, we would also like to emphasise that the entire administration of tax compliance has been a huge area of challenge.

Coming back, specifically, to government's measures to find additional resources for education, essentially it has relied on the 'cess route' in the recent year.[8] The Union Government of India introduced education cess on corporation tax, income other than corporation tax, import duties and service tax at a rate of 2% for funding elementary education in the fiscal year 2004–05, and in the fiscal year 2007–08 additional one per cent education cess was imposed to finance secondary and higher education. In the 2018–19 budget, the Union government decided to merge cess for education at different levels, while also introducing cess to support a provisioning for health; all these have been clubbed together as 'health and education cess' at the rate of four per cent chargeable on personal income and corporation taxes.

Tables 12 and 13 provide the extent of support through the above-noted cess provisions for the recent years. As is evident from Table 12, in 2018–19 (BE), more than 60% of Union government's proposed expenditure (including transfer to States and UTs) for SSA and MDM are through education cess. In Table 13, we have presented the actual and estimated expenditure figures on SSA and MDM and their funding from PSK for 2016–17 (actual), 2017–18 (revised estimates) and 2018–19 (BE), which shows that well above 60% of funding for the above-noted schemes are coming through cess. In case of secondary and higher education, more than 80% of allocated amounts for six programmes were proposed to be funded from MUSK in 2018–19 (BE). It seems to us, as has often been flagged, such high level of dependence on the cess route raises serious questions, which also impinge on the Centre–State relations, as the collections through cess do not get into 'divisible pool' for sharing between Centre and States.

With the launch of Samgra Shiksha Abhiyan (SMSA) in April, 2018 (which was promised in the Union Budget 2018–19), and the merging of SSA and RMSA, there is lack of clarity as regards distribution of allocation for different heads, and at different levels, which is, clearly, a matter of concern. As we know, allocations at the elementary level were supposed to be in a 'rights' perspective (through RTE); merging of different levels may well mean the dilution of such a perspective even at the elementary level and may not provide any substantial resource enhancement at the secondary level.

On the whole, it may be noted in passing that the recently launched SMSA raises more questions than provides answers to several vexed issues relating to our overall school education. For instance, to flag a couple of issues: through the promise of creating 'composite/integrated school system from pre-school to higher secondary level', the distance norms may get modified; as we know, as per the RTE, it is a right

[8] Although, there has been some talk of supplementary resources through CSR, it may be noted that fund flow through this route has been quite limited. As reported in newspapers, in Fiscal Year 2016, "920 National Stock Exchange-listed companies together spent Rs. 2042 crore on education, up from Rs. 1570 crore in Fiscal Year 2015" (Manku, Mint 21 January, 2017). However, most of the amount was spent on construction of toilets for promotion of education.

Table 12 Amount allocated from education cess under different programmes

	2018-19 BE (Rs. in billion)	Share of cess in total budgetary allocation (%)
Support from Prarambhik Shiksha Kosh (PSK)		
Sarva Shiksha Abhiyan	166.00	63.53
National Programme of Mid-Day Meal in Schools	70.63	67.27
Total amount met from Prarambhik Shiksha Kosh	236.63	
Support from Madhyamik and Uchhatar Shiksha Kosh (MUSK)		
Rashtriya Madhyamik Shiksha Abhiyan	36.48	86.6
Interest Subsidy and contribution for Guarantee Funds	21.20	98.6
Scholarship for College and University students	3.00	88.2
Pandit Madan Mohan Malviya National Mission on Teachers and Teaching	1.00	83.3
All India Council for Technical Education (AICTE)	4.20	86.6
Grants to Central Universities (CUs)	9.00	14.0
Support to Indian Institutes of Technology	8.50	15.1
Support to National Institutes of Technology	1.00	3.3
Support to University Grants Commission (UGC)	17.01	36.0
Support to Rashtriya Uchhatar Shiksha Abhiyan (RUSA)	12.00	85.7
Total amount met from Madhyamik and Uchhatar Shiksha Kosh	113.39	

Source Union Budget, 2018–19

of a child to have a school within one kilometre and three kilometre radius of each habitation for primary and upper primary schools, respectively. Further, through the proposed merging, there may be undesirable modification in teacher–pupil ratios and closure of substantial number of schools (which, in any case, started happening even before the announcement of SMSA in several States).

Table 13 Amount allocated from PSK under SSA and MDM

		Total	Amount met from PSK	Share of PSK out of total expenditure (%)
		Rs. in billion		
Sarva Shiksha Abhiyan	2016-17	216.85	133.45	61.54
	2017–18 (RE)	235.00	131.75	56.06
	2018–19 (BE)	261.29	166.00	63.53
National programme of mid-day meal in schools	2016–17	94.75	54.73	57.76
	2017–18 (RE)	100.00	59.65	59.65
	2018–19 (BE)	105.00	70.63	67.27

Source Compiled from demand No. 57, Union Budget, 2018–19

5 Conclusion

As should be evident from our foregoing discussion, there is a strong case for scaling up the allocation of public expenditure on education, including secondary education, which has suffered from disproportionate neglect. In the recent official discourses, there is greater attention to this segment and the Government of India has professed universalisation of secondary education, in line with SDGs.

We may also note that there has been significant increase in access and participation with respect to secondary education during the last 25 years. However, the average growth of expenditure, at constant prices, both as a proportion of GSDP and with respect to the population within the 15–18 years age group, has been, on the whole, low and fluctuating, as discussed in Sect. 3 of this paper. A particularly worrisome finding has been absolute decline in real terms in expenditure on secondary education for some States, during particular years, for the period under review. Further, as discussed, the trends and patterns relating to 'per-child' and 'per-student' expenditure for the period under review are also major areas of concern.

Given that RMSA is the major flagship programme for secondary education, initiated by the Union government in 2011, this paper has examined some of its financial dimensions and highlighted a number of major challenges, including the fact that the distribution of resources across States is very uneven, if not arbitrary, and only eight States count for 60% of the grants under this programme. It almost defies any reasoning that 'per-student' grants under RMSA, in 2015–16, happened to be as little as Rs. 100 in Meghalaya, West Bengal and Bihar compared to approximately Rs. 2500 for Telangana and Himachal Pradesh.

This paper has also explored some issues relating to out-of-pocket expenditure, using the latest available data from the NSSO (71st round, 2014). The quantum and growth of out-of-pocket expenditure (even in government schools) as well as growing dependence on private institutions at the secondary level are indeed critical areas of concern as they connect with several important issues such as access, equity and quality. There is substantial research to support the claim that public expenditure on

education has strong positive impacts on equity, school access, infrastructure, and basic indictors of quality, for well-known reasons. In fact, in our earlier research on elementary education for different States in India, we have repeatedly found significant positive relationship between learning indicators and per child expenditure. The common sense judgement often links public expenditure on education to economic betterment through higher prospects of earning, which is a kind of limited 'instrumental' yardstick; however, it is worth emphasising that there is lot more to it, both in 'instrumental' and 'intrinsic' ways, connecting adequate public provisioning with the lives of individuals and society at large (see Jha et al. 2016).

Obviously, for assessing issues regarding 'adequate' expenditure, we need to engage seriously with concept of 'Unit Cost'. Different committees and research studies have implicitly or explicitly relied on a range of unit costs, and we would only like to note, given the heterogeneity across States, due to structural and other factors, that any pan-Indian notion of unit cost has obvious flaws. Nonetheless, as a thumb-rule marker, our preference is to consider per student allocation in Kendriya Vidyalayas (KVs) as the benchmark for non-residential schools. In 2015–16, per student government expenditure in KVs was approximately Rs. 32,000. Finally, as discussed in the paper, the Union government has relied substantially on the cess route for its spending on school education, which is a controversial, if not undesirable, option. We are strongly of the view that the government needs to expand its overall fiscal space for spending on social sectors, including education, through more robust strategies and mechanisms.

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Declining Public Funding and Increasing Private Expenditure in Neo-Liberal Regime: Challenges Ahead for Universalisation of Secondary Education

Narender Thakur

1 Context

The recent agenda of the Central Government of India, to universalise secondary education in the coming years, has been viewed with great hopes but with certain uncertainties stemming from no increase in the share of public expenditure on education in GDP. As stated in the Ministry of Human Resource Development (MHRD) document '*Universalising secondary education. Rashtriya Madhyamik Shiksha Abhiyan (RMSA) is an initiative of the Central government, in partnership with State governments, which seeks to universalise enrolment in Grades 9 and 10 across the country*' (IIE 2016). The government of India reiterates its plan to have universalisation of secondary education under Samagara Shiksha Abhiyan (SSA), in the light of Sustainable Development Goal 4, to ensure inclusive quality education for all.

'*This (SSA) would help in instilling allocative efficiency and optimal utilization of budgetary and human resources*' *(*MHRD 2018: 6). It defines market efficiency to achieve the social goals of equity and efficiency and attain sustainable development goals, especially SDG 4, to ensure inclusive and qualitative education for all by 2030. Here, it would be pertinent to acknowledge that public funding, however, cannot ensure market efficiency parameters but can ensure a much longer lasting human efficiency with equity and social justice by using the capability approach (Sen 1982).

Social goals cannot be achieved through market principles, as market logic ignores the equity and social justice issues to achieve profit (Thakur 2016a; Thakur and Pathania 2018). The interventions of the private sector in the universalisation of elementary education, in the form of Economically Weaker Section (EWS) reservation in private schools, has revealed a number of cases of these schools indulging in

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corrupt practices. In some of the affluent Delhi schools, the 25% quota for EWS category students in private schools was surreptitiously given to upper sections of Indian society (TOI 2018a, b). These challenges show the market failures for providing public good or service, like education, including asymmetric information, externalities, moral hazard, and adverse selection etc. These challenges need to be considered during the implementation of SSA and universalisation of secondary education in India. The other challenge is to match up to the older SSA's (Sarva Shiksha Abhiyan) comprehensiveness covering elementary education with thought-out specific details related to budget and resource allocation. Samagra, thus needs, to clearly distinguish itself from stating that though it intends to facilitate school education from pre-school to Grade XII for every child, it has currently undertaken the three stated components under its plan of action—Universalisation of elementary education, Rashtriya Madhyamik Shiksha Abhiyan and Teacher Education. Looking at the wide coverage of SSA, i.e. Universalisation of Elementary Education (UEE), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Teacher Education (TE) policies and programmes at the States' and all-India levels, the author finds it an over-ambitious goal. The author here critically examines three challenges for universalisation of secondary education in the context of SSA and SDG 4. These challenges are declining public funding, increasing private expenditure in the education sector and the sustenance of socio-economic inequalities in Indian education. This is done by using empirical data from NSSO and MHRD. The chapter is divided into five sections: (i) the context, (ii) declining public funding and increasing private expenditure in education sector, mainly secondary education, (iii) existing socio-economic inequalities in Indian education (iv) economic class in education sector, including secondary education and (v) concluding remarks and policy implications.

2 Declining Public Expenditure and Increasing Private Expenditure in Indian Education Sector

In the neo-liberal policies, the Central government spending on education, as a share of the Central government's total budgeted expenditure, has been falling for the past three years under the National Democratic Alliance (NDA) government for the period 2014–2019 (Table 1). In 2014–15, the share of education budget in the Central government budget was 6.15%, which declined to 5.44% in 2015–16, 4.68% in 2016–17 and 3.71% in 2017–18 (Table 1). The share of education budget in Gross National Income (GNI) has also declined from 1.06% in 2014–15 to 0.86% in 2015–16 and 0.77% in 2016–17 and it has further fallen to 0.62% in 2017–18. With declining share of public funding, it would be interesting to see how the ambitious goal of universalising secondary education can be achieved through meagre funding. It would be a big challenge, especially in times of increasing private expenditure in education for a hierarchal society, not only economically but socially as well and

Table 1 Declining public spending on education sector

Year	MHRD budget (Rs. billion)	Total Central budget (Rs. Billion)	Gross national income (GNI) (Rs. Billion)	Share of education budget in GNI	Share of education budget in Central budget
2014–15	1104	17,949	104,123	1.06	6.15
2015–16	967	17,775	112,463	0.86	5.44
2016–17	927	19,781	120,347	0.77	4.68
2017–18	797	21,467	128,350	0.62	3.71

Source BS (2018)

that too in the context of a more regressive way of having upper and lower caste associations.

3 Average Expenditure in Education: A Social Divide and Advantage for Upper Caste Students in Cut-Throat Competition for Marks

In the context of the neo-liberal policies, the share of private expenditure has been increasing in education wherein secondary education is also adversely affected. Secondary statistics of access of education at all the levels project an advantage for upper caste population, thus re-establishing the social gap. Tables 2 and 3 show share and absolute average private expenditure per student pursuing general education in schools, colleges and universities; by social groups: SCs, STs, OBCs and others (upper castes or non-SCs/STs/OBCs) in rural and urban areas of India. The per student expenditure in rural India has increased (Table 2) from lower primary (Rs. 2.8 thousand) and upper primary (Rs. 3.2 thousand) to lower secondary (Rs. 5.1 thousand) and higher secondary (Rs. 9 thousand) and even at the higher education levels of graduate (Rs. 11.5 thousand) and post-graduate and above (Rs. 14.5 thousand).

The shares of per student expenditure of SCs, STs and OBCs are lower in comparison to the expenditure of upper castes (Others), except post-graduates and above of OBCs. The shares of SCs and STs to per student expenditure by "Others" in lower secondary levels are 62% and 53% while their respective shares at the higher secondary levels are 67% and 61%. The shares of the expenditure by SCs and STs to the expenditure of "Others" at the lower primary level are 42% and 35% and 50% and 46%, respectively, at the upper primary level. Likewise, the shares of graduate SCs and STs are 75% and 82% while their respective shares in post-graduate and above are 80% and 83%. Thus, higher expenditure incurred by upper caste students in comparison to that by SC and ST students are significantly lower, especially at the primary and secondary levels, showing a social divide in rural India. The higher

Table 2 Average expenditure per student on general education by social group (SC/ST/OBC) in rural India (January–June, 2014) (in Rs.)

Social group	Level of education						
	Lower primary	Upper primary	Lower secondary	Higher secondary	Graduate	Post-graduate and above	Diploma
ST	1531	2104	3572	6635	10,246	11,959	12,139
ST:% of Others	35	46	53	61	82	83	66
SC	1791	2283	4149	7377	9367	11,603	12,187
SC:% of Others	42	50	62	67	75	80	66
OBC	2968	3372	5101	9065	12,044	16,540	12,272
OBC:% of Others	69	74	76	83	97	115	66
Others	4314	4564	6725	10946	12,462	14,423	18,456
All	2811	3242	5100	9031	11,527	14,604	13,422

Source NSSO (2016)

Table 3 Average expenditure per student pursuing general education social group (SC/ST/OBC) in urban India (January–June, 2014) (in Rs.)

Social group	Level of education						
	Lower primary	Upper primary	Lower secondary	Higher secondary	Graduate	Post-graduate and above	Diploma
ST	6324	8377	11,801	18,027	14,611	15,862	16,271
ST:% of others	44	51	62	66	71	75	56
SC	6245	6199	8213	12,610	13,936	11,812	14,182
SC:% of others	44	38	43	46	68	56	49
OBC	8572	9415	10,951	15,513	14093	14,952	17,219
OBC:% of Others	60	57	57	57	68	71	59
Others	14,270	16,485	19,121	27,166	20,601	21,064	28,958
All	10,083	11,446	13,547	20,179	16,771	17,744	21,947

Source NSSO (2016)

expenditure incurred by upper caste students at the time of increasing privatisation has multiplied the cost of education by favouring upper caste social category students, especially at the primary and secondary levels of education. However, per student expenditure of OBCs is higher than those of SCs and STs but these are lower

than those of Others/Upper Caste students, at all levels of education (except post-graduates and above). Probably the OBCs have higher land holding in rural areas which may facilitate their higher spending in post-graduation and above. The average expenditures at all levels of education in urban India are higher than those of rural India (Tables 2 and 3).

The average expenditures are: in lower primary (Rs. 10 thousand), upper primary (Rs. 11.5 thousand); lower secondary (Rs. 13.5 thousand) higher secondary (Rs. 20.2 thousand), graduate level (Rs. 16.8 thousand) and post-graduate and above level of education (Rs. 17.8 thousand). As professional education is not included in general education; therefore, the expenditure at graduate and post-graduate and above levels are lower than that at the higher secondary level of education. The\age shares of SC, ST and OBC students to that of others at the lower secondary level of education are 43%, 62% and 57%, respectively, while their corresponding shares at the higher secondary level are 46%, 66% and 57%. This is reflective of a social divide in secondary education in terms of lower shares of expenditures by the disadvantaged groups, as in the case at the lower and upper primary levels, thereby keeping the disadvantaged groups laggards in education and employment in Indian economy (Thakur 2016b).

4 Socio-Economic Inequalities in Education Including Secondary Education

Indian society is enmeshed in socio-economic inequalities in terms of class, caste, gender and regional divide (Thakur 2016b). This section examines the existing social exclusions by using Survey Office/Organisation (NSSO) data for the year 2014.

Due to these social-economic inequalities, the exclusions of the disadvantaged sections also impinge on the education sector, viz., secondary education. These exclusions in school education are examined below by using data of National Sample Survey Office (NSSO).

GARs in Lower and Upper Primary Levels of Education

Table 4 shows that gross attendance ratio (GAR) in lower primary level of education (I–V standards) was 101% in rural India by all social categories. This shows universalisation of elementary education at primary level of education, which can be attributed to implementation by the Central government of the Fundamental Right to Education Act, 2009 in 2010. In urban India, the GAR in lower primary education level of all the social categories was 102%. However, the ratio of the Scheduled Tribe (ST) male and Scheduled Castes (SC) female was slightly lower than 102%, at 94% and 97%, respectively, reflecting exclusion on the basis of gender, caste and tribe (Table 5). The GAR at the upper primary level of education (VI–VIII Standards) of rural India declined for SCs, STs, Other Backward Classes (OBCs) and "Others" (non-SC/ST/OBC), in comparison to their GAR at lower primary levels. The caste deprivations are also reflected in the larger declines noticed in the GARs

Table 4 Gross attendance ratio in school education, by social group (SC/ST/OBC) and by sex in rural India (January–June 2014)

Social group	Lower primary	Upper primary	Lower secondary	Higher secondary	Above higher secondary
Male					
ST	100	93	75	51	7
SC	102	90	81	53	10
OBC	103	90	87	64	13
Others	102	95	98	78	16
All	102	91	86	63	12
Female					
ST	101	85	78	45	5
SC	102	80	88	54	7
OBC	100	88	82	58	9
Others	99	97	90	70	14
All	100	88	84	58	9
Person					
ST	100	89	76	48	6
SC	102	85	84	54	9
OBC	101	89	85	61	11
Others	101	96	94	74	15
All	101	90	85	61	11

Source NSSO (2016)

of the SCs, STs and OBCs at the upper primary level, in comparison to those of the "Others"—upper caste population.

Table 5 Gross attendance ratio in school education by social group (SC/ST/OBC) and by sex in urban India (January to June 2014)

Social group	Lower primary	Upper primary	Lower secondary	Higher secondary	Above higher secondary
Male					
ST	94	97	112	87	16
SC	100	96	87	56	13
OBC	103	89	83	66	18
Others	104	94	98	87	22
All	102	93	90	73	18
Female					
ST	101	86	92	75	15
SC	97	85	106	65	14
OBC	104	82	89	71	16
Others	101	100	96	82	22
All	102	88	94	75	18
Person					
ST	97	92	102	81	15
SC	98	91	95	59	13
OBC	103	86	86	69	17
Others	103	97	97	85	22
All	102	91	92	74	18

Source NSSO (2016)

GAR of all the social categories in rural India declined from 101% at the lower level to 90% at the upper primary level (Table 4). The GAR in urban India declined from 102% to 91% (Table 5). The declining attendance ratios were slightly over 10% in rural and urban India, reflecting challenges for universalisation of elementary education. This implies that completion of elementary education is a structural and systematic challenge in the Indian school system.[1] In rural India, GARs at the upper primary level of SCs (85%), STs (89%), and OBCs (89%) are lesser than that of the "Others" (96%). The corresponding ratios in urban India are 91%, 92%, 86% and 97%, replicating caste deprivation phenomenon in elementary level of education. This caste deprivation, with lower GARs for SCs, STs and OBCs, coincides with gender-deprivation. The GARs of females at the upper primary level of education belonging to SCs, STs, OBCs and others in rural India were 80%, 85%, 88% and 97%, respectively. The respective ratios in the context of urban India were 85%, 86%, 82% and 101%. Thus, lower ratios of SC, ST and OBC females, in comparison

[1]There have been issues of accurate data on attendance and enrolment captured by the investigators and data supplied by the school officials while assessing RTE in universalising elementary education, resulting in overestimation of data on attendance, enrolment and completion by students in elementary education.

to their counterpart males and the females of the "others"-upper castes, reflect the incidence of double deprivation for females due to caste and gender.

GARs in Lower and Higher Secondary Levels of Education

With regard to rural India, the GAR in the lower secondary level of education (IX–X) of all social categories has declined from 97 to 85% at the elementary level, showing a decline by 12%. The GAR at the higher secondary level (XI–XII) has further declined to 61%, implying a decline by 21% from lower secondary and by 36% from elementary education (Table 4). This significant decline of GARs in lower and higher secondary levels of education explains the problems of higher drop-outs, lower transition and retention rates in school education. These problems are more critical at the higher education level as the GAR in the above higher secondary level of education in rural India is only 11%, indicating the highest decline of 50%; from 61% GAR in higher secondary level. The GAR of all social categories in urban India is 18%, indicative of rural-urban divide in access to higher education which is also linked to the drop-outs after school education. These declining attendance ratios across levels of education, from lower primary to above higher secondary, depict wastage of human potential due to incidence of higher drop-out and lower retention rates. It can be further proved that declining GARs is also entangled with the socio-economic inequalities in rural India. The GARs of persons of SCs, STs, OBCs and others at lower secondary level in rural India are 84%, 76%, 85% and 94%, respectively, (Table 4). The corresponding ratios for urban persons in India are 95%, 102%, 86% and 97% (Table 5). Likewise, the respective GARs in lower secondary level of education of rural females are 88%, 78%, 82% and 90% while the corresponding GARs of these social categories for urban females are 106%, 92%, 89% and 96%. The real social conditions of SCs, STs and OBCs could be judged by their social conditions in rural India, as the GARs (males and females) of these three social categories are lower than those of the upper caste 'others' (males and females).

GARs in Higher Secondary Levels of Education

At higher secondary level, the GARs of persons of SCs, STs, OBCs and Others in rural India are 54%, 48%, 61% and 74% while the corresponding GARs for urban India are 59%, 81%, 69% and 85%. Likewise, the GARs of rural females at the higher secondary level are 54%, 45%, 58% and 70 and the respective ratios for urban females are 65%, 75%, 71% and 82%. The rural Indian conditions of SCs, STs and OBCs are adverse compared to those of upper castes (Others), showing caste and gender-biased Indian society, with the data depicting lower attendance of these disadvantaged populations. Thus, educational access may still remain a challenge for the universalisation of secondary education after the implementation of universalisation of elementary education.

There are other issues that can act as guiding force or determinants for effective implementation of the new SSA. For instance, class issue is also a challenge for access, equity and quality in education sector, and this aspect is examined in the

subsequent section by using data on GAR by Usual Monthly Per Capita Consumer Expenditure (UMPCE).

5 Economic Class in Secondary Education Sector: Common School System Is the Only Alternative to Achieve SDG 4

There are higher aspirations of education among the parents and their children. The disadvantaged sections of society, lower economic classes have only one way of improving their economic status by acquiring more education and training and increasing their chances of getting jobs. This would enable them to break the shackles of the vicious circles of poverty in a developing country, like India. It is natural for people of developing societies to have lower base of socio-economic endowments, so that they have to work hard to build human capital and capability in the future to move up in socio-economic terms. The higher aspirations could be proved by the data given in Table 6 as the GARs of all economic categories at the lower primary level is nearly 100%. However, in the next levels of education, a larger section of society drop-out, especially in higher education, as explained in the earlier section of this paper that GARs in the above higher secondary level of rural and urban India were only 11% and 18%, respectively. (Tables 4 and 5; see also last columns of Tables 6 and 7). Table 3 depicts that GARs for all economic categories of rural India, at lower and upper primary levels, are 101% and 90%, respectively. The GARs for lower and higher secondary levels have declined to 85% and 61%, respectively. For the five economic classes (usual monthly per-capita consumption expenditure-UMPCE) of lowest (Rs. 0–786), lower (Rs. 786–1000), middle (Rs. 1000–1286), higher (Rs. 1287–1667) and highest (Rs. 1667 and above), the GARs for lower primary level in rural India are close to 100%, showing higher aspirations for their better future though higher education. But, the GARs have declined with the increase in level of education and the rate of decline of GARs is greater for the disadvantaged economic sections, viz., lowest, lower, middle and even higher in comparison to the highest economic strata

The GAR of persons of the lowest economic class in rural India has declined from 99% in lower primary to 91% in the upper primary level and then to 67% in the lower secondary level, before falling to 38% in higher secondary level and finally to a mere four per cent beyond the higher secondary level. However, the same attendance ratio of the highest economic class has declined from 107% at primary level to 91% in upper primary, going up to 105% in lower secondary level of education before declining to 89% at the higher secondary level and further to 21% at the above higher secondary level of education in rural India. Thus, at the secondary level in rural India, economic class influences the GARs between lowest and highest economic class as the difference in GAR at lower secondary level is 38% and the corresponding difference at the higher secondary level is higher by 51%.

Table 6 Gross attendance ratio in school education by Usual Monthly Per Capita Consumer Expenditure (UMPCE) by sex in rural India (January–June, 2014)

Particular	UMPCE (Rs.)					All
	(0–786)	(786–1000)	(1000–1286)	(1287–1667)	(1667 & Above)	
Male						
Lower primary	100	98	102	104	109	102
Upper primary	83	94	96	92	94	91
secondary	68	83	85	93	105	86
Higher secondary	42	48	58	72	90	63
Above higher secondary	4	6	10	15	22	12
Female						
Lower primary	96	99	100	103	106	100
Upper primary	79	87	91	96	88	88
Lower secondary	66	79	87	89	106	84
Higher secondary	34	48	57	67	87	58
Above higher secondary	3	5	7	10	19	9
Person						
Lower primary	99	99	101	103	107	101
Upper primary	81	91	94	94	91	90
Lower secondary	67	81	86	91	105	85
Higher secondary	38	48	57	70	89	61
Above higher secondary	4	5	9	12	21	11

Source NSSO (2016)

In urban India, the GAR in lower primary education of the lowest economic class persons is 100% which declined to 82% in upper primary. In lower and higher secondary levels, the respective GARs are 67% and 41%, and it is six per cent in the above secondary level of education (Table 7). However, the respective GARs in the five levels of education of the highest economic class persons are 101%, 94%, 111%, 99% and 33%, respectively. The respective differences between the two economic

Table 7 Gross attendance ratio in school education by UMPCE by sex in urban India (January–June, 2014)

Particular	UMPCE (Rs.)					All
	(0–1200)	(1200–1667)	(1667–2250)	(2250–3333)	(3333 and Above)	
Male						
Lower Primary	100	102	105	106	101	102
Upper primary	88	89	100	93	96	93
Lower secondary	63	88	97	104	111	90
Higher secondary	39	66	74	91	100	73
Above higher secondary	6	11	15	24	33	18
Female						
Lower primary	101	101	105	102	102	102
Upper primary	77	89	94	100	91	88
Lower secondary	72	95	104	102	111	94
Higher secondary	43	64	83	92	98	75
Above higher secondary	7	10	16	24	34	18
Person						
Lower primary	100	101	105	105	101	102
Upper primary	82	89	97	96	94	91
Lower secondary	67	92	100	103	111	92
Higher secondary	41	65	78	92	99	74
Above higher secondary	6	10	16	24	33	18

Source NSSO (2016)

class persons in lower and upper primary education are 1% and 12%, which increased to 44% and 58%, respectively, in lower and higher secondary levels of education.

Gender and Economic Class in Secondary Education: Rural and Urban India

Along with economic class, the gender-issue is also prevalent in Indian secondary education. The GARs of rural females belonging to the lowest economic classes in lower primary level of education is 96%, declining to 79% in upper primary level and further to 66% in lower secondary education and 34% in higher secondary level

of education and to a mere three per cent in the above higher secondary level of education (Table 6).

However, the GARs in lower primary education level of the highest economic class female in rural India is 106%, declines to 88% at upper primary level, rises to 106% at lower secondary education, before dropping to 87% at higher secondary level, and further to 19% at the above higher secondary level (Table 6). It will be noticed that there is a significantly higher GARs of the highest economic class females in rural India than their counterpart females belonging to the lowest economic classes. The difference between the GARs of the lowest and highest economic class females at the lower primary level in rural India is 10%, which declines slightly to nine per cent in upper primary, rises to 50% in lower secondary level and further to 53% in higher secondary level.

The GARs of urban females of the lowest economic classes in lower and upper primary levels are 101% and 77%, which declines to 72% at lower secondary level and 43% at the higher secondary level and further to seven per cent at the above higher secondary level of education (Table 7). The GARs of urban females from highest economic classes in lower and upper primary levels of education are 102% and 88%, while the GAR is 94% and 75% at the lower secondary and higher secondary levels, respectively, and 34% at the above higher secondary level of education. The difference between GARs of urban females of highest and lowest economic classes at the lower and upper primary levels are one per cent and 11%, respectively, while their respective differences at lower and higher secondary levels of education increase to 22% and 32%, indicating a combination of economic class in gender.

6 Conclusion and Policy Implications

The neo-liberal interventions in Indian education policies have sustained the issue of access and equity for the deprived sections of the society, especially education beyond elementary education. Apart from other inequities, the economic class is also influencing the access and equity to/in secondary education and beyond. In order to address this issue, Indian education system needs to revisit the two recommendations of the Kothari commission, which are for having common school system and also increasing the public funding by at least six per cent of the GDP. Introducing the common school system (CSS) with uniform quality of schools to all students in their neighbourhood, irrespective of socio-economic background of the students was also advocated by National Education Policy, 1986 and 1992 of the government of India. Relying on temporary arrangements like the Economic Weaker Section (EWS)'s quota of 25% seats to be filled by private schools under Right to Education Act, 2009, which is a case of public–private partnership (PPP) model, will hardly be able to address the problem of equity. During the implementation of the PPP in education, schools were reported to be indulging in rent-seeking behaviour or corrupt practices in selling the EWS seats to the rich sections of Indian society. This shows that it is difficult or well nigh impossible for the private sector to provide fair and

judicial supply of public services (TOI 2018a, b) as it contradicts the law of nature of production or provision of public good in Public Economics. Some private schools were reportedly not filling up full quota of EWS seats while some were shifting the burden of costs to the EWS students in the schools (TOI 2018a, b; FE 2018).

There are also other examples of market failures in the production and provision of local of global public goods like education (Tilak 1997, 2018). Thus, at the times of existing higher socio-economic inequalities in the Indian education sector, including secondary education, there are two policy implications on the basis of challenges critically examined above: (i) introduction of CSS is necessary for ensuring inclusive and quality education to all, including universalisation of secondary education and (ii) increasing of public funding to finance the public good, viz., secondary education in a welfare state by the Central and state governments.

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Financing and Management of Secondary Education in Uttar Pradesh

Mohd. Muzammil

Secondary education system of Uttar Pradesh (UP) is one of the largest in India, viewed in terms of the number of students, teachers and (various types of) educational institutions imparting secondary education. It involves education in Classes IX and X (high school) and in Classes XI and XII (intermediate), popularly known as higher secondary education. The UP Board of High School and Intermediate Education performs the great task of regulating and conducting the high school and intermediate (Board) examinations in the State of UP. Two earlier studies conducted at NIEPA, New Delhi, published in book forms, have focussed on financing of secondary education and management of secondary education. The first was led by Prof. Jandhyala B. G. Tilak (2008) while the study on management of secondary education in some States was carried by Sujatha and Rani (2011).

Despite being one of the largest at this level of education and having several firsts to its credit, the secondary education system in the State of UP also has the dubious distinction of having the largest number of drop-outs as the exams begin under strict vigil along with intense teacher politics and fluctuating results. The drop-outs in Board examinations have been so large that the news became top headlines in national newspapers in 2018 as the exams were held under CCTV camera vigilance. 'After Crackdown 5 lakh Students drop out of UP Board Exam' wrote The Times of India in its top headline dated February 8, 2018 (other sources reported drop- out of ten lakh students!). The situation is no better in many other Boards from several considerations. The case of Central Board of Secondary Education (CBSE) is in point when angry high school students went out on the streets to protest against the leaked question papers in the 2018 Board examinations of Classes 10 and 12.

Educational reforms, with a view to streamline financing and improve management, have been attempted by the State Government but have often been resisted

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by teachers and employees' unions, cartels and other vested interests (Nayak 2018). This resulted in lowering merits and quality of education and, sometimes, became the reason for financial crunch and managerial inefficiency. The system continues to suffer from general degeneration and slow progress, due to lack of an effective mechanism of surveillance and governance. Governmental-appointed educational commissions and committees often recommended that government should assume direct responsibility for contemplated reorganisation of secondary education as frequently as required. Recognition to school should be given on clearly defined conditions that would ensure their proper running and the maintenance of standards. The Government of UP is now cracking down on unrecognised schools in the city of Lucknow.

The system of secondary education is very poorly managed at the institution level, the district level and in the State as a whole. While Government Inter College (GIC) is an iconic symbol of higher secondary education in all district headquarters, and situated at the most prime location in the heart of the town, but its present condition is indeed deplorable. The college premises are largely encroached upon, staff reduced, teaching positions are vacant, infra-structure is in shambles and enrolments have plummeted to almost zero in many cases.

The management of all the three types of secondary institutions is, generally, weak and leaves much to be desired. We have highlighted this point very prominently in our earlier researches and whenever we visit the institutions from time to time, the same sorry state of affairs greets us again and again. In all the three types of secondary institutions in the State of UP—the government schools (inter colleges), aided schools and unaided private schools—efficient management is virtually absent in almost all cases. The reason seems to be threefold: non-committed teachers, demotivating environment and disenchanted students, in general. But all is not murky. Wherever the teacher commitment is there and the management has created a conducive environment, with PTAs too playing an active role in encouraging students to learn, good results are obtained.

The centrally sponsored *Rashtriya Madhyamik Shiksha Abhiyan* has not yet been able to achieve the goals that the Government of India set for all the States to achieve in a stipulated time frame. It is focussing on making available quality education for all children at the secondary level, particularly those from the underprivileged sections of society. These groups comprise mainly of SC/ST, economically weaker sections and the minorities. The Government in UP is still trying to have a secondary school within a distance of five kilometres and a higher secondary school within five to seven kilometres for all the students in the secondary education age group. The map of distribution of secondary schools in the State indicates that they are not evenly distributed. Economically backward regions do have lesser number of schools and much less good quality schools (which are mostly concentrated in urban agglomerations). The gross enrolment ratio (GER) in secondary education is to be raised to universal level but it is far below the desired goal. Universal retention of students in secondary education is also to be achieved by 2020 but the State is far from this goal too.

The system of secondary education in UP depends on a multi-source mechanism of educational finance. These are coming forth both from internal and external sources in the form of public grants and private contribution which, in turn, is both voluntary in nature and also obligatory as tuition fees of the students. The relative significance of these sources of finance to secondary education differs widely in the case of three types of differently managed secondary schools in UP—Government schools, private-aided schools and private-unaided schools as mentioned above. Government secondary schools form the oldest type and it would be instructive to find out, in detail, their present relative significance and how it has changed over time.

It is also interesting to note that the ratio of government schools and aided schools to the total number of secondary schools has dwindled rapidly. There are several reasons for this relative decline. The State government stopped opening government secondary schools long back and also put curbs on taking (since mid-1980s) more schools on the grants-in-aid list at the secondary level of education. On the other hand, the demand for secondary education has been rising gradually and the same is increasingly being met by unaided private schools. One of the reasons for the decline in private voluntary financial assistance to secondary schools has been the failure of educational leadership to prevail upon the possible dispensers of funds. The money-mindedness of the affluent class and the political leadership added to establish private schools even without government grants and often with high fee rates. Within this general scenario, there are institutions of secondary education in the UP with big success stories that need to be emulated by other private-unaided schools. But these are rare and have become distinguished because of their noble legacy of high quality education.

When we look at the proliferation of unaided secondary schools in the State along with its implications, we are overwhelmed with mixed emotions of love and hate for them (Kingdon 2018). Many are, very often, aptly labelled in the media as teaching shops established for minting money and alongside them are the coaching institutions, which have developed as a subsidiary market for secondary education of various types. Both these have earned a bad name in the sector of secondary education in the State of UP. Despite this dark scenario, new schemes are providing rays of hope and optimism. The implementation of the RMSA is in progress in the State but the rate of implementation is too slow. The projects of communication and mass communication technology are under implementation. Government secondary schools have adopted various courses of vocational trades of different types. Construction of girls' hostels and integrated education for the differently abled students are few schemes, worth mentioning, that are underway. The government (as manager) has also risen to the occasion for reconstructing the dilapidated buildings of centuries' old GICs and undertaking general renovation on select basis.

The system of public financing of secondary education in the State needs to be discussed in detail, especially with reference to the reforms attempted by the government in recent decades. A long-term analysis shows that the share of secondary education in total public funding of education in UP had gradually increased in earlier decades (Muzammil 1980), and, then, declined subsequently. The State government stopped taking additional private schools on the grants-in-aid list since the decade of

1980s. It also had to compete with primary education which enjoys the mandate of the Constitution of India having the status of nothing less than a Directive Principle of State Policy. As a result, gradually the share of primary education has increased. This is mainly because of more centrally sponsored schemes that are being run at the primary level in the State of UP. The decade of 1990s in the State has been remarkable from the viewpoint of the positive impact of central educational schemes in UP.

The public funding for secondary education in UP comes largely in the form of grants-in-aid to privately managed secondary educational institutions. The system of grants-in-aid is essentially what was inherited from British India. The objective criteria, suggested from time to time, have been incorporated but, in essence, the system remains virtually unchanged (Muzammil 2009). Politicisation of secondary education is most intense and deep in UP as compared to other levels of education in the State itself as well as other States of India at the secondary education level. The pressure of teacher unions has stalled the process of reforms on many occasions and reduced the extent of teacher accountability in teaching work. Political influence on management and governance has often vitiated the teaching environment in schools and in the State during prolonged agitations by teachers' unions not only in UP or in other States in India but across the world (Tara et al. 2017). Administrative reforms have also been resisted strongly by teachers' unions. Consequently, due to weak administration and governance, the quality of teaching could not improve (Kingdon and Muzammil 2003).

An analysis of budgetary data of the State government shows that there is an increasing trend in growth of public expenditure on secondary education. The main reason for this increase is the incremental obligatory payment of increased teachers' salaries over successive years. The analysis of composition of public expenditure reveals that heads like direction and administration and inspection receive very small ratios of expenditure. Same is the case with heads like equipment and maintenance of buildings, teacher service and teachers training, non-formal education. Grants to non-government secondary schools are the largest head of expenditure in the secondary education budget, followed by Government secondary schools. Examinations and scholarships are other heads of expenditure worth mentioning. However, the conduct of the former and the reimbursement of the latter leave much to be desired.

While the system seems to be largely based on government grants to schools but, in effect, the contribution of students (households) in the form of fees and other charges is rising rapidly, having important implications for parents and the learning outcomes. It also needs to be analysed separately as to why the system of grants-in-aid, as evolved in the British period, has remained virtually the same over decades and how the RMSA has influenced the financing and management of secondary education so as to develop it as the terminal stage of education. Its impact in improving financial viability and quality of teaching in schools also needs to be assessed in its own right, afresh.

The economics of fee at the secondary level, as at other levels of education, is very important. We have enquired, in detail, into the prescribed (tuition) fee rates, and fee as a technique of financing the entire cost of education at the secondary school level,

in our earlier research on secondary education. Now two issues are important for a relook.

(A) The issue of reimbursement of fees by State government to schools, where reserved category students are enrolled, is a new topic on the agenda in all its dimensions. A comparative study of data with other States shows that UP is giving lowest reimbursement to schools as compared to other States under the Right to Education (RTE) Act. This has put many good schools under financial distress (Kingdon and Muzammil 2018).

(B) The Government of UP has brought out an Ordinance in April 2018, known as Ordinance for Self-Financed Independent Schools (Regulation of Fees) Bill 2018 (UP Act No 6 of 2018), to tighten the noose around the schools charging staggering fees. It applies to all levels of school education in the State. The law restricts private schools from raising fees beyond 8% annually. The Bill requires that private schools must consult the Panel, headed by the Divisional Commissioner (in which parents and school managements are also represented), on fee hikes. The panels will decide the quantum of fee hike, keeping in mind consumer price index and increase in staff salaries.

On the lines of the Government of UP, the Central Government is also thinking in terms of a legislation regulating school fees. The Times of India reported on June 8, 2018 'Centre mulls law to curb arbitrary school-fee hikes–will be based on similar UP Legislation'.

The implications of these two (A) and (B) above will be far reaching in the days to come as the system of secondary education in UP will be increasingly depending on independent private schools.

Management of secondary schools is related with rational utilisation of resources (financial, physical and human), with a view to maximise output in the form of learning outcomes. We have endeavoured to identify the reasons behind the apparently pitiable management of schools, in general, and teacher effort and accountability, in particular. We have also examined, in detail, the role of the State government as a facilitator by providing adequate funding and a better management environment for secondary education development and how innovatively it has helped in its advancement for the benefit of the students and the society (Kingdon and Muzammil 2013).

Emphasis is gradually shifting on good governance in secondary education in the State. There are instances in the administration of secondary education in the State of UP that the officers had to take strict action to ensure the attendance of teachers who had been skipping their duties of taking classes regularly. In one such instance, the District Inspector of Schools (DIOS), Lucknow, had to instruct the principals of government secondary schools and aided colleges in the district of Lucknow, the capital of UP, to ensure regular attendance of teachers in their school premises.

This was a consequence of poor results in government and aided institutions of secondary education in the district of Lucknow. The DIOS pulled up the teachers for poor results in Classes X and XII of their schools. There are 48 government

schools and 109 government-aided schools in Lucknow district. The DIOS asked the principals to monitor the attendance of teachers in three ways:

(A) By having Biometric Attendance: Schools should use biometric attendance system for teachers/ employees. It was noted that despite government's order, only 10% schools have the biometric system of attendance in place.
(B) By using Attendance Register: Teachers should mark their attendance in Attendance Registers of the school.
(C) By using Movement Register: If a teacher needs to leave during school hours, he/she should make an entry in the Movement Register that would then be approved by the principal.

The DIOS impressed upon the teachers that they would be held responsible during school hours. School principals were also asked to install CCTV camera in their schools. The DIOS of Lucknow district said that he wanted the toppers in the UP Board Examination of Class X and XII to come from Lucknow schools and not from other districts. He exhorted the principals for achieving it. He said that teachers must regularly go to schools and take classes (Sunday Times of India, Lucknow—9 July 2017).

Likewise, in Delhi, in a move to improve examination evaluation governance, the Central Board of Secondary Education (CBSE) has sought the suspension of six teachers for blunders committed in evaluation of Class XII Board examination scripts. The regional centres of CBSE are also likely to adopt similar measures to improve evaluation and curb faulty evaluation. According to a Times of India report, the CBSE was spurred into action on erring evaluation by margins of at least 50 marks. The Board has sought action from the State government concerned for action against the erring teachers (The Times of India, 28 June 2018).

All in all, secondary education sector remains problem-ridden from the viewpoint of efficient management and good governance. All out efforts will be needed to improve the quality by improving the management and teacher efforts through good governance of the system. The beginning seems to have been ushered in.

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Questions and Debates

Universalisation of Secondary Education: Questions for Discussion and Debate

Rounaq Jahan

My perspective is shaped by my own experiences in Bangladesh where we face many challenges similar to those of India. In some areas, we have undertaken innovative initiatives which have addressed specific obstacles and yielded positive results, such as the introduction of stipends for girls which resulted in rapid expansion of girls' enrolment in secondary schools. The enrolment of girls increased from 442,000 in 1994 to over one million by 2001 (Bhatnagar et al. 2018). As a result, Bangladesh achieved gender parity in enrolment in secondary schools. In fact, there are now more girls than boys enrolled in secondary schools. The ratio of girls to boys changed from approximately 45:55 in 1994 to 55:45 in 2001 (Tilak 2013).

But expanding school enrolment, with quality education, remains a big challenge for us, as is the case in India. We, too, have seen the gradual development of disparity between public schools delivering poor quality education to children from low income households, and private schools providing better quality education to children from upper income households. We also have the divide between the vernacular medium schools, and the English medium schools, which are now attracting students, not simply from upper middle income households, but from middle and lower income households. We have the added challenge of rapid expansion of *madrassa* education, where children from extremely poor households go because they can get free room and board. We face similar challenges of governance—lack of monitoring and accountability. Absenteeism of teachers, despite increase in salary, is a persistent problem. Professional bodies such as teachers' associations are preoccupied with demands for increasing teachers' salaries and do not pay much attention to issues concerning improvement of quality of education.

However, despite our past experiences of being disappointed with the inadequacies of public policy responses, we still look forward to policies and actions from the

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state to address the myriad problems we face in the education sector. After all, in a democracy such as India and Bangladesh, citizens should be able to reasonably expect that public policies and actions will be geared towards improving the quality of education of the majority of the electorate. So some of the recent initiatives of the government of India such as the Right to Education Act, Rashtriya Madhyamik Shiksha Abhiyan (RMSA), integration of Sarva Shiksha Abhiyan (SSA) with RMSA and Teacher Training and Integrated Scheme for School Education are very welcome news indeed. I look forward to learning more about the efficacy of these initiatives from your deliberations.

After India passed the Right to Education Act in 2009, the Centre for Policy Dialogue (CPD) organised a seminar in Bangladesh and invited some of the Indian experts, including Professor Govinda, in order to create an opportunity for them to share Indian experiences with Bangladeshi experts and our own minister of education in the hope that we can learn some lessons from India. In that spirit, I am participating in this seminar in Delhi today and hope to carry back some lessons about what to do and what not to do in Bangladesh.

When I read the concept note of the seminar and looked at the programme of various sessions, several very broad questions came to my mind. I would like to share them with you and I hope very much that you will find some time to address these questions in the seminar.

1 Political Will and Social Commitment

My first question is: ***How adequate is the level of political will and social commitment to universalise secondary education***? In Bangladesh, I often feel frustrated when we end a seminar with a statement that policy X or action Y could not be implemented because of lack of political will and social commitment. Political will often becomes a "catch all" phrase to shift responsibility or explain away all deficits. If political will and social commitment are the critical ingredients for the success of any public policy or public action, then, should we not first assess what is the level of our political will and social commitment before we embark on any public policy or programme initiative? If we think the level of political will and social commitment is inadequate, then, can we not devise some strategies to create that additional level of political will and social commitment?

I raise this question of political will and social commitment because in an excellent paper, Professor Tilak (2001) has written on the experiences of East Asia titled *Building Human Capital in East Asia: What Others Can Learn*, a key lesson he highlights is the importance of political will and social commitment. He states the following:

> political will and social commitment to education is one particular feature that explains the growth of the education system in East Asian economies …. In every country … education was an item of national obsession; it is regarded as the most important means of achieving social status, occupational mobility and economic advancement – individually and as a

> society …. Investment in human capital has been regarded as the conerstone of nation-building and the key factor of economic development in East Asia. This realisation is critically important. (CPD 2018)

I hope in this seminar you will be able to ponder on this lesson drawn by Professor Tilak (2001) and ask: has education now finally become a "national obsession" in India more than 70 years after Independence? Do the national and state governments regard investment in human capital as the "cornerstone" of nation-building and economic development? If the answers to both questions are "yes", then, of course, this seminar does not need to spend much time deliberating on them. But if the answers are "no" or "not yet", then we need to think how we can make education a "national obsession" and a "cornerstone" of our development policies.

2 Policy Design and Implementation

My second question for the deliberation of this seminar is: ***How realistic and implementable are the designs of these recent initiatives announced by the government of India***?

I often read policy and programme documents, which are full of good intentions but their targets and timeframe are unrealistic; they lack specific instruments to address specific constraints; and insufficient resources are allocated to achieve the policy and programme objectives. Our persistent record of gaps between policy design and policy implementation create serious credibility and trust gaps between government and citizens. But these credibility and trust deficits appear not to be taken seriously by our policy-makers. Our policies and programs are rarely scrutinised from the perspective of feasibility of their implementation. Often policy implementers, mostly bureaucrats, go along with unrealistic and ambitious policies and programs because they know that policy-makers are more concerned with policy pronouncements rather than policy implementation.

In Bangladesh, we have often **noticed** wide gaps between policy and programme adoption and their implementation. Sometimes, a much heralded policy or initiative of one government gets neglected when there is a change in government. Sometimes, ministries fail to spend allocated resources because of slow rate of implementation. For example, a recent budget analysis found that 13% of the allocated budget of the education sector and 40% of budget of the health sector were not spent though these sectors were allocated only a small portion of the annual budget (approximately 5%) (UNESCO 2016).

I note from the concept note of the seminar that the objectives of India's new *Integrated Scheme for School Education* are 'to improve school effectiveness measured in terms of equal opportunities for schooling and equitable learning outcomes' and raise 'allocative efficiency and optimal utilisation of budgetary and human resources'. Providing equal opportunities and attaining equitable outcomes are challenging

enough objectives! Combining them with 'allocative efficiency' and 'optimal utilisation of resources' make the achievement of all these goals even more challenging. The goals of achieving equality and efficiency may not always go together as efficiency is often interpreted as cost-cutting. When policy implementers are given the tasks of ensuring both equality and efficiency, they may not be able to deliver on either of them.

A report highlighting some of the challenges of universalisation of secondary education in India notes that most States will not succeed to achieve the targeted secondary level gross enrolment ratios by 2017 and they will find it difficult to do so even by 2020 (UNESCO 2016). The report further notes that with the current level of financing and availability of trained teachers and facilities, expanding opportunities for groups and areas that are so far left behind to meet the stated targets will be a near impossible task for many States (Dreze and Sen 2013). I hope the seminar will find time to deliberate on the prospects of realising some of the goals and targets of these initiatives.

We need to also discuss the problems associated with setting up quantitative targets. The Millennium Development Goals (MDGs) with their quantitative targets, pushed countries to focus on increasing the number of student enrolment rather than the quality of their education. Increasing number of students is important but we should not lose sight of what they are learning. The MDGs and the current Sustainable Development Goal (SDG) 4, which is quality education, have not succeeded in developing satisfactory indicators to measure improvements in quality, and this remains a singular challenge for tracking the progress of SDG-4.

3 Quality

My third question is: ***Are the planned measures to improve the quality of education adequate to produce the desired outcomes?*** The planned measures include many interventions such as provisioning of infrastructure, appointment of additional teachers, in-service training of teachers, review of curriculum, residential accommodation for teachers etc. But are there sufficient resources–financial and human–to implement these measures? For example, if we are to take the feasibility of one intervention, such as the appointment of teachers and training of teachers, will it be feasible to appoint adequately trained teachers to impart quality education within the timeframe of 2020, particularly in underperforming States?

In their recent study, *An Uncertain Glory: India and its Contradictions*, Jean Dreze and Amartya Sen highlighted the huge burdens created by poor standards, particularly in government schools. They note that of the children aged 8–11 years enrolled in government schools only 50% can read, 43% can subtract and 64% can write (Campaign for Popular Education (CAMPE) 2007). The adverse teacher–student ratio, particularly in government schools, again, is a huge problem.

In Bangladesh too, the students demonstrate poor capability in reading, writing and mathematics. We are faced with not only shortage of teachers but a shortage

of teachers who will be able to improve the quality of education. A recent survey found that 78% of heads of institutions were not aware of either the strength or the weakness of their curriculum; 35% of teachers reported receiving no training to improve the quality of their teaching; and 30% of students felt that their teachers were not knowledgeable (Campaign for Popular Education (CAMPE) 2005). About a half of the schools had no science laboratory; only 15% had a library with a modest collection and 37% of schools claimed to have computer education facilities but a fifth of these schools had only one computer (Chowdhury 2015). In public sector schools, **t**eacher–student ratio in computer education is 4207 compared to 755 in private sector schools (Bhatnagar et al. 2018).

I hope the seminar will come up with a few innovative ideas to add value to the measures already being planned to improve the quality of education. Moving forward, we need to change teaching methods and teaching materials to make our education competitive in the global market. The low scores of India in the PISA ranking, compared to the consistent top ranking of East and Southeast Asian countries, should be a matter of great concern for policy-makers. We need to also pay attention to the contents of curriculum. Sometimes, efforts are made to change school curriculum, as has happened recently in Bangladesh, to downgrade the importance of diversity in our cultural tradition. We need to be vigilant against such efforts, particularly at a time when globally and in our region, conscious political campaign is being mounted to portray the 'other' as the enemy.

4 Inequality

My fourth question is: ***Are the recommended interventions to reduce inequality likely to produce equitable outcomes by 2020?*** Do these measures adequately address some of the sources of inequality such as the exclusion of marginalised groups and the growing divide between public and private sector and vernacular medium and English medium schools? In South Asia, we have produced and nurtured a dual system of education–one for the rich and another for the poor. Will inclusion of excluded groups be accommodated within the existing dual system with ever-increasing disparity between English medium private sector schools, on the one hand, and public sector vernacular medium schools, on the other?

The recommended measures for inclusion appear to be geared towards increasing coverage of excluded groups such as students coming from rural areas and urban slums, scheduled tribes and scheduled castes and girls. Will the expansion of existing facilities, building of new schools, free boarding facilities, cash incentives and so on be adequate to address the myriad of economic and social obstacles that hold back the children from these groups from attending schools?

In Bangladesh, as I noted earlier, we introduced a special cash incentive of providing scholarships for girl students for secondary education. This not only contributed towards fast increase in girls' school enrolment, there were other collateral benefits such as reduction in the number of young women marrying before the

age of 18. For example, the overall proportion of 13- to 15-year-old married girls declined from 20% in 1992 to 14% by 1995 (Dreze and Sen 2013). But we have also noticed that cash incentives often were not enough to counter the parents' concerns of safety and security for girls in an environment of fear of sexual harassment and violence against girls.

If we are to ensure equitable outcomes for girls' secondary education then we need to think of multi-pronged measures to improve girls' and women's condition and status, and community and society's support for enhancing women's empowerment. I have annexed a Table 1 comparing gender-related indicators in India and Bangladesh which is taken from Jean Dreze and Amartya Sen's book *Uncertain Glory*. The table shows Bangladesh doing better than India in all indicators including literacy, school enrolment and labour force participation. Female literacy rate is 78% in Bangladesh compared to 74% in India, secondary school enrolment ratio for girls is 113 in Bangladesh compared to 92 in India. And labour force participation rate is 57% in Bangladesh compared to 29% in India. These improvements in Bangladesh have been made possible by consistent and conscious policies and actions pursued by government as well as the non-government sector for the last four decades.

I believe if we are serious about addressing the issue of inequality and inequity, then we have no alternative but to improve the standards of government and vernacular medium schools so that children from upper income households do not flee from these schools and flock to private English medium schools. The growth of the dual system of education has consolidated a widening social gap between a narrow privileged elite and the large excluded masses. This inequality has expanded over the last half a century. In Bangladesh, we have now reached a situation where many people have given up efforts to improve the quality of public sector and believe that the public sector is beyond repair!

But this divide between vernacular and English medium and public and private sector schools was not there when I went to school and university in the 1950s and early 1960s. Most of us studied in Bangla medium government or private schools in *muffasil* towns. I did not have that many post-graduate teachers in my schools but I received sound basic training in reading, writing and mathematics from highly motivated teachers which enabled me to make the transition to an English medium college and university after matriculation, and ultimately earn a Ph.D. from Harvard University. I think it will be much more difficult and unusual for a student trained in Bangla medium *mufassil* schools these days to make this kind of transition to an elite university in the USA. I believe many of my age group in India also were able to go through similar transition from vernacular medium schools in small towns to top universities in India and even the USA or UK.

Even if we think that given ground realities inequality has to be bridged by provisioning of a public-private sector mix, we still have to improve the standards of the public sector where the majority of our students are enrolled. I hope the seminar will come up with many different options involving both public and private sector. One recommendation of the Right to Education Act which drew our attention in Bangladesh was the reserved quota for underprivileged children in elite private schools. It will be interesting to know how far this measure has been implemented.

Another issue I would like to draw your attention to, which is not generally discussed in seminars, is the availability and quality of translation. When I was in school I could read excellent Bangla translation of world literature including those of Shakespeare, Tolstoy, Dostoyevsky, Chekov, Maxim Gorky, Eric Maria Remarque and so on. In fact, I enjoyed more reading the Bangla translation of Arthur Conan Doyle's *Lost World,* when I was in school, than the original English edition, which I read later when I was in college. I was exposed to books published in the West mainly through Bangla translations. These days, I do not find good quality Bangla translation of books published in other countries. This has narrowed the horizon of Bangla medium students. Internet, with all its limitations, is their only window on the world.

Here I would like to particularly acknowledge my deep appreciation for Professor Muchkund Dubey's recent translation of *Fakir Lalon Shah's* poems and songs from Bangla to Hindi. He has added a new dimension to translation. I feel translation from Bangla into Hindi, rather than just English, has widened the readership of *Lalon* and created an opportunity for a much larger Hindi-reading public to understand and appreciate the rich syncretic cultural legacy of Bangladesh which had traditionally focussed on mystical and devotional aspects of religion. I believe many more such translations from one vernacular language to another will help foster greater appreciation and understanding between different regions of South Asia.

5 Governance

My fifth question, again, is: ***Are the measures planned by the initiatives to improve governance sufficient and appropriate***? In their book *An Uncertain Glory: India and its Contradictions*, Dreze and Sen highlight several governance challenges, including those of management, accountability and the role of professional organisations. They highlight the problem of absenteeism of teachers as an example of governance failure. They have calculated that with 20% absenteeism of teachers and 33% absenteeism of students, in effect, the probability of any effective teaching in a school in any day is 50% (Chowdhury 2015). They further note that despite improvement in salary, absenteeism of teachers has continued, which underscores lack of monitoring and accountability. They point out the narrow focus of teachers' associations who mainly demand improving the conditions of teachers rather than the condition of the education sector as a whole.

In Bangladesh too, we face similar problems of student and teacher absenteeism. Absenteeism of head teacher is 20% in primary schools and 18% in secondary schools. Over the years, teachers' salaries, though still inadequate, have improved, but this has not contributed towards reduction in absenteeism. Again, I do not remember teachers being absent when I was in school though those teachers were also poorly paid. Moreover, nearly 40% of teachers are involved in private tutoring. Teachers' associations are politicised and political parties use them to expand their vote base. Before every national election, teachers' associations start agitations to increase their

salaries. Members of parliament have expanded their holds on school boards and use them as patronage resource.

Governance reforms are critical to improving quality and reducing inequality. But these reforms are not feasible without a strong political will and social commitment, the very first question I started with in my address. I hope the deliberations of this seminar will be widely disseminated to academics, policy-makers, political leaders, civil society activists and the media and you will continue your engagement in pushing for governance reforms, improvement of standards, and reduction of inequalities in the education sector. I look forward to future opportunities for sharing our experiences and learning from each other.

Annex

See Table 1.

Table 1 Gender-related Indicators in India and Bangladesh

	India	Bangladesh
Female labour force participation rate, age 15+, 2010 (%)	29	57
Female-male ratio in the population, 2011 (females per 1000 males)		
All ages	940	997
Age 0–6 years	914	972[a]
Ratio of female to male death rates, 2009[b]		
Age 0–1	1.01	0.89
Age 1–4	1.55	1.25
Ratio of female to male school enrolment, 2010 (%)		
Primary	100[c]	104[d]
Secondary	92	113
Literacy rate, age 15–24 years, 2010 (%)		
Female	74[e]	78
Male	88[e]	75
Proportion of adults (age 25+) with secondary education, 2010 (%)		
Women	27	31
Men	50	39
Women's share of seats in national Parliament, 2011 (%)	11	20
Total fertility rate, 2011 (children per woman)	2.6	2.2

[a]Age 0–4 years
[b]2007 for Bangladesh
[c]2008
[d]2009
[e]2006

Source Jean Dreze and Amartya Sen, *An Uncertain Glory: India and its Contradictions*, London: Penguin, 2013

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