



Participation of Women in Higher Education: The Indian Perspective

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During the last six decades since independence, there has been phenomenal development of education system in India resulting in the creation of one of the largest education systems of the world. After independence, higher education sector attracted greater attention of the native government than elementary and secondary education sectors. University Education Commission (1948), the first commission in education set up by the government of free India, laid special emphasis on the education of women and recommended that in view of the similar fields of activity for men and women and some specific requirements of women maximum facilities should be given for education in Home Economics and Home Management. Higher education was recognized as a powerful instrument of socioeconomic advancement of the society in general and a vehicle for upward social mobility for deprived and marginalized sections in particular. Now, India has third largest higher education system of the world, but it is accessible only to 12% of the youth in the age-group 18-24 years. The deprived sections of the society, especially women, have had limited access to higher education. In this paper, the author has analyzed gender-based educational disparities among various social sections with special reference to caste and religious affiliations. The author has discussed and evaluated the current status of participation of women in higher education selected educationally backward sections in respect of their participation in higher education in order to assess the effectiveness of compensatory measures taken by the central and state governments to address the gender-based issues in higher education. Government of India has been making concerted efforts since independence for bridging the socioeconomic gap between advantaged and disadvantaged groups, but still these sections have remained behind the mainstream society though there has been considerable relative improvement. Education, especially higher, has been recognized as a great equalizer and a powerful tool of upward social mobility capable of being used for reducing socioeconomic disparities and building an inclusive society. The purpose of this article is to: (i) Analyze gender-based educational disparities among various social sections with reference to caste and religious affiliation. (ii) Discuss and evaluate the current status of women from selected educationally backward sections in terms of their participation in higher education. (iii) Assess the effectiveness of compensatory measures taken by the central and state governments to address the gender-based issues in higher education.

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Introduction

In terms of population, India is the largest democracy in the world spread over about 329 million hectares of land area—only about 2.4% of the total global land. Of the total 6,700 million people of the world (Population Reference Bureau, 2008), 1,150 million (17%) live in India. India is essentially a land of children and youth as the median age of the people is 25 years. Of the total population below the age of 25 years, about 437 million are children and adolescents aged 0–18 years including those of school-going age-group of 6–14 years, and nearly 138 million youth in the college-going age-group of 18–24 years. In view of the rapid population growth rate (1.9% during 1991–2001), the task of educating people is massive and daunting. Even after 60 years of sustained efforts to develop and expand education, overall literacy rate could not reach 75 percent (2007 estimate), which is a threshold level of literacy needed to ensure speedy socioeconomic development of a nation. The literacy rate for women is even less—about 65 percent, compared to many developed and developing countries. According to a recent estimate, about 19% of the people are poor and live below the poverty line. The target date for achieving the goal of providing free and compulsory elementary education for all children aged 6–14 years has had to be shifted ahead several times. The latest position is that India plans to achieve the goal of Education For All (EFA) by 2010, but the progress made so far indicates that it may not be possible even by 2015—the target date proposed by the UNESCO for the developing world. The tertiary level education is available to only about 14% of the youth in the relevant age-group including those pursuing further and continuing education courses through online and distance education modes.

Despite continuous disturbance for several decades due to internal and external insurgency and terrorism, India has achieved and maintained a high rate of economic growth. Now India is rated as one of the world's fastest developing economies. During the 10th Five-Year Plan (2002–2007) the overall economic growth rate had been 7.7%, and at present (2008–2009), it is about 9% and is likely to be maintained during the 11th Plan period (2007–2012) also. India is ranked tenth among most industrialized countries of the world and third as producer of scientifically and technologically trained manpower. There has been tremendous quantitative progress in the field of education during the period of six decades since 1947—the year of independence. Some of the educational institutions, such as Indian Institutes of Technology (IITs) and Indian Institutes of Management (IIMs), are ranked among the top-quality institutions in the world. Indian scientists have acquired significant positions in developed countries including the USA, United Kingdom, and Australia. More than 25% of the engineers produced by IITs are working in the USA alone and have succeeded in creating a large number of new jobs and huge market capitalization (Kaul, 2006). Bangalore, the information technology city of India, has a larger number of software professionals than Silicon Valley of United States. This has been possible because of India's education system, which despite many serious flaws, has functioned effectively as a powerful tool of socioeconomic transformation and development

Indian society is highly stratified on the basis of caste hierarchy, religious affiliation, linguistic diversity, and regional loyalty. A large majority of people

professes *Vedic Dharma*—a religion popularly termed as *Hinduism*. Traditionally, Hindu society has been divided by *Jati Pratha* (caste system), which has strongest historical roots and is mainly based on traditional family vocations on the principle of division of labor. While grouping people into thousands of castes and subcastes reflecting their socioeconomic, educational, and cultural disparities, caste system has recently acquired very strong political dimensions (Chauhan, 2008) with various caste combinations emerging to form three major socioeconomic categories—Forward Castes (FCs), Scheduled Castes and Scheduled Tribes (SCs/STs), and Other Backward Castes (OBCs). Because of nature of their work and the lowest rank in the caste hierarchy, SCs remained disadvantaged and could not benefit from the available opportunities of development in various socioeconomic fields including education. The STs are those people who live in geographically isolated remote areas such as forests and hilly tracks largely cutoff from the mainstream society. Most of them are secluded and culturally disadvantaged due to poor transportation and communication facilities and have also remained deprived of opportunities in all fields of development. These two sections of society have always been a focus of government attention, especially during the post-independence period. In addition, some castes among OBCs, though not among the poor, are also classified as educationally backward.

Indian society is known for its secular outlook with people of different religions living together. In addition to the majority of *Hindus* (80.50%) having faith in *Vedic* religion, there are certain religious minorities (Government of India, 2001) prominent among them being *Muslims* (13.40%), *Christians* (2.33%), *Sikhs* (1.85%), *Buddhists* (0.79%), *Jains* (0.41%), and others (0.64%). All minorities, except *Muslims*, have kept pace with the overall educational development in the country. Christians, Sikhs, and Jains have taken care of their own education and are, in fact, more advanced educationally than the total population. It is only the *Muslim* community that has been an educationally backward section of concern for the government.

Thus, SCs, STs, OBCs, and Muslims are classified as educationally backward sections of the society. Moreover, educational diversities based on *gender* and *rural–urban residence*, are also significant with women and rural people being less educated than their men and urban counterparts among all social and religious sections. Government of India has been making concerted efforts since independence for bridging the socioeconomic gap between advantaged and disadvantaged groups, but still these sections have remained behind the mainstream society though there has been considerable relative improvement. Education, especially higher, has been recognized as a great equalizer and a powerful tool of upward social mobility capable of being used for reducing socioeconomic disparities and building an inclusive society. The purpose of this paper is to:

- (i) Analyze gender-based educational disparities among various social sections with reference to caste and religious affiliation.
- (ii) Discuss and evaluate the current status of women in selected educationally backward sections in terms of their participation in higher education.

- (iii) Assess the effectiveness of compensatory measures taken by the central and state governments to address the gender-based issues in higher education.

Education System in India

During the last six decades since independence, there has been phenomenal development of education system resulting in the creation of one of the largest education systems of the world. Being a union of states, India has created a uniform educational structure popularly known as “10+2+3” pattern of school and college education. The first 12 years constitute school education with 10 years providing for general education for all children followed by 2 years of further schooling in specialized alternative academic and vocational streams. Each of these two stages is further divided into substages with general education consisting of first 8 years of *elementary* education—5 years of *primary* schooling (classes/grades 1–5 for children aged 6–11 years) and 3 years of *upper primary schooling* (classes 6–8 for children aged 11–14 years) followed by 2 years of *lower secondary* (also known as high-school) education. Thereafter, a child must pursue 2 years of *senior secondary* school education providing for diversification of curricula in academic and vocational streams. Generally, a child is enrolled in class 1 at the age of 6 years and is supposed to complete primary education at the age of 11 years and elementary education up to class 8 at the age of 14 years. The secondary school stage (classes 9–12), consisting of lower and higher/senior secondary, is meant for children aged 14–18 years. The preprimary education for children aged 3–6 years is still in the nascent stage but fast developing.

A student enters college education at the age of 18 years and can, generally, continue till the age of 24 years pursuing *undergraduate* and *postgraduate* courses in *general* education in arts, science, and commerce or *professional* education in engineering and technology, medicine, management, teacher education, and other professional areas. After completing postgraduate general or professional education the student can go for *doctoral research* in his or her area of interest. The youth aged 18–24 years (or even older) may be enrolled in universities and colleges or pursue tertiary education through open and distance learning. In order to provide opportunities of *lifelong learning* for adults and working population open universities system has been created.

Development of Higher Education: An Overview

Knowledge as one of the greatest human virtues has been immensely valued in Indian society and its acquisition and dissemination considered as a service of highest order throughout the ages. During the ancient period, the saints and seers of India showed the world the path of truth, wisdom, and peace. The modern concept of a university is close to that of forest *ashram* institutions in the ancient Hindu tradition of adult learning. It is recorded that as far back as 1500 BC Indian teachers would retire to clearings in the forests along with groups of young men who volunteered to join them in living a life of contemplation and philosophical discussion (Fletcher, 1968). Such *ashram* schools, when grew in number and size and attracted learners from far and wide, took the shape of corporate institutions. Buddhist centers of learning at *Takshashila* (5th century AD)—the oldest university of the world with over 10,500 students, and *Nalanda*

(12th century AD) with 10,000 students and 1500 teachers are examples of ancient Indian universities (Narlikar, 2003). These were, in fact, IITs and MITs of those days.

However, the first three modern universities at Calcutta, Bombay, and Madras were established in 1857 as examining bodies for existing 25 colleges and modeled on the lines of the University of London. It was from this point onwards that higher-education system grew steadily in size, especially due to the national freedom struggle, which gained strength and momentum in the first quarter of 20th century. In 1947, there were 20 universities with 500 colleges enrolling about 100,000 students. The system has continued to develop with accelerated rate during the last six decades (1947–2007) and has become third largest in the world, next only to China and the USA, with 431 universities, 21,000 colleges, about 12 million students and 505,000 teachers (Thorat, 2008). Indian universities and colleges account for over 10% of the total enrollment in higher-education institutions in the world, but still it is too small to accommodate 138 million domestic youth in the age-group of 18–24 years. The reported gross enrollment ratio (GER) of 12% is very small as compared to world's average of 23% and an average of 56% for developed countries. The government of India proposes to increase the GER to 15% by year 2012 and to 21% by 2017 through large-scale expansion of the system by way of opening new institutions and enhancing the intake capacity of the existing ones.

Literacy and Schooling of Women

The history of India, including that of the ancient period, records that women have enjoyed a high status in the society. They were provided educational opportunities comparable to men. The tradition has continued throughout the ages. Many educated women sometimes outshined men and challenged them in debates on crucial literary, philosophical and social issues (Nurullah and Naik, 1943). The learned women were known as *Brahmavadini* (women having attained the knowledge of the Supreme Being) or *Mantravid* (having the knowledge of mantras) or *Pandita* (learned women). Even during the Muslim period many women made a mark in the field of education.

Although in the *Vedic* period women had access to education in India, but they gradually lost this right. However, during the British period various socioreligious movements led by some eminent persons emphasized women's education in India. Social reformers like Mahatma Jyotiba Phule, Periyar, and Baba Saheb Ambedkar took various initiatives to make education available to deprived sections of the society including women. However, women's education got a boost after independence and the new government took effective measures in this regard. Women's education in a society plays an important role in the overall socioeconomic development and help in improving the quality of life in the family setup. Educated women tend to promote education of their girl children and provide them guidance in future. Moreover, educated women help in the reduction of infant mortality rate and healthy growth of the population.

During the period of British rule also women's education received significant impetus through deliberate policies. However, the progress remained mainly limited to school stage. In 1947, out of a total enrollment of over 12 million

children in elementary schools, 3 million (25%) were girls (Chauhan, 1990). Literacy rate of women was 8.30% as against 25% of men. Literacy is a significant indicator of a society's overall level of development. The detailed gender-based comparative analysis of increase in literacy rate in India during the last six decades is presented in Table 1.

Table 1. Literacy rates by gender (1951-2001) (Manorama Yearbook 2008; Census of India 2001; Chauhan 2004)

Census Year	Total Population (Millions)	Literacy Rate (Percent)			Male/Female Disparity in Literacy	Gender Ratio
		Male	Female	All Persons		
1951	361.09	24.95	7.93	16.67	3.15	946
1961	439.23	34.44	12.95	24.02	2.66	941
1971	548.16	39.45	18.69	29.45	2.11	930
1981	685.18	46.74	24.88	36.67	1.89	933
1991	846.30	64.20*	39.19*	52.19*	1.64	929
2001	1028.61	75.85*	54.16*	65.38*	1.40	933
2008	1150.00	83.00*	67.00*	75.00*	1.25	NA

*Figures for population aged 7 years and above. Figures for the year 2008 are estimated ones.

Women constitute a little more than 48% of the total population of India due to unfavorable sex ratio, which is a matter of concern. During the post-independence period, literacy rate of women rose from 7.93% in 1951 to 54.16% in 2001 and to estimated 67% in 2008 while that of men increased from about 25% to about 83% during the same period. The decreasing trend of male/female disparity index, from 3.15 in 1951 to 1.40 in 2001 and to nearly 1.25 in 2008, shows that the increase in the literacy rate of women has been faster than that of men, but in absolute terms literacy of women has always been less than that of men. However, available data show that male/female disparity in literacy has narrowed down to tolerable level.

In the area of school education also, progress towards free and compulsory elementary education (classes 1–8) has been more or less satisfactory in the case of all sections of the society. In 1947, the enrollment of girls in school was 25% of the total enrollment, which rose to 27% by 1950–51. During the last 6 decades sustained effort has been made by the government to achieve the goal of EFA by way of undertaking massive expansion of schooling facilities and launching ambitious programs like *Sarva Shiksha Abhiyan* (SSA). These efforts have given dividend and considerable progress has been achieved by now, though, goal of EFA is still far ahead. Like literacy rate, the overall enrollment of girls has also increased faster than that of boys in the elementary schools irrespective of caste, class, or rural–urban location. While total enrollment of boys at elementary stage has increased 8-fold, that of girls has increased 14-fold. Consequently, the gender parity index (GPI), which is the ratio of total enrollment of girls to that of boys, has improved from 0.38 to more than 0.95 from 1950–51 to 2006–07.

Table 2. Enrollment share of girls at school-stage (Mehta 2008; Selected Educational Statistics 2005–06)

Categories of Children	Total Enrollment (Millions)	Percent of Total	All Girls (Millions)	All Girls (Percent)
Elementary Stage (Classes 1-8): 2006-07				
All Children	179.30	100.00	85.50	47.70
Rural	143.10	80.00	68.20	47.60
Urban	36.20	20.00	17.30	47.80
Scheduled Castes	35.60	19.90	15.90	44.70 (18.60*)
Scheduled Tribes	19.20	10.70	9.10	47.40 (10.60*)
OBCs	75.20	41.90	35.80	47.60 (41.90*)
Muslim	15.90	8.90	7.80	49.00 (9.10*)
Disabled	1.43	0.80	0.60	42.00 (0.70*)
Secondary Stage (Classes 9-12): 2005-06 **				
All Children	38.40	100.00	16.10	42.00
Scheduled Castes	5.56	14.50	2.20	39.60 (13.70)*
Scheduled Tribes	2.20	5.70	0.86	39.10 (5.30)*

*As percent of all girls at the corresponding stage.

** Data for Muslim and Disabled girls at secondary stage are not available.

During the academic year 2006–07, total enrollment of girls was 85.5 million—about 47.7% of the all children (179.3 million) aged 6–14 years enrolled in elementary schools (Table 2). The corresponding figures for rural and urban areas were found to be 47.6% and 47.8% respectively. These figures approximately match the share of women in the total population of the country. In the case of SC and ST children, the shares of elementary school enrollment were 19.85% and 10.70% respectively, which are more than their shares of 16.2% and 8.2% respectively in the overall Indian population. Even girls of these sections in the relevant age-group share elementary school enrollment to the extent of 44.7% and 47.4% respectively of the total enrollment of children coming from these sections. The SC and ST girls enrolled in elementary schools constitute respectively 18.6% and 10.6% of all girls of the same age-group studying in elementary schools. The OBC girls constitute about 42% of the total enrollment of girls at that stage. Therefore, enrollment of girls belonging to SC, ST, and OBC sections is more than their shares in the total population of the country, and thus they are not underrepresented.

However, in the case of Muslim girls situation is different. Their enrollment is 9.10% of the total enrollment of girls, which is larger than all Muslim children (8.90%) in the elementary school enrollment. This shows that enrollment percent of Muslim boys is less than that of Muslim girls. This is a matter of special interest and calls for a deeper probe into the situation. Figures also show that the

enrollment of disabled girls is 42% of total number of disabled children enrolled at elementary stage and 0.7% of all enrolled girls in the same age-group. Thus, constitutionally recognized socially and culturally disadvantaged sections have more or less kept pace with the mainstream society in school education up to elementary stage, but beyond that there is much to be done.

At the secondary education stage (for children ages 14–16 years), enrollment of all girls (2005–06) was 42% of the total enrollment at that stage. While all enrolled SC children constituted about 14.50% of the total enrollment at that stage, SC girls were 39.60% of all SC children and 13.70% of all girls. Similarly, enrolled ST children were 5.70% of all secondary school children and enrolled ST girls were 39.10% of all enrolled ST children. But, enrolled ST girls were only 5.30% of all secondary school girls. The overall situation indicates that both SC and ST children enrolled in secondary schools are less than the shares of these communities in the total population of the country, the situation being more alarming in the case of girls belonging to these sections. Moreover, there is about 75–80% dropout and 30–40% examination failures of school children belonging to SC/ST groups up to class 12.

Women in Higher Education: Enrollment and Choices

Before independence, education of women was mainly confined to school stage and their access to higher education was limited. In 1947, out of the total enrollment of about 250,000 students (including those pursuing pre-university courses) in higher education around 23,000 (about 9.2%) were women. Nearly 87% women pursued general education in Arts, Science, Commerce, and Liberal Arts including languages. After independence, higher-education sector attracted greater attention of the native government than elementary and secondary education sectors. University Education Commission (1948), the first commission in education set up by the government of free India, laid special emphasis on the education of women and recommended that in view of the similar fields of activity for men and women and some specific requirements of women, maximum facilities should be given for education in Home Economics and Home Management. Higher education was recognized as a powerful instrument of socioeconomic advancement of the society in general and a vehicle for upward social mobility for deprived and marginalized sections in particular.

The colonial rulers introduced modern higher-education system with the establishment of first three universities in 1857 with the twin objectives of spreading western culture through the medium of English and producing cheap manpower for serving the British administration in India. The provision of teaching social sciences and scientific and technological subjects was deliberately avoided. Those who aspired for advanced knowledge of these areas had to go to Britain for higher studies. The facilities for research were almost non-existent. Due to elitist character of higher education and limited facilities available, access to it was restricted mainly to male members of well-to-do sections of the society to near complete exclusion of women. Only a microscopically small number of women coming of families of feudal lords, ruling class, and rich merchants could enter the portals of institutions of higher learning. After independence, the native government recognized the power of education, especially higher, as a major vehicle of rapid socioeconomic

advancement and an instrument of social transformation leading to the creation of an egalitarian society. The fact that first commission appointed by the government in 1948, immediately after independence, was on higher education is a testimony to it. Education was, thus, accepted as a great equalizer.

The 20th century witnessed significant improvement in the participation of women in colleges and universities all over the world. During mid-1950s, British universities and colleges had nearly 25% women in the total enrollment (University Grants Commission, 1960). The universities in the United States had more than 33% women in their total enrollment. In Russia, university enrollment was shared by women to the extent of 50% of the all. But, India was far behind with women constituting less than 15% of the total student community in higher education. However, India had the only university in the Commonwealth—Shreemati Nathibai Damodar Thackersey (SNDT) Women’s University in Bombay, exclusively meant for education of women. Under these conditions Indian government felt a need to promote higher education among women on a priority basis.

Though, first three modern universities in India had been established in 1857, the first women was admitted to the University of Calcutta in 1877, the second to the University of Madras in 1881, and the third to the University of Bombay in 1883 (Desai, 1999). The period of 132 years since the first women entered the university education, has witnessed a steady progress in women’s higher education in India. As in the case of school stage, the enrollment of girls has increased at a faster rate than that of boys in higher education also. While education in all colleges and universities is open to both men and women, there are also separate colleges and universities exclusively for women. Today there are 10 university level institutions and 2166 colleges (13% of all colleges) exclusively meant for women. While the percentage of women students in higher-education institutions was less than 10% in 1947, it rose to more than 40.5% by the session 2006–07 (UGC Report 2006–07), though there was wide state-wise variation.

Table 3. Enrollment of women in higher education (Selected Educational Statistics 2005–06; University Grants Commission, Annual Report, various years)

Year	Total Enrollment (000s)			Women as Percent of all students
	All Students	Men	Women	
1950-51	174	157	17	10.00
1955-56	295	252	43	14.60
1960-61	557	468	89	16.00
1965-66	1067	849	218	20.40
1970-71	1954	1563	391	20.00
1975-76	2426	2131	595	24.50
1980-81	2752	2003	749	27.20
1985-86	3571	2512	1059	29.60
1990-91	4425	2986	1439	32.50
1995-96	6426	4235	2191	34.10
2000-01	8001	4988	3012	37.60
2005-06	11028	6562	4466	40.50

Eighteen states had women enrollment more than national average including Kerala (61%), Goa (59%), and Punjab (52%). The lowest percentage of women enrollment was in Bihar (less than 25%).

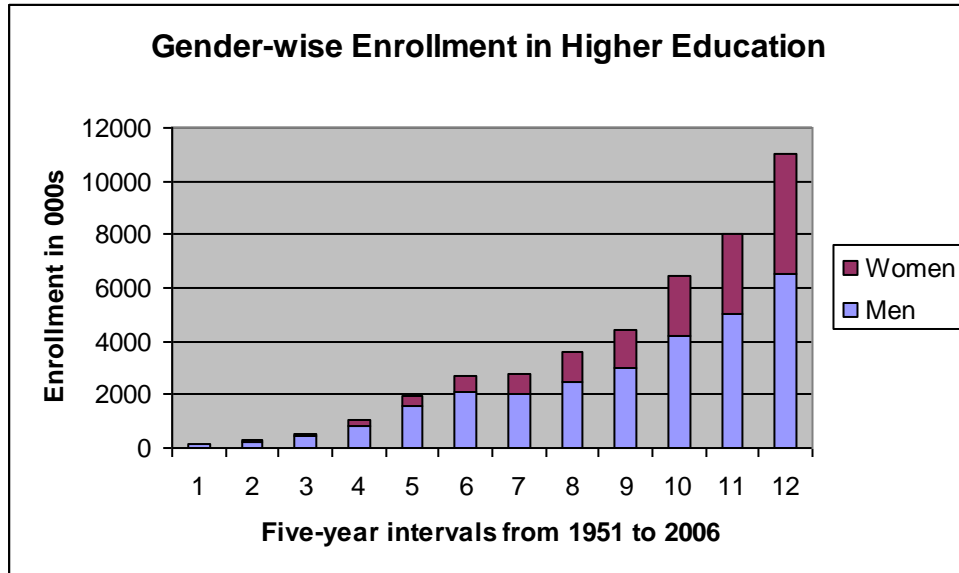


Figure 1. Gender-wise enrollment in higher education.

The trend of participation of women in higher education as measured in terms of their proportion in total enrollment is presented in Table 3. The total enrollment increased from only 174,000 in 1950–51 to 11.03 million in 2005–06—over 63-fold growth in 55 years at the annual compound growth rate (ACGR) of 7.6%. During the same period, the enrollment of men increased from 157,000 to 6.56 million recording a ACGR of 7.0% while that of women increased from only 17,000 to 4.47 million at an ACGR of 10.6%. In terms of percent, the share of women enrollment has increased from only about 10% to 40.5% during this period. This shows that women enrollment increased faster than (see Fig. 1) total enrollment as well as that of men.

Women and General Education

There is noticeable difference between the trends of women's enrollment growth in general and professional education streams. While women's share of enrollment in entire general education (in arts, science, and commerce) increased from 12.3% in 1950–51 to 39.8% in 2005–06, the corresponding figures for professional and technical education (Education, Engineering and Technology, Medicine, etc.) were 8.6% in 1950–51 and 29.5% in 2005–06 respectively. While total gross enrollment in general education increased at ACGR of 6.1% since 1950–51, the ACGR for women was 8.6% against 5.4% for men. A closer look at the figures in Table 3 and the slopes of the curves (Fig. 2) shows that over the years since independence the growth of women enrollment has been faster than the total enrollment and that of men, both in general and professional education.

When we compare women enrollment patterns in Arts, Sciences, and Commerce branches (see Table 4) of general education, it is observed that, over the years, there has been a shift of interest among women from Arts towards Sciences and Commerce areas. While there has been a 2.8-fold growth in the share of women in the faculty of Arts, the corresponding increase in the faculties of Science and Commerce has been over 5-fold and 50-fold respectively. During the period of five years from 2001 to 2006 there has been a very sharp increase in the share of enrollment of women in commerce faculty. Increased awareness, sense of freedom among women, and availability of job opportunities, especially after liberalization of Indian economy during 1990s, explain this trend.

Table 4. Women's enrollment in general education (percent) (Selected Educational Statistics 2005–06; University Grants Commission, Annual Report, various years)

Year	Arts	Science	Commerce	All General
1950-51	16.10	7.10	0.60	12.30
1955-56	18.30	8.40	0.60	13.40
1960-61	24.60	10.50	0.90	17.30
1965-66	31.50	17.10	1.80	22.40
1970-71	33.20	18.60	3.10	24.00
1975-76	36.40	24.10	6.60	27.20
1980-81	37.70	28.70	15.90	30.00
1985-86	40.40	30.50	19.10	32.40
1990-91	44.00	33.30	20.80	35.20
1995-96	45.00	34.20	21.40	36.30
2000-01	46.00	35.00	22.00	37.40
2005-06	45.00	36.40	30.40	39.80

Women and Professional Education

When we examine women's enrollment by various professional areas and fields (see Table 5) interesting trends are observed. Throughout the period of 55 years under study, *Education* (teacher training) has been an area of interest for women in India. The share of women enrollment in this field increased from 32.4% in 1950–51 to 52% (more than men) in 2005–06. One potential reason for this is that teaching is a preferred profession for women in India. The second most favorite professional area for women has been that of *Medicine* in which the share of women enrollment increased from 16.3% to 45% of the total enrollment in this field during the period of past 55 years. Another professional area, which has recently attracted women, is *Engineering and Technology*. The share of women enrollment in this area, which was only 0.16% in 1950–51 increased to 20.6% in 2005–06. Surprisingly, *Agriculture* is a professional area in which women enrollment has grown sharply from only 0.17% in 1950–51 to 20.5% in 2005–06.

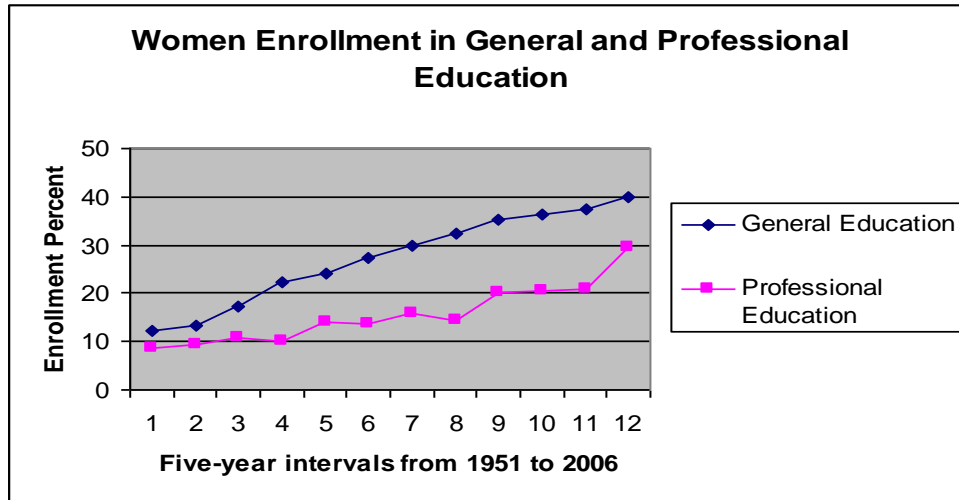


Figure 2. Women enrollment in general and professional education.

Table 5. Women's enrollment in Professional Education (percent) (Selected Educational Statistics 2005–06; University Grants Commission, Annual Report, various years)

Year	Education	Engg & Tech	Medicine	Agricult.	Vet. Science	Law	Others	All Professional
1950-51	32.40	0.16	16.30	0.17	0.45	2.10	18.80	8.60
1955-56	29.80	0.19	18.10	0.29	0.39	1.70	24.20	9.30
1960-61	32.80	0.89	21.90	0.45	0.81	3.00	26.80	10.70
1965-66	24.70	0.97	23.90	0.16	0.62	3.40	32.20	10.20
1970-71	36.50	1.00	22.90	0.50	0.70	3.70	47.20	14.20
1975-76	39.30	2.10	18.30	1.40	1.40	5.00	36.10	13.50
1980-81	47.30	3.80	24.40	3.30	3.30	6.90	39.80	15.70
1985-86	49.00	5.90	29.50	4.30	4.90	8.10	39.50	14.50
1990-91	53.40	7.90	32.30	7.20	8.20	10.00	40.20	20.30
1995-96	55.70	8.10	33.20	8.80	9.90	10.70	40.40	20.60
2000-01	58.00	8.35	35.20	10.50	11.70	11.55	40.70	21.00
2005-06	51.90	20.60	45.00	20.50	20.50	19.40	41.80	29.50

Traditionally, agriculture has been considered as a male domain in India, but since it has been taught as a science, women have entered its study and research. The professional areas of *Veterinary Science* and *Law* have also found favor among women students. In *Veterinary Science*, enrollment share of women increased sharply from 0.45% to 20.5% and that in *Law* from 2.10% to 19.4% during the last 55 years. There are some other professional areas like *Management*, *Computer Science*, *Accountancy*, *Bio-technology*, etc., in which enrollment share of women has increased from 18.8% in 1950–51 to 41.8% in 2005–06. These trends are shown graphically in Fig. 3 for three specific academic years 1950–51, 1980–81, and 2005–06. In 1950–51, about 8.6% of all women students pursued professional education in various fields, but this figure

rose to 20.3% by 2005–06 (Table 5). In comparative terms, an ACGR of 7.8% in enrollment of both men and women in professional education was recorded for this period. In general, Education and Medicine have remained favorite professional fields for women in India there has been a remarkable shift of interest towards Engineering and Technology, Agriculture, Veterinary Science, and Law. Women's interest is also directed recently towards newly emerging areas related to Business Management, Computer Applications, and Information Technology.

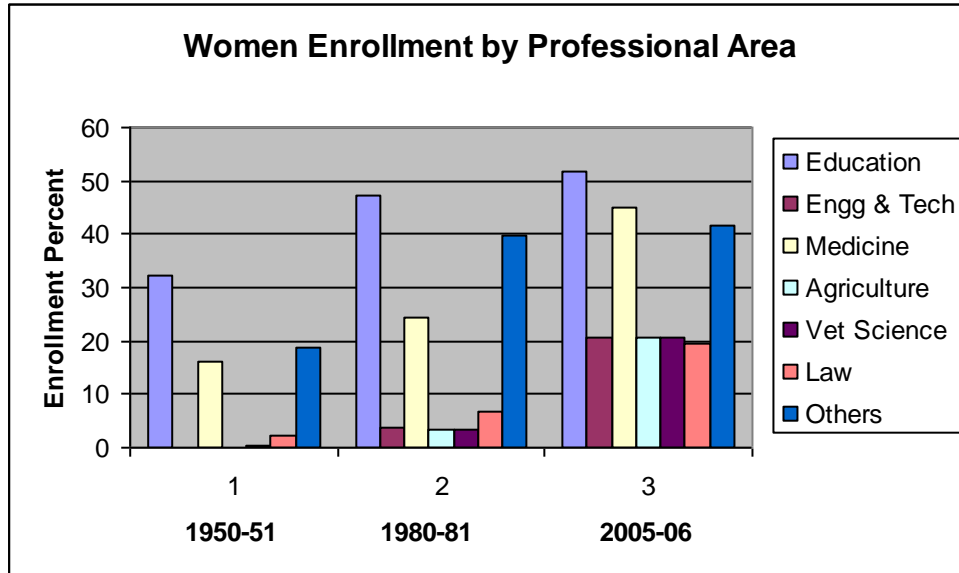


Figure 3. Women enrollment by professional area.

Women Participation and Social Stratification

As mentioned earlier, Indian society is highly stratified on the basis of social and economic factors. People having faith in four major religions of the world—Hindus, Muslims, Sikhs and Christians—live together in peace and harmony. Among Hindus, there are many caste groups at various levels of socioeconomic development. Though, higher education is accessible to all, but in different degrees. In case of women, there is wide variation in access to higher education across social and religious groups (Table 6). During the academic year 2004–05, for which data are available, the gross enrollment ratio (GER) of SCs was 7.8% against 16.7% for people of nonscheduled general category. In the case of SC women, the figure was 6.3% against 9.2% for the SC men. Similarly, GERs of ST and OBC women were 6.4% and 7.6% respectively compared to 8.8% and 12.5% for men of these groups (Fig. 4). The GER of women of general category was 14.1%, which was more than twice those of SC and ST women, and approximately twice that of OBC women. It may be observed in Table 6 that GERs for women in all social groups have been lower than their men counterparts across all social, economic, religious, and rural–urban groups.

Table 6. Women Enrollment (GERs) by Social Groups - 2004-05 (Raju S., 2008)

Factor	Social Group	All	Men	Women
Caste Groups	SCs	7.80	9.20	6.30
	STs	7.60	8.80	6.40
	OBCs	10.10	12.50	7.60
	Others	16.70	19.20	14.10
Residence	Rural	7.50	9.30	5.70
	Urban	23.80	24.80	22.60
Poverty	Rich	32.80	33.20	32.30
	Poor	1.60	2.10	1.20
Religion	Hindu	13.10	15.20	10.90
	Muslim	7.70	9.10	6.20
	Sikhs	12.70	10.80	15.00
	Christians	19.90	19.70	20.00
	Others	17.70	20.30	14.80
Total	All groups	12.60	14.40	10.60

There are sharp differences in GERs based on rural–urban location. The GER of urban women (22.6%) was about four times that of rural women (5.7%). The rural–urban differences in enrollment share are smaller in the case of total population and men. Significantly, enrollment growth was found to be much higher—more than twice as faster, in rural women as compared to their urban counterparts—13% as compared to 5%, respectively (Raju, 2008). Available data also show that economic condition creates the greatest gender-based diversity in access to higher education among various social groups. While GER of youth from affluent families was 32.8% with no significant gender-based difference, it was only 1.6% for youth coming from poor homes. In the case women the figures were 32.3% and 1.2% for those coming from affluent and poor families respectively. This shows that higher education has been serving mainly the rich and affluent classes in India to the total neglect and marginalization of the poor masses.

One specific feature of higher education in Indian context is very clear here, that is, in addition to gender-based disparity it has had strong urban bias. This is specifically so in the case of women. So far, only urban women from affluent families have been able to take advantage of higher-education facilities. This is an important result and has serious policy implications. This is true in the case of men also because a large majority of men having benefited from higher education, both general and professional, comes from urban based affluent families irrespective of caste and religious affiliation. The overall indication is that “*poor Muslim women living in rural areas*” have had lowest access to higher education in India, and perhaps, opposite is true for “*rich non-Muslim upper caste men living in urban areas.*” These trends have serious policy implications. The higher-education policies in future must take into account the interests of poor and rural people, especially women. Special policy decisions have to be taken to ensure greater accessibility to higher education for women and people living in rural areas, who have so far been denied such opportunities.

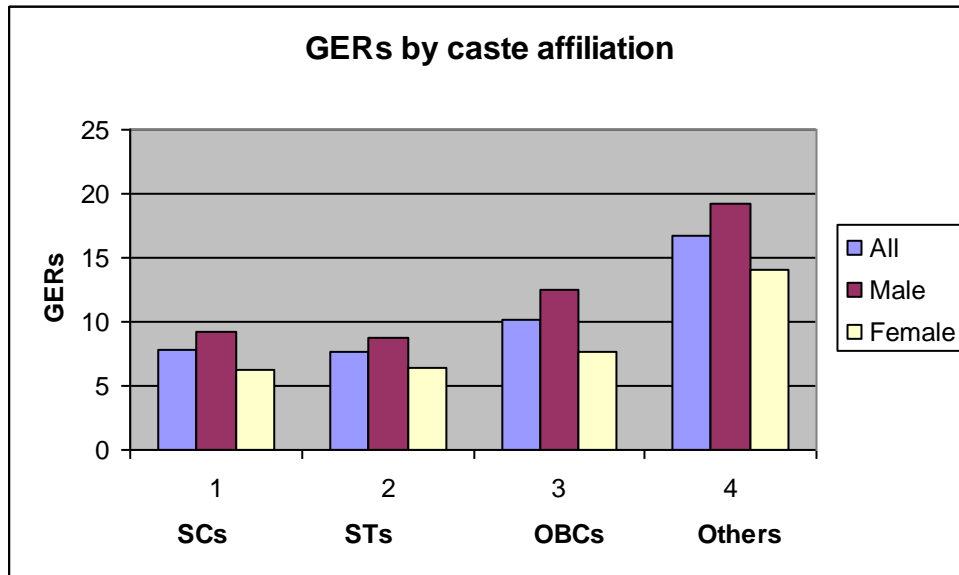


Figure 4. GERs by caste affiliation: Forward Castes (FCs), Scheduled Castes and Scheduled Tribes (SCs/STs), and Other Backward Castes (OBCs)

Among various religious groups Christians have the highest (19.9%) level of access to higher education as measured by GERs followed by other minorities (17.7%) not mentioned here by name, Sikhs (12.7%), Hindus (13.1%), and Muslims (7.7%) in that order. Among women also Muslims had the lowest GER (6.2%). The highest GER for women was among Christians (20%) followed by Sikhs (15%), other minorities (14.8%), and Hindus (10.9%) in that order. Interestingly, for Christians and Sikhs, GERs are larger in the case of women than in the case of men, the difference being noticeably large in the case of Sikhs (Fig. 5). The reasons for this, if investigated, may provide useful guidelines. The overall situation shows that among various religious groups in India, Muslims have the lowest access to higher education, both in the case of men and women. This is a matter of concern.

Discussion

About 51% of the population of the world consists of women of which 40% form a part of work force. They are more likely to work in low-productivity jobs such as agriculture and services (over 40% in 2006), and their share in the industrial employment is small (only about 17% in 2006) and is continuously dwindling. In higher-education sector, about one-third of countries for which data were available reported to have achieved gender parity (Baykal, 2007). But in technical fields, women comprised less than 10% of the total enrollment. In general, as we go up the higher-education ladder from undergraduate to postgraduate and research the share of women participation reduces. This is truer as we move from general education courses to professional education courses. It is estimated that about 25% of all researchers in the world are women. South Asia has the lowest (12%) number of women pursuing research career mainly due to India where only 10% of the research workers are women.

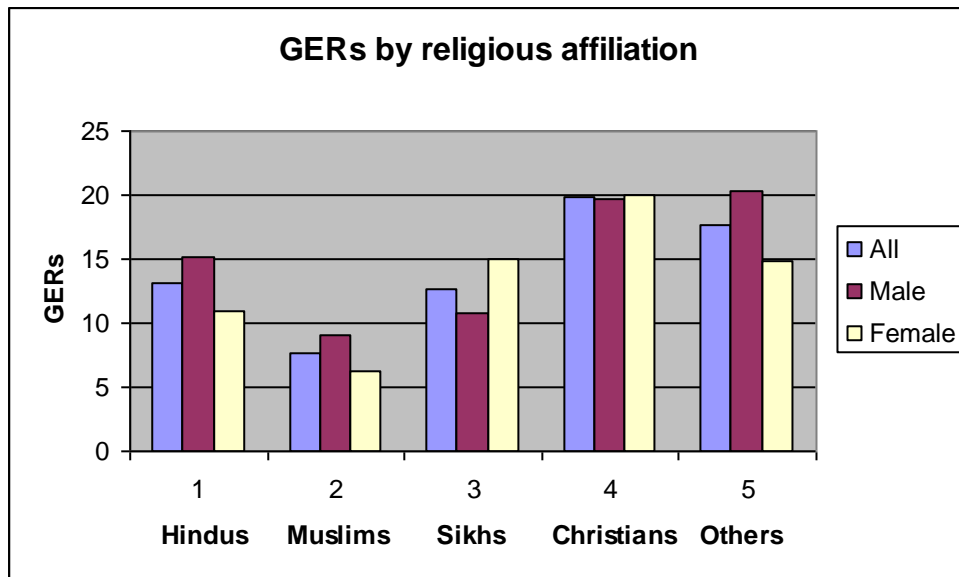


Figure 5. GERs by religion affiliation.

The analysis presented in the previous sections shows that participation of women in education at all levels is less than men, though, there has been a lot of improvement during the last six decades after independence. Also, their participation decreases with the rise in the level of education. At the elementary school level, enrollment of girls is about 48% of all enrolled children, while it is 42% and 38% at secondary and higher-education stages respectively. There are several social customs and taboos, such as child marriage and *purdah* system (remaining covered under the veil), that restrict women's participation in education. Early marriage and subsequent migration of girls to husbands' place restricts their entry into the portals of higher-education institutions. This is true for most of the conservative societies in the world. Traditionally, and also culturally, women in India have the responsibility of managing domestic affairs. As a daughter she has to look after younger siblings and help her mother in domestic chores. In rural areas, she has to fetch water, fuel, and fodder. As a wife, she must look after her husband and in-laws and share other family-related responsibilities with her husband. As a mother, she must discharge her motherhood-related responsibilities including rearing and looking after children, management of household, cooking and serving food for children and other members of the family.

Over the past a few decades, increased concern has been expressed regarding the role of women in the process of development, and consequently, gender-issues have drawn public attention all over the Globe. In the context of education, the contribution of women teachers, especially at school stage, has been considered crucial for bringing girl children to school. Governments in various countries have formulated specific policies for training, recruitment, retention, and professional advancement of women teachers at all levels of educational

ladder. Global educational statistics (2004) published by the UNESCO Institute of Statistics indicated that 59% of the world's primary and secondary school teachers were women (Kirk, 2008) with wide regional variation. While in North America and Western Europe women teachers constituted more than 60% of all teachers in primary schools, the corresponding figures for South and West Asia were less than 45%. In India, the share of women in primary school teaching job was reported to be 44%. The corresponding figures were 41% at upper primary and 38% at secondary stage of education. Overall situation is that as we go up the educational level from primary stage through secondary to higher education, the share of women in teaching profession decreases. In Indian society, women have to shoulder domestic and familial responsibilities as discussed above. Obviously, under these circumstances they cannot devote long hours—say 10–12 hours, at work. That is why teaching has been a preferred professional career for majority of educated women in India because time to be devoted to the job is not more than 6–8 hours a day.

In India, while women join teaching profession in large numbers, very few women are at top administrative and academic positions such as Vice Chancellor, Director of Public Instruction, Principal, or Dean, etc. The fact is that in all walks of life, women's participation in decision-making is dismally low, even though they constitute almost half the population. As a conservative estimate, women constitute about 30% of the teaching profession, but they are less than 20% of the total faculty in higher-education institutions. While women lecturers in affiliated colleges are more than 20% they constitute only about 12% of the university faculty. Although women have gained access to higher education all over the world, the scenario is the same, namely that their numbers are still far below men in the management of institutions of higher education. That women are lagging behind men in taking to educational opportunities possibly contributes to the fact that women are not visible in large numbers at higher echelons in educational administration

It appears that the strategy of reservation in respect of SC, ST, or OBC sections based on caste considerations has not yielded desired results for the simple reason that the elite layers among them cornered the entire benefit (Chauhan, 2008) at the cost of those who actually deserved. In the case of women also, access to higher education has been monopolized mainly by those coming of affluent and urban dwellers to the further marginalization of women from poor and rural society. This situation suggests that some kind of affirmative action, maybe in the form of reservation of seats in universities and colleges, is desirable to support the poor women coming from rural areas irrespective of their caste and community. A few years ago, Government of India wanted to reserve seats for women in the Parliament and introduced a Bill for this purpose. After prolonged debate on the issue the Bill could not be passed because it was opposed by the caste-based political parties, which supposedly represented lower castes and OBCs. The Bill is still pending. The main reason for the opposition of the Bill by some political parties is that only women from rich and forward castes have so far had access to higher education, and it is most likely that the entire benefit of reservation in the Parliament would be cornered by them.

In order to enhance the access of weaker sections of the society including to higher-education institutions, government of India has taken several special

initiatives, which include: providing constitutional safeguards, free-ships and scholarships, reservation of seats in government educational institutions at all levels, and special coaching classes to prepare them for competitive tests to ensure their entry into high-profile institutions and lucrative jobs. Of course, there is no reservation of seats in educational institutions and in the government jobs for women in general but such a facility is available for SCs, STs, and OBCs whose women members are also benefited. However, available data indicate that even after 60 years of affirmative action, the participation of women in higher education still does not match their share in the total population. While overall enrollment of women is nearly 40.5%, the share of rural women and those belonging to SC, ST, and OBC sections is very low as compared to their shares in the total population. Among all the religious and linguistic minorities, Muslims in general and Muslim women in particular, have the lowest gross enrollment ratio.

The data presented in Table 2 show that real problem lies at school stage. While overall enrollment of girls, including SC, ST, and OBC, at elementary school level is about 48%, which matches their share in total population, the enrollment of Muslim girls is only 9%. The problem is more serious at secondary school stage (classes 9–12) where enrollment of weaker sections is lower than their share in the population. One potential reason of low participation of girls from poor and disadvantaged groups lays in their low enrollment, high dropout rate, and high examination failures at secondary and senior secondary stage. Secondary school stage, which is the weakest link in Indian education system, is a feeder mechanism for higher education. There is a need to expand secondary stage so that more and more girls from weaker sections become eligible to enter higher education. The strategy of reservation as a tool of social justice has not been successful in bridging the gaps between the beneficiaries and nonbeneficiaries of higher education because it was followed in a reverse order. First of all, seats were reserved for weaker sections in the Indian Parliament and state legislative assemblies, then in higher-education system, and in the end, it was implemented at school stage. In fact, it should have been in the reverse order—first at school stage, then at higher-education level followed by in government jobs, and at last in the Parliament.

The first challenge now is how to expand higher-education opportunities so as to make them available to all women who deserve and desire. At the time of independence, access to education, especially higher, was restricted to a microscopically small section of the people mostly coming of the top 2–3% of the affluent classes. The children of disadvantaged groups and castes including women had limited access even to school education. After independence, the government took up the task of expansion of school education in pursuance of the constitutional obligation of providing free and compulsory elementary education to all children of the eligible age-group. The massive expansion of schooling facilities forced the government to expand secondary education, which in turn, built a mounting pressure on higher education due to lack of any other alternative and increased social demand. However, the representation of weaker sections of the society including women still remains low as measured against their share in the total population of the country even after enforcement of

reservation of seats in all higher-educational institutions including those high-profile ones, which were exclusively meant for promoting excellence.

In addition to sharp gender bias in access to higher education, the system more or less caters to the requirements of urban elite to the disadvantage of about 72% of the people living in rural areas. There is an urgent need to plan and introduce policy interventions to reverse the trend and reshape the system so as to make it poor friendly and rural oriented. Instead of establishing new elite institutions, like IITs and IIMs, here and there in metropolitan cities or instate capitals, the government should establish quality institutions in rural areas with increased subsidy to enable the rural poor to take advantage of the facilities. It is good that the government of India proposes to establish 373 new colleges in identified educationally backward districts where GER is reported to be as low as 4%. But, it is not clear as to how many of them would be exclusively meant for women. In fact, there is a need to open more higher-education institutions, colleges, and universities for women in rural areas.

References

- Baykal, N. (2007) **Women in S & T**. Presentation at 12th EMEA Academic Forum, *METU Informatics Institute*, Budapest, 2007.
- Chauhan, C. P. S. (1990) **Education for all: the Indian scene**. *International Journal of Lifelong Education*, 9(1):3–14.
- Chauhan, C. P. S. (2004) **Modern Indian Education: Policies, Progress and Problems**. New Delhi: Kanishka Publishers.
- Chauhan, C. P. S. (2008) **Education and Caste in India**. *Asia Pacific Journal of Education*, 28(3): 217–234.
- Desai, A.S. (1999) **Women in higher education and national development**. *University News, AIU*, Vol. 39, No. 9, March 1, 1999;
- Fletcher, B. (1968) **Universities in the Modern World**. London: Pergamon, p. 11.
- Govt. of India. (1949) Report of the University Education Commission (1948–49), Ministry of Education, New Delhi.
- Govt. of India. (2008) Eleventh Five-Year Plan Document (2007–12), Planning Commission of India, New Delhi.
- Govt. of India. (2008) *Selected Educational Statistics (2005–06)*, Ministry of Human Resource Development, New Delhi.
- Kaul, S. (2006) **Higher education in India: Seizing the opportunity**. ICRIER, Working Paper No.179, New Delhi.
- Kirk, J. (2008) **Women Teaching in South Asia**. New Delhi India: SAGE Publications,.
- Manorama Yearbook. (2008): Kottayam, Kerala, India: Malayala Manorama Press.
- Mehta, A. C. (2008) **Elementary education in India – Analytical tables 2006–07**,. NUEPA. 2008.

Narlikar, J. V. (2003) *The Scientific Edge of Vedic to Modern Times*. New Delhi, India :Penguin Books.

Nurullah, S. and Naik, J.P. (1943): *History of Education in India during the British Period*. Bombay : Macmillan & Co. Limited, 1943.

Population Reference Bureau (2008) 2008 **World Population Data Sheet**, <http://www.prb.org/Publications/Datasheet/2008/2008wpds.aspx>, retrieved on Feb 9, 2009.

Raju, S. (2008) **Gender Differentials in Access to Higher Education**. In: *Higher Education in India – Issues related to expansion, Inclusiveness, Quality and Finance*, University Grants Commission, New Delhi.

Registrar General India. (2001) *Census of India—2001*, Ministry of Home Affairs, Government of India, New Delhi.

Thorat, S. (2008) **Emerging Issues in Higher Education – Approach and Strategy in 11th Plan**. In: *Higher Education in India – Issues related to expansion, Inclusiveness, Quality and Finance*, University Grants Commission, New Delhi.

Selected Educational Statistics. (2005–06) Ministry of Human Resource Development, Govt. of India, New Delhi.

University Education Commission. (1948–1949): *Final Report*, Government of India, Ministry of Education, New Delhi.

University Grants Commission. (1960) **Annual Report (1959–60)**, New Delhi.

University Grants Commission UGC. (2008) **Annual Report (2006–07)**, New Delhi.

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