

A NEW PLATEFORM IN HIGHER SECONDARY EDUCATION IN INDIA

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Abstract

Secondary education serves as a link between the elementary and higher education, and plays a very important role in this respect. A child's future can depend a lot on the type of education she/he receives at the secondary level. Apart from grounding the roots of education of a child, secondary education can be instrumental in shaping and directing the child to a bright future. This stage of education serves to move on higher secondary stage as well as to provide generic competencies that cut across various domains of knowledge as well as skills. Providing secondary education to all, both boys and girls, with a focus on quality education assumes greater meaning today, when we consider the emerging challenges in our society. For instance, rising levels of socioeconomic aspirations and also the democratic consciousness particularly among marginalized sections of population such as the dalits, tribals, OBCs, religious and linguistic minorities and girls seek space in the secondary education system for greater access, participation and quality. The recent significant development viz., Universal Elementary Education (UEE) being achieved through Sarva *Shiksha Abhiyan* (SSA) and also the impact of globalisation and rapid growth of new technologies have led to reassessment of India's preparedness to generate required technical manpower, develop new knowledge and skills, and remain competitive at global level. The secondary and higher secondary education system has a key role to play in enabling the nation to move towards these objectives. Given the high transition rate of about 85% from class VIII to IX and the anticipated progress in UEE, which is now widely acknowledged, that the time has arrived for taking proactive measures to plan and provide for universal access to secondary education and senior secondary education in a phased-wise manner.

Keywords: Secondary education, Sarva Shiksha Abhiyan, Educational Reforms.

INTRODUCTION:

In case India intends in the 21st century to ‘emerge’ from a developing economy into a developed economy it will have to quantum up-scale its science education base. Continuing with the current pattern of development, with no up-scaling of the relative size and quality of its sciences education base, India’s campaign to transform itself into a knowledge society is already lost before it has begun. Cosmetic polishing of the superstructure of Indian science is no path that climbs onto a knowledge society. No knowledge-society has ever emerged in human history, basing itself on as constricted and weak a science education foundation as the one currently existing in India. This section attempts to take stock of India’s science education base. Relying on primary data collected from state/central education boards and on information gleaned from government websites and reports of reliable multinational agencies it: looks up the scale of upper secondary education in India today, makes comparisons with other countries in the world, analyzes the status of science in India's higher secondary education, and before making concrete recommendations it attempts to answer the question ‘Are we preparing to compete and emerge as a knowledge society?’.

THE SCALE OF UPPER SECONDARY EDUCATION IN INDIA TODAY

The current, 11th five year plan (2007-2012), is called “India’s educational plan”. It places high priority on education as the central instrument for inclusive and rapid growth. 1/5th of the plan expenditure has been allocated for educational purposes with the intent of “raising public spending on education to 6% of the GDP”. The 11th five year Plan envisages strengthening education across all segments of the education pyramid. There is an emphasis on the role of the private sector in universalizing education. Spurred by the present emphasis and earlier encouragements the size of the private education sector is estimated to have grown to 2 - 2.25 lakh crore rupees (40-45 billion USD). Recently private equity capital has also shown interest in the sector and it is reported that in February 2011 alone deals worth a 100 million USD were struck [Investors say “schooling gives 35% EBIDTA margins, that is almost 25% upwards return on capital”]. Based on latest data available in the public domain, Table 1 indicates the school infrastructure at the disposal of 6.41 lakh villages and 7,936 towns in the country. Rough calculations reveal that 15 villages share a higher secondary school between themselves.

Table 1: High school and higher secondary education infrastructure in Indian in 2008

LEVEL	GOVT BODY		LOCAL BODY		PRIVATE AIDED		PRIVATE UNAIDED		TOTAL
	NO.	%AGE	NO.	%AGE	NO.	%AGE	NO.	%AGE	
10 TH	54409	30.23	10278	9.03	29717	26.11	39420	34.63	113824
12 TH	20140	34.05	755	1.28	17912	30.27	20353	34.04	59166

Source: Table of Statistics of School Education 2007-08, MHRD GOI

In the year 2010 approximately 1.5 crore students appeared in 10th standard board examinations and about 1 cores students appeared in the 12th standard board examinations, all over the country. Normally less than 3/4th of those who appear in these examinations pass them and thus become eligible for studies at a higher level. India’s Right to Education Act 2009 does not make education compulsory at the upper secondary level. It mandates compulsory education only till the lower secondary (till 14 years age, class VIII) level. Despite the legislation about half of

India's 14 year olds do not attend school (more than 3% of the country's 6 year olds do not ever enroll in school and about 42% of those enrolled drop-out by 8th standard). Although Table-2 is a snapshot for a single year it does give some idea of the steep drop out curve which could be plotted if time series data were available.

Table 2: Number of students enrolled in different classes in the year 2008

1st std	5th std	8th std	10th std	11th std	12th std
3,23,57,435	2,46,40,605	1,74,95,128	1,33,61,787	86,06,262	76,51,517

Source: Table of Statistics of School Education 2007-08, MHRD GOI

OUR PLACE IN THE WORLD

India is a big and young country and in the ensuing competition between nations it can reap its demographic dividend if it strategies properly. But it is hard to fathom how a semi-literate multitude could carve out a place for itself while competing against better educated, smarter nations. Table 3, provides comparative gross enrolment ratios at the upper secondary level in some selected nations.

Table 3: Enrollment and Repeaters[^]

Gross enrollment ratio in 2008 (Upper Secondary ISCED 3)					
	Male & Female	Male	Female	Gender Index	Parity
India	43	47	37	0.80	
India (11-12 std)*	33.48	36.26	30.40	0.84	
China	62	60	64	1.07	
Brazil	92	82	102	1.24	
South Africa	96	92	99	1.09	
Israel	108	107	109	1.01	
Cuba	87	86	88	1.02	
Islamic Republic of Iran	69	68	70	1.02	
World	55	56	54	0.96	
Sub-Sahara Africa	27	30	23	0.77	

Note: In international comparisons 'Upper Secondary ISCED 3' is analogous to 9th - 12th standard education in the Indian context

Source: [^] Global Education Digest 2010, Table 5

* Table of Statistics of School Education 2007-08, MHRD GOI, Table 12 & 14

Gender parity index considered alongside gross enrolment ratios forces a realization of the educational and cultural backwardness of India. India – better than sub-Sahara Africa, but a country with an education base that is below the world average and way inferior to comparable countries like China, Brazil or South Africa – needs to introspect.

THE STATUS OF SCIENCE IN INDIA'S HIGHER SECONDARY EDUCATION

Table 4, compiled by collecting examination results records from 12th standard examination boards in the country and subsequently counting the number of students who opted for science subjects, highlights another weakness of India's education system. There are merely four major boards in the country in which more than half the students opt for science. On the contrary there are 16 major boards where less than 30% students opt for science subjects. The low level of interest in science, a mere 33% of 12th standard examinees, again paints a depressing picture; within India's constricted education base the pillars of science education are feebler and weaker.

Table 4: Student interest in Science – 12 standard examinations in 2010

Board Name	Total Number of Appeared Students	Total No. of Science Students	% of Science Students in 12 th standard
Andhra Pradesh	9,18,539	2,08,238	22.67
Assam	1,97,547	12,448	6.30
Bihar	6,10,126	2,10,873	34.56
CBSE	6,37,883	3,44,116	53.95
Chhattisgarh	1,79,485	72,503	40.39
Goa	13,743	3,265	23.76
Gujarat	4,41,083	90,208	20.45
Haryana	2,08,040	36,323	17.46
Himachal Pradesh	1,05,720	20,384	19.28
ICSE	56,144	29,060	51.76
Jharkhand	2,78,687	90,245	32.38
Karnataka	6,31,075	1,15,190	18.25
Kerala	3,59,265	1,50,378	41.86
MP 4,	86,238	2,12,390	43.68
Maharashtra	12,81,157	3,04,232	23.75
Manipur	19,065	13,006	68.22
Meghalaya	26,749	2,939	10.99
Mizoram	7,280	1,702	23.38
Nagaland	12,445	1,772	14.24
Orissa	2,24,098	56,744	25.32
Punjab	3,16,365	33,270	10.52
Rajasthan	5,18,675	88,056	16.98
Tamil Nadu	6,82,607	4,43,008	64.90
Tripura	20,359	2,612	12.83
UP	15,36,949	6,00,215	39.05
Uttarakhand	1,16,201	45,405	39.08
West Bengal	5,11,178	63,693	12.46
Total	~1 crore	~33 lakh	~ 33 %

Source: NISTADS data (examination results records for J&K could not be obtained)

Are we preparing to emerge and compete as a knowledge society?

If the present state of our science education base is any indicator then we need to candidly accept that we are not prepared and are unlikely to transform into a knowledge society. Not only does India keep every 6 out of 7 of its young citizens away from tertiary education, it enrolls only 1/3rd of its 17-18 year olds into higher secondary education. Out of the 1 crore students, that eventually sat for the 12th standard board examinations in 2010 only 33 lakh appeared in science subjects. In other words, given the size of the country, India's educational system is not creating an adequate pool of citizens who are acquainted with the a, b, c of science – a country of 1,210 million people cannot be said to be adequately preparing for the scientific century if it is providing higher secondary education in science to barely 3.3 million youngsters every year at the close of the first decade. What is worse is that the above estimate could be arrived at only through intensive data collection exercises and research. There is no website in the country that provides comprehensive and up-to-date data on higher secondary education although primary data resides in a disaggregated form with all examination boards. In most cases current data is not readily available for analysis, review and decision making purposes. Despite the existence of data the virtual absence of an information infrastructure keeps us from taking objective cognizance of ourselves. Moving beyond the sheer size of the education system – beyond the number of students enrolling for education at various levels or sitting in exams, onto the quality of education being imparted (and absorbed) the picture gets murkier. There is no national level program/process that investigates and summarizes the quality of learning at the higher secondary level across different boards. Different boards follow different syllabi and the evaluation criteria – rigor and pattern of examination – also vary. Within a board the annual examination, conducted by its examination wing, constitutes a good measure of the performance of students relative to each other. It therefore works as a useful filter to accept some claims to scarce tertiary education opportunities and to thwart the educational striving of the bulk of India's young citizenry. But this annual examination resultsheet is an extremely poor and indirect measure of the level of learning of individual students even when it is read in co-relation to the syllabus. Neither is the annual examination resultsheet any reliable measure of the general level of learning of the student mass wading its way through the higher secondary courses. When the issue boils down to scientific knowledge, board examination results are extremely poor measures of the scientific aptitude/capabilities of the student community or of the individual. The conduct of all sorts of competitive exams all over the country poignantly expresses the problem itself and ad hoc measures to resolve it. Conduct of examinations is the central activity of all boards in the country. In other words a board spends the bulk of its time and energy in examining the hapless student. Mechanisms to evaluate the work of teachers are very shoddy, bureaucratic and matters of routine. Peer review of teachers and student evaluation of teachers are concepts almost unheard of within the teaching community. Mechanisms to evaluate the work of the board itself at making teaching a joyful, creative and fulfilling activity are non-existent. The mix of ossified board functionaries, dull and bored teachers creates a situation in which – if one were to subtract what the child has crammed and if one were to concentrate on what the child has really learned – most of the child's real learning is primarily a product of the self-industry of the child and of his/her peers. Therefore if levels of student learning are to be upgraded then a lot of creative work needs to be done at reorienting teachers and education bureaucrats – if the teacher does not enjoy his/her subject matter, the child cannot learn.

RECOMMENDATION

Public value of Science cannot and should not be limited to accessing its economic impact. Science has wider social, cultural and aesthetic value towards creation of what Pandit Nehru called 'Scientific Temper'. For a society as steeped in tradition as India, the significance of this aspect of Science is enormous. It should not be overlooked. It is only through universal literacy, access to education and knowledge-based social development that India will believably march ahead to join the front ranks of the great nations of the world India needs to upgrade and standardize its educational system. It needs to:

- Devise and institute a national education monitoring infrastructure in which facilities provided to each student are available for public scrutiny.
- Standardized scientific methods to evaluate levels of learning need to be evolved so that learning achievements can be publicly monitored at the national level and upgraded.
- Evolve a national program that transforms teaching from the spiritless boring activity that it is at present into a lively productive activity in which the whole country wants to participate in myriad ways.
- Extend the right to education to the higher secondary level i.e. make education formal, compulsory and universal till 18 years of age. Non-formal education or open schooling should not be considered part of the right to education.
- Move beyond enacting a law and actually deploy material/human resources plus political will to provide quality education to India's children and youth till they are 18 years of age. Vocational education or other kinds of skill development activities may supplement this education but they should not substitute it at any phase when it is meant to be compulsory and universal.

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