

# Trends in Growth and Financing of Higher Education in India

*The Indian higher education system is presently facing several challenges. The challenge of global competitiveness has been added to other demanding tasks such as access, equity, relevance, quality, privatisation and internationalisation in the face of a resource crunch. This article gives an overview of trends in the expansion of higher education and examines variations in participation across states, gender and social groups. An attempt has also been made to discuss the trends in the financing of higher education and the required resources to meet the target of allocating 6 per cent of the GDP to education.*

*It argues that without appropriate policy interventions in school education, it would be of little use to have interventions at the higher educational level, which discriminate in favour of girls, SCs and STs.*

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## I Introduction

A well developed and equitable system of higher education that promotes quality learning as a consequence of both teaching and research is central for success in the emerging knowledge economy. It is widely acknowledged that education contributes significantly to economic development. The developed world understood much earlier the fact that individuals with higher education have an edge over their counterparts. They are the ones who always believed that any amount of investment in higher education was justifiable. It is, therefore, imperative for developing countries too, to give due importance to both the quantitative and qualitative expansion of higher education.

From 1950 to the late 1980s, the planning strategy in India was geared towards ensuring distributive justice, balanced regional growth and positive discrimination in favour of disadvantaged sections. However, with the adoption of new economic policies, since the early 1990s, the development approach has taken an about-turn with the enhanced role of the private sector and the diminishing role of the state. Such an approach appears to be threatening the goals of social justice, equity and cultural diversity.

In the recent past, the growth trends in higher education seem to have found favour with those courses of study that have high economic payoffs. The participation of the private sector has resulted in the truncated growth of higher education. Besides, the implicit policy pursued by both central and state governments since the mid-1990s to promote school education at the cost of higher education has almost put the brakes on the expansion of public institutions. Such a policy has serious implications for making even existing institutions internationally competitive. Indian higher education system is, indeed, facing several challenges like access, equity, relevance and quality.

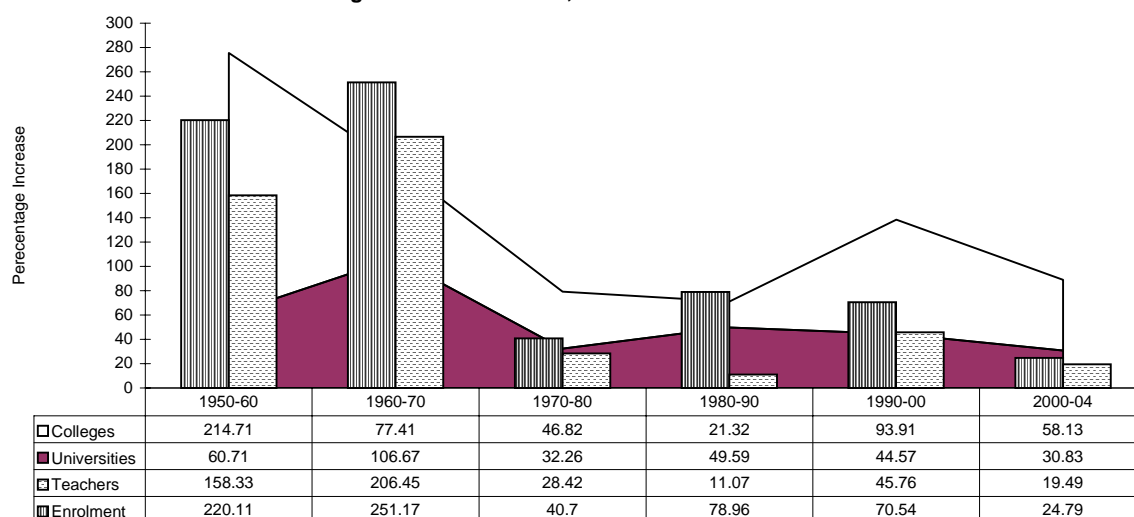
Even after significant expansion in the post-independence period, access to higher education in India continues to be poor and more so for the disadvantaged groups. Unfortunately, the

country has no comprehensive database to help assess the response of the higher education system to the impact of globalisation in the last one and a half decades. The present paper makes a modest attempt to discuss the trends in the growth and financing of higher education, besides highlighting some important issues regarding development of higher education in India. Given the limitations in available data, the paper gives an overview of trends in the expansion of higher education, and also attempts to examine variations in the participation in higher education across states, gender and social groups. An attempt has also been made to discuss trends in the financing of higher education and the resources required to meet the target of allocating 6 per cent of GDP to education. In the end the paper offers certain suggestions on critical development issues such as access, equity, quality, financing, privatisation, internationalisation and the need for creating a comprehensive database.

## II Growth Trends

In ancient times, Indian universities like Nalanda, Taxila and Vikramsila were renowned seats of higher learning, attracting students from far and wide including countries such as Korea, China, Burma, Ceylon, Tibet and Nepal [Khemani et al 2006]. During the colonial era, the rulers consciously did not use education for sustainable development. The first three universities were set up in the presidency towns of Bombay, Calcutta, and Madras in 1857. It took them another 30 years to set up the fourth university at Allahabad in 1887 and yet another 29 years to establish the fifth and sixth universities at Mysore and Benaras in 1916. These universities were established on the pattern of the University of London, thus, they were basically affiliating, examining and regulating bodies. The existing colleges engaged in teaching and learning were affiliated to these universities. For several decades, only colleges continued to offer the degree courses. It took a long time before post-graduate teaching and research departments began to be established at the university level around 1920.

**Figure 1: Decadal increase<sup>#</sup> (in per cent) in the Number of Universities, Colleges, Enrolment and Teachers at Higher Education Level, 1950-51 to 2004-05**



Note: # Refers to percentage increase in the previous decade, i.e., between 1950-51 and 1960-61 and so on.  
Source: Table 1.

Since independence, the number of colleges and universities has registered a significant hike. From 1950-51 to 2004-05, while the number of universities has increased from 28 to 348, the number of colleges has gone up from 578 to 17,625. During this period, enrolment in higher education has registered a steep hike, from around 0.174 million to 10.48 million. The number of teachers has also gone up from around 24,000 in 1950-51 to 4,72,000 in 2004-05. It is evident from data that during this period, universities and colleges in the country have grown at an average annual growth rate of 4.94 per cent and 6.66 per cent respectively.

As on March 31, 2006, the country had 20 central universities, 217 state universities, 102 deemed to be universities, 10 private universities, 13 institutions of national importance and five institutions established under the State Legislature Act [UGC 2006]. It is evident from the available data that within a span of four years beginning March 2002, while the number of central and state universities has grown by 11 per cent and 22 per cent respectively, the deemed universities have grown by 96 per cent. Besides, for the first time, 10 private universities have come into being during this period.

The decadal growth in the number of universities and institutions was much higher in the 1950s and 1960s, primarily because of the relatively small number of such institutions existing, since planned expansion of higher education began after independence. In the 1970s and 1980s, growth of institutions of higher learning was relatively slow, it picked up in the 1990s onwards (Figure 1). This has happened because of increased demand for higher education and participation of the private sector, particularly in technical and professional education.

This rapid expansion, however, hides the story of the stark inequality that prevails in access to higher education across states and union territories. While higher education institutions are nearly absent in Dadra and Nagar Haveli and Lakshadweep, 14 states and union territories have much higher levels of access to higher education compared to the national average (12.17) in terms of the number of institutions available per lakh population in the age group 18-23 in 2003-04. While Pondicherry has around 27,

West Bengal has the lowest level of access with only around five institutions per lakh population in 2003-04 [GoI 2006] (Figure 2).

Access to engineering and technical colleges is relatively high in Andhra Pradesh (2.59 institutions per lakh population in the age group 18-23) followed by Goa (2.34), Karnataka (1.86), Kerala (1.81), Chandigarh (1.59), Maharashtra (1.56), Sikkim (1.41) and Tamil Nadu (1.27) [GoI 2006]. These states and union territories also have high concentration of medical colleges per lakh population. It may be pertinent to mention that such an indicator is a crude one, for access to higher and professional education is largely determined by household demand and the learning ability of individual students. Nevertheless, looking from the supply side, this indicator provides a fair understanding of the spatial distribution of opportunities.

The Indian higher education system is the largest in the world in terms of the number of institutions. India has 17,973 institutions of higher learning as compared to around 2,500 in China. The number of institutions in India is more than four times the total number of institutions both in the US and Europe. The Chinese higher education system is the largest in the world in terms of enrolment, which caters to nearly 23 million students

**Table 1: All-India Growth of Institutions, Enrolment and Teaching Faculty at Higher Education Level, 1950-51 to 2004-05**

Year	Universities*	Colleges	Enrolment@ ('000)	Teachers@ ('000)
1950-51	28	578	174	24
1960-61	45	1,819	557	62
1970-71	93	3,227	1,956	190
1980-81	123	4,738	2,752	244
1990-91	184	5,748	4,925	271
2000-01	266	11,146	8,399	395
2004-05#	348	17,625	10,481	472

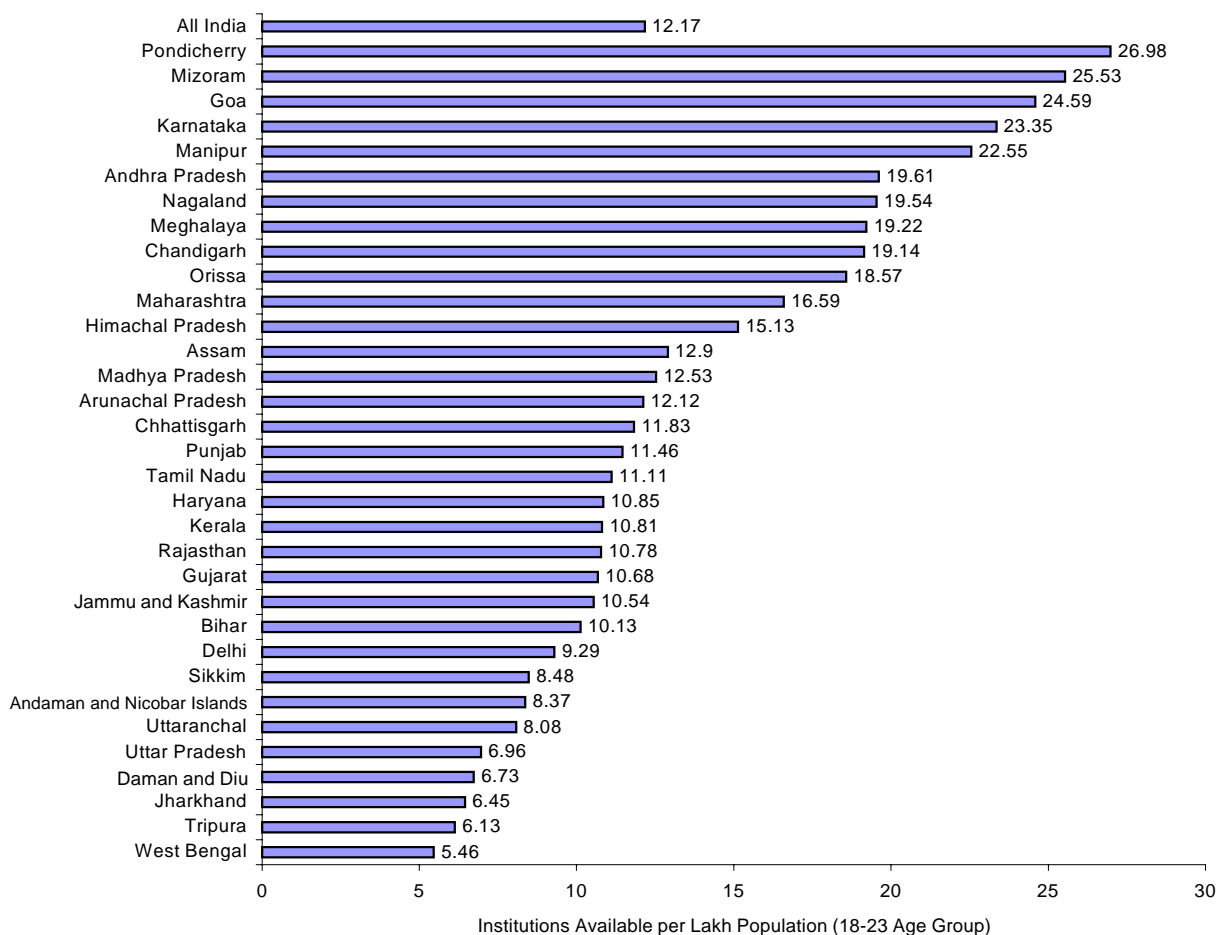
Notes: \* Universities include central, state, private and deemed to be universities as also institutions of national importance established both by the central and state governments.

# Estimated.

Sources: P Agarwal (2006).

@ Annual Reports of the UGC, various years.

**Figure 2: Number of Higher Education Institutions Available per Lakh Population (18-23 years) in States and Union Territories, 2003-04**



Source: Gol (2006), Selected Educational Statistics, 2003-04.

followed by the US and India. However, the average size of an Indian higher education institution in terms of enrolment is much smaller (500-600) compared to that of Europe and US (3,000-4,000) and China (8,000-9,000) [Agarwal 2006:5]. It is estimated that even after having the largest number of higher education institutions, India needs at least 3,000 more universities each having the capacity to enrol not less than 10,000 students to meet the increasing demand for higher learning [Bhargava 2006].

### Growth Trends in Enrolment

The total enrolment in the higher education system (excluding distance education) has increased from 0.17 million in 1950-51 to 10.48 million in 2004-05 (Table 1). During the period 1950-51 and 2004-05, while total enrolment at higher education level has increased at an average annual growth rate of 8.04 per cent, the growth rate in the total number of teachers has been 5.78 per cent. Nearly 87 per cent of students in the higher education system are enrolled in the affiliated colleges. In fact, more than 90 per cent of graduate and 65 per cent of post-graduate students are enrolled in affiliated colleges. It is also revealing that only 0.65 per cent of students in higher education institutions are engaged in research [Gol 2006].

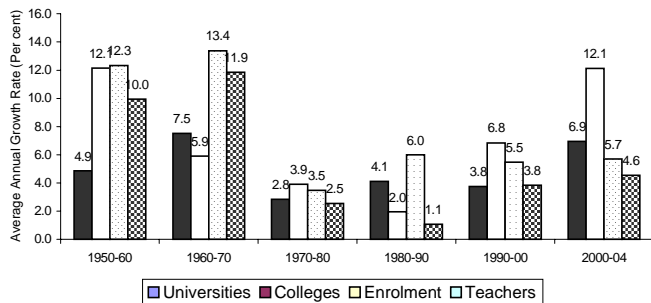
An analysis of growth trends in higher education since 1950-51 reveals that average annual growth rates of institutions,

enrolment and teachers were very high in the 1950s and 1960s partly because of the slender base in 1950-51 and also because of fast expansion of the system (Figure 3). The 1970s saw the lowest growth rate of institutions and enrolment. Thereafter, the average annual growth rate of universities and enrolment saw an increase again from the 1980s; it declined in the 1990s and registered an upward trend after 2000-01. The hike in the average annual growth rate of institutions after 2000-01 could be attributed to the participation of the private sector, particularly in professional education. The growth rate of teachers was an all-time low (1.1 per cent) in the 1980s, and thereafter, it has been increasing consistently.

There is a broad positive correlation between the Gross Enrolment Rates (GER) at the higher education level and the per capita GDP of a nation [Anandakrishnan 2006]. Apart from the differences in the GER among different countries, the enrolment in most of the developed countries is either growing very slowly or is stagnant as compared to the emerging economies like China, Brazil, and Malaysia, where it is growing rapidly. Considering the demand for higher education, the GER in India relative to many of the developed countries is quite low (around 12 per cent) compared to the average of the developing countries (13 per cent), the world (26.7 per cent) and the developed nations (57.7 per cent).

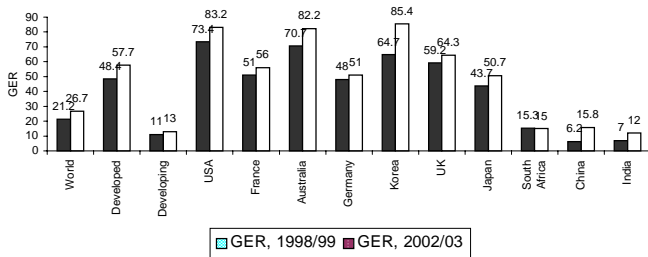
Although the overall demand for higher education in India is increasing, there are wide variations in GER across states and

**Figure 3: Average Annual Growth Rate of Higher Education Institutions, Teachers and Enrolment in India, 1950-51 to 2004-05**



Source: Estimated on the basis of data given in Table 1.

**Figure 4: Gross Enrolment Ratio in Higher Education in Select Countries**



Sources: (i) UNESCO (2006), *Global Monitoring Report 2006*, Paris.  
(ii) Agarwal (2006).

UTs (Figure 5). The GER at the higher education level ranges is as low as 4.33 per cent in Nagaland and as high as 28.68 per cent in Chandigarh. The GER is less than 5 per cent in Jammu and Kashmir and Nagaland, less than 7 per cent in Arunachal Pradesh, Tripura and Sikkim and less than 10 per cent in 14 states namely, Andhra Pradesh, Assam, Jharkhand, Gujarat, Karnataka, Kerala, Madhya Pradesh, Chhattisgarh, Mizoram, Orissa, Punjab, Uttar Pradesh and Rajasthan.

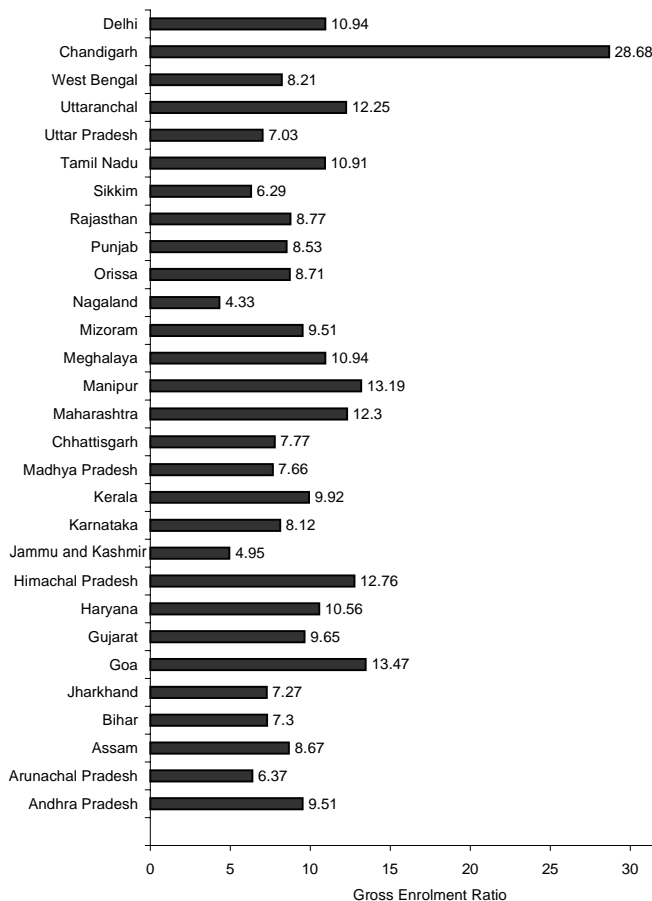
Keeping in view the increasing demand for skilled manpower in the emerging knowledge society, the CABE Committee in its report of 2005 has recommended that it would be necessary to provide for a substantial increase in the GER, perhaps in the range of about 20 per cent in the next 15 to 20 years, by doubling the existing capacity. This would also call for provision of specifically targeted interventions in states where the GER is very low.

It is important to underline the fact that from the Second to the Sixth Five-Year Plan period, higher education grew reasonably well with increasing attention coupled with rising allocations of public resources. But from the Seventh Five-Year Plan onwards, higher education did not receive the attention it deserved. This resulted in erratic growth of higher education, affecting the access, equity, relevance and excellence. Inequalities in access to higher education by gender, caste and religion increased and inter-institutional variations in quality of higher education became strikingly visible [Tilak 2005].

### Enrolment of Girls, SCs and STs

It is evident from Table 3 that four out of ten students in higher education were in the faculty of arts, enrolled for courses in the humanities and social sciences including languages in 2002-03.

**Figure 5: GER in Higher Education in Major States and Union Territories in India, 2002-03**



Source: Anandkrishnan (2004).

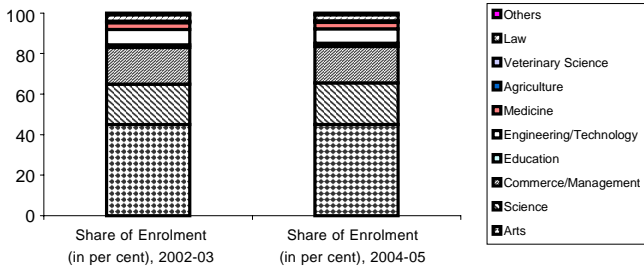
Nearly two out of 10 students were in science courses. The ratio for commerce has decreased from 21.9 per cent in 1995-96 to 17.99 per cent in 2002-03. On the whole, 84 per cent of total enrolment was in the three faculties namely, arts, science and humanities in 2002-03 while the remaining 16 per cent were in the professional courses. Enrolment in engineering and technology accounted for only 7.5 per cent of the total enrolment. In a country, that depends on agriculture and allied occupations, enrolment in agriculture was just 0.6 per cent and in veterinary science, it was a miniscule, 0.16 per cent (Table 3). It can also be seen in Table 3 that as against 2002-03, there is not much change in the distribution of enrolment across the faculty in 2004-05.

**Table 2: Gross Enrolment Ratio (GER) in Higher Education in Select Countries, 1998-99 to 2002-03**

Country	1998-99	1999-2000	2000-01	2001-02	2002-03
India	—	11	11	11	12
Australia	64	63	63	65	74
Canada	59	60	59	58	...
China	6	7	10	13	16
France	51	53	54	54	56
Germany	48	48	49	50	51
UK	59	58	59	64	64
USA	73	70	71	81	83

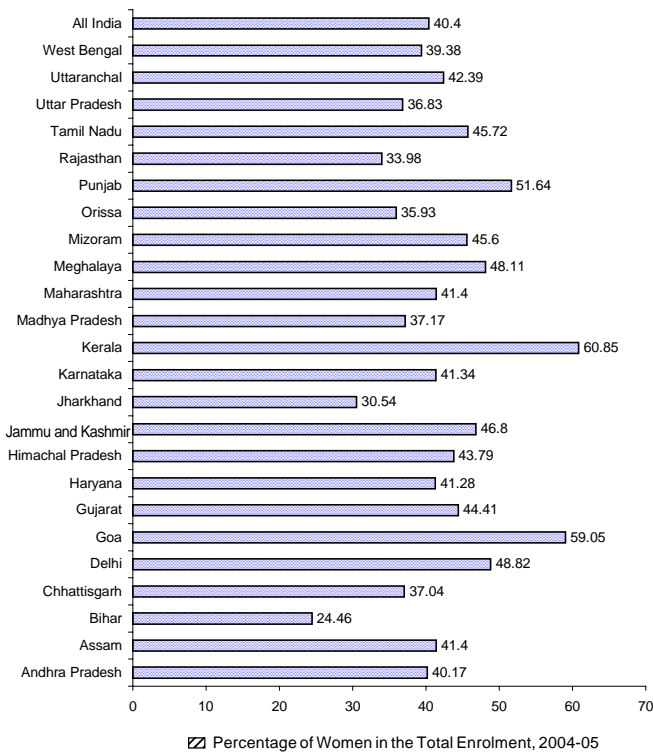
Source: Agarwal (2006).

**Figure 6: Faculty-wise Distribution of Enrolment in Higher Education in India, 2002-03**  
(in per cent)



Source: Table 3.

**Figure 7: Percentage Share of Women in Total Enrolment in Higher Education in Major States in India**



Source: UGC, Annual Report, 2004-05.

The participation of girls in higher education has been increasing steadily since 1950-51. The share of girls' enrolment in total enrolment rose from 10 per cent in 1950-51 to 40.1 per cent in 2002-03 (Table 4). The participation of girls in engineering courses has gone up to a remarkable degree.

Similar trends are seen in the participation of SCs and STs in different courses during 1990-91 to 2002-03. At present, scheduled castes and scheduled tribes show almost 15 per cent participation in higher education though the distribution is spread unevenly across subjects. Their share in the total enrolment in higher education has been increasing steadily over the years (Table 4). From 8.5 per cent in 1990-91, the share of SC enrolment in total enrolment has increased to 11.3 per cent in 2002-03. STs constituted only 2.1 per cent in the total enrolment in higher education in 1990-91, which went up to 3.6 per cent in 2002-03. Moreover, wide variations in the share of girls to total enrolment have been found across states and union territories

(Figure 7). The participation of girls in higher education is relatively low in Rajasthan, Orissa, West Bengal, Madhya Pradesh, Uttar Pradesh, Jharkhand, Chhattisgarh and Bihar, the traditionally backward states in the country.

Although the participation rates of girls, SCs and STs have been increasing over the years, social and gender disparities still remain subjects of major concern. It may, however, be mentioned that differential access and participation in higher education reflect in turn unequal access to school education in the country. Without appropriate policy interventions in the school education sector, particularly in secondary and senior secondary levels, it would be of little use to have interventions at the higher education level which positively discriminates against girls, SCs and STs.

## Share of Private Sector

While international trends in the participation of the private sector in higher education throws up a mixed picture, privatisation and commercialisation of higher education in India is a major concern. There is a high participation of private sector in higher education in terms of the share in the total number of institutions in countries like Chile, Japan, South Korea, Malaysia, Brazil, the Philippines, Georgia, Mexico, Thailand and the US. But the

**Table 3: Faculty-wise Enrolment in Higher Education in India, 2002-03 and 2004-05**

Sl No	Faculty	Enrolment, 2002-03	Percentage to Total 2002-03	Enrolment, 2004-05*	Percentage to Total 2004-05
1	Arts	41,58,606	45.07	4729048	45.12
2	Science	18,34,493	19.88	2142325	20.44
3	Commerce/management	16,60,238	17.99	1885539	17.99
4	Education	1,32,572	1.43	154071	1.47
5	Engineering/technology	6,92,087	7.50	754635	7.20
6	Medicine	3,00,669	3.25	330153	3.15
7	Agriculture	55,367	0.60	61838	0.59
8	Veterinary science	14,765	0.16	15721	0.15
9	Law	2,98,291	3.23	319671	3.05
10	Others	80,745	0.88	88041	0.84
	Total	92,27,833	100.00	10481042	100.00

Note: \* Estimated.

Source: University Grants Commission, Annual Reports, 2003-04 and 2004-05.

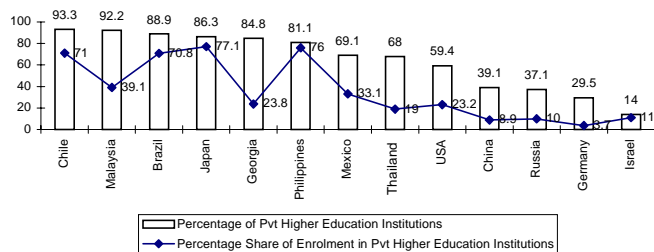
**Table 4: Level-wise Share of Girls, SCs and STs in Total Enrolment in Higher Education in India, 1990-91 to 2002-03**

Year	PG and PhD	Graduation	BE	BEd	MBBS	Total
<b>A Total Enrolment</b>						
1970-71	136825	1363060	88494	48893	78244	1715516
1980-81	316788	1886428	103195	68250	67822	2442483
1990-91	387684	3285776	241368	92217	84393	4091438
2000-01	692342	7244915	418193	121733	148699	8625882
2002-03	847947	6864812	708643	118593	208465	9516773
<b>B Share of Girls' Enrolment (per cent)</b>						
1970-71	25.8	24.4	1.0	37.3	22.4	23.6
1980-81	31.7	27.8	3.6	40.9	24.3	27.5
1990-91	32.2	34.7	10.9	44.2	34.3	33.2
2000-01	36.7	37.4	22.3	42.8	40.6	36.8
2002-03	42.3	42.0	22.6	52.0	41.6	40.1
<b>C Share of Enrolment of SCs (per cent)</b>						
1990-91	8.7	8.7	5.7	8.4	8.6	8.5
2000-01	10.1	9.6	8.7	12.3	9.6	9.7
2002-03	11.4	12.0	6.7	13.9	13.2	11.3
<b>D Share of Enrolment of STs (per cent)</b>						
1990-91	1.8	2.2	1.1	2.3	0.7	2.1
2000-01	2.6	3.0	3.3	5.3	3.6	3.0
2002-03	2.7	3.7	3.2	5.0	4.9	3.6

Source: Gol 2006.

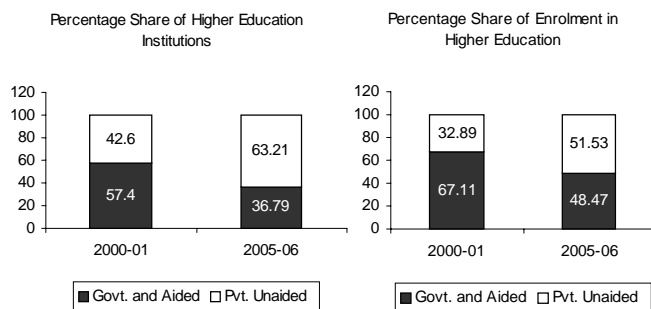


**Figure 8: Share of Private Sector in Higher Education in Select Countries**



Source: Programme on Research on Private Higher Education, State University of New York at Albany 2005, available at [www.albany.edu/dept/eaps/prophed/data/PHOPHEDatasummary.doc](http://www.albany.edu/dept/eaps/prophed/data/PHOPHEDatasummary.doc)

**Figure 9: Share of Private Sector in Higher Education in India**



Source: Anandkrishnan (2006).

share of the private sector enrolment in the total enrolment in higher education is relatively low in Malaysia (39.1 per cent), Georgia (23.8 per cent), Mexico (33.1 per cent), Thailand (19.0 per cent) and the US (23.2 per cent). In China, although private institutions constitute 39.1 per cent of the total number of institutions, their share in the total enrolment is just 8.9 per cent (see Figure 8). It does signify that higher education in these countries is predominantly a public service.

In India, however, there is an increasing trend both in the number of private higher education institutions and enrolment in recent years. In 2000-01, private unaided institutions constituted 42.6 per cent of the total number of higher education institutions, which increased to 63.21 per cent in 2005-06 [UGC 2006]. Similarly, the share of enrolment in private unaided higher education institutions has gone up from 32.89 per cent in 2000-01 to 51.53 per cent in 2005-06 (Figure 9).

As mentioned earlier, given the high demand, the expansion of the higher education system appears to be slow. As financing is one of the critical factors determining the pace of expansion of education of any given level, an analysis of the expenditure patterns on education in general and higher education in particular would provide a better insight.

### III Trends in Financing

Higher education has generally been recognised as a “public good”, at least as a “quasi-public good” [CABE 2005: 7]. The public good nature of higher education warrants that the state should play a more active role in the financing of higher education.

Indeed, the state has been funding higher education since independence. Early on, it was realised that a strong, self-reliant and modern industrial economy could be built only on the

foundations of higher education. However, owing to several factors including the new economic policies adopted since the 1990s, state funding to education in general, and higher education in particular, has been declining in real terms. Further, private institutions, particularly in areas of management, engineering, medicine, computers, etc, have been coming up in large numbers raising issues of access, equity, quality and regulation. The entry of foreign institutions is making it all the more complex. Interestingly, higher education is facing these challenges at a juncture when it is expected to play a greater role in improving the nation’s competitiveness in the emerging global knowledge economy.

### Public Expenditure on Higher and Technical Education

Public expenditure on higher education has increased from a modest level of Rs 171.5 million in 1950-51 to Rs 95,620 million in 2004-05 (budget estimates) by a whopping 550 times. It had a good start during the 1950s with a real growth rate of 7.5 per cent per annum, had a golden period during the 1960s with a real growth rate of 11 per cent per annum but suffered a severe

**Table 5: Budget Expenditure on Higher and Technical Education**

Year	Budget Expenditure (Revenue) (Rs million)		Per Student Expenditure (Rs)		Index (Per Student)
	Current Prices	Constant Prices\$	Current Prices	Constant Prices	
<i>General Higher Education</i>					
1990-91	23120		5652	7676	100
1991-92	24440		5636	6727	88
1992-93	27000		6111	6710	87
1993-94	31040		6738	6738	88
1994-95	35250		7329	6687	87
1995-96	38710		6944	5810	76
1996-97	42880		7207	5619	73
1997-98	48590		7793	5693	74
1998-99	61170		9536	6450	84
1999-2000	82480		10683	6956	91
2000-01	91950		10543	6636	86
2001-02	80880		9669	5886	77
2002-03	88600		51790	9310	71
2003-04 RE	93810		53250		
2004-05 BE	95620		51520		
Growth rate# (1990-91 to 2004-05)	12.3	5.4	5.6	-1.5	
<i>Technical Education</i>					
1990-91	7530	10230			
1991-92	8090	9660			
1992-93	9070	9960			
1993-94	10180	10180			
1994-95	11890	10850			
1995-96	12900	10800			
1996-97	14500	11310			
1997-98	16230	11850			
1998-99	20730	14020			
1999-2000	24590	16010			
2000-01	25280	15910			
2001-02	25600	15590			
2002-03	28210	16490			
2003-04 RE	31390	17820			
2004-05 BE	33870	18250			
Growth rate (1990-91 to 2004-05)	12.1	5.2			

Notes: \$ National income deflators were used to convert current expenditure into constant expenditure and refer to the year 1993-94.

# Growth rates were calculated by fitting semi-log equation.

Sources: (i) Analysis of Budgeted Expenditure on Education, MHRD, various years.  
(ii) GoI, Selected Educational Statistics, various years.

setback during the 1970s with the annual real growth rate declining to 3.4 per cent and recovered somewhat during the 1980s with the annual growth rate improving to 7.3 per cent.

With budgets being tightened and other fiscal problems that both central and state governments are facing, the financing trends have not been favourable to higher education since the 1990s. The public expenditure on higher education increased from Rs 23,120 million in 1990-91 to 95,620 million in 2004-05 (BE) in current prices with an annual growth rate of 12.3 per cent.

Rising inflation, however, makes this increase an illusion. To get a realistic picture, one may have to look at trends in public expenditure adjusted for inflation. After adjusting public expenditure both on higher and technical education for inflation with national income deflators, the annual growth rate turns out to be just 5.4 per cent and 5.2 per cent respectively (Table 5).

Though higher and technical education are on the concurrent list, by and large, financing remains the responsibility of states. The share of the central government has remained around 20 per cent since 1990-91 with a few exceptions in the present decade, wherein it increased to a little over 25 per cent. Much of the central government expenditure on higher education is routed through the University Grants Commission (UGC). It is interesting to note that the disbursement of funds by the UGC is uneven and the bulk of it goes to the central universities and their affiliated colleges and to a few deemed to be universities. A vast majority of universities and other degree awarding institutions are not even eligible to receive any kind of grants from the UGC. In all, only 158 out of 348 universities are eligible to receive grants from the UGC. In addition, the UGC provides general development assistance to a little over 5,000 colleges.

Since 1990-91, the central and state governments are financing the public technical education almost in equal proportion. Much of the central government expenditure (a little over 40 per cent) is understandably goes to Indian Institutes of Technology (IITs). The Indian Institutes of Management (IIMs), Indian Institute of Science (IISc), National Institutes of Technology (NITs), and All India Council for Technical Education (AICTE) each gets around 10 per cent of the total central government grants.

### Declining Unit Costs

At a given level of education, the growing enrolment can also squeeze per unit availability of resources, though per student public expenditure on higher education increased in nominal terms but declined in real prices. For example, per student expenditure increased in current prices from Rs 5,652 in 1990-91 to Rs 9,310 in 2003-04 (RE); in real prices, it declined from Rs 7,676 to Rs 5,442 during the same period registering a negative growth of 1.5 per cent per annum. In fact, the public expenditure on higher education per student in the 2000s is nearly 30 per cent less than what it was in 1990-91 (Table 5).

### Intra-Functional Allocation

The austerity measures have also distorted the intra-functional allocation of resources in higher education. Since it is not possible to reduce salaries of the existing staff, much of the brunt of economy measures fell on fresh recruitments, books, journals, scholarships, etc. For example, the proportion of scholarships in the public expenditure of states on higher education declined from 0.49 per cent in 1990-91 to 0.24 per cent in 2004-05 (BE).

Similarly, in case of technical education, it declined from 0.45 per cent to 0.20 per cent during the same period (Table 6). The detailed estimates of public expenditure on fresh recruitments, libraries, laboratories, books, journals, consumables are, however, not available.

It is common knowledge that several universities have stopped recruiting faculty and subscribing journals and essential consumables, etc. The CABE Committee (2005a), taking note of the "severe inadequacy of physical facilities" recommended an "operation blackboard like programme" to ensure minimum facilities in public institutions of higher learning (pp 29-30).

### Proportion of GNP on Education<sup>1</sup>

It is a common practice that the priority accorded to education is gauged with the help of indicators like public allocation as a proportion of GNP and budget. It may be noted that India has committed to allocate 6 per cent of GNP to education long ago. The Education Commission (1964-66) undertook a comprehensive exercise to estimate resource requirements and recommended increasing the allocation of resources to education to at least 6 per cent of GNP by 1986. All subsequent policy pronouncements reiterated this recommendation. Unfortunately, the promise still remains a distant dream.

It may be mentioned that there are some countries including the developed ones, which are not spending 6 per cent of their GNP on education. But several of these countries have built a strong higher education system over a long period of time. As a result, a huge capacity has been created and allocations are made only to maintain it. In addition, given their huge size of GNP, even a comparatively lower proportion of GNP would yield higher amount of resources in absolute terms.

The proportion of GNP allocated to education (revenue and capital accounts together) has grown from a very low level of 0.67 per cent in 1951-52 to reach the all-time high of 4.4 per cent

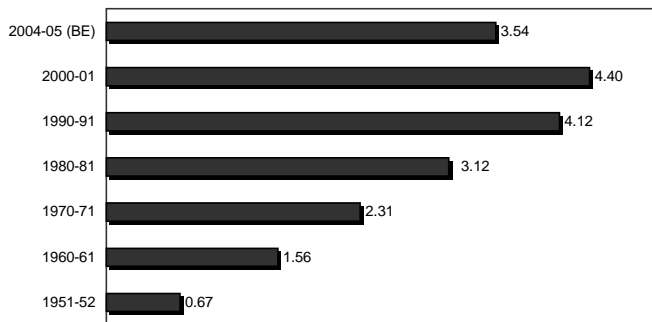
**Table 6: Expenditure on Scholarships in Higher and Technical Education**

Year	Higher Education		Technical Education	
	Rs in Million (in Current Prices)	Percentage to Total Expenditure on Higher Education of States	Rs in Million (in Current Prices)	Percentage to Total Expenditure on Technical Education of States
1990-91	113	0.62	20	0.45
1991-92	130	0.67	24	0.48
1992-93	126	0.57	21	0.37
1993-94	134	0.47	57	0.94
1994-95	140	0.44	19	0.26
1995-96	147	0.41	18	0.23
1996-97	171	0.44	63	0.68
1997-98	134	0.30	19	0.19
1998-99	203	0.34	21	0.17
1999-00	190	0.27	17	0.12
2000-01	153	0.24	36	0.25
2001-02	116	0.16	36	0.28
2002-03	115	0.16	77	0.53
2003-04 RE	191	0.25	71	0.43
2004-05 BE	183	0.24	36	0.20

*Note:* The expenditure on scholarships shown in the table refers the expenditure incurred by department of education only. It must be noted that much of expenditure on scholarships is incurred by department of social welfare, etc. However, consolidated data on the expenditure on scholarships incurred by other departments are not available.

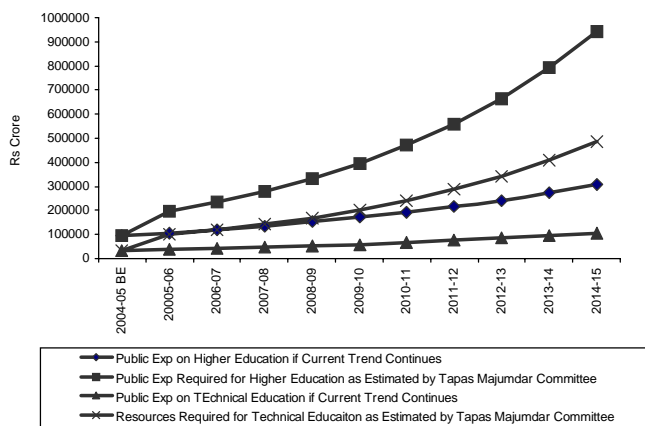
*Source:* Gol (various years) Analysis of Budgeted Expenditure on Education, MHRD.

**Figure 10: Expenditure on Education (as Percentage of GDP)**



Source: GoI (various years). *Analysis of Budgeted Expenditure on Education*.

**Figure 11: Resource Gap in Higher and Technical Education**



Sources: (i) Resource availability on the basis of current trends is estimated by fitting semi-log equation the data set for the years 1990-91 to 2004-05 BE. (ii) For Tapas Majumdar Committee projections MHRD (2005).

in 2000-01. However, since then, it declined sharply to 3.54 per cent in 2004-05 (BE) (Figure 10). The priority accorded to education thus has consistently declined since 1990 with the exception of a few years around 2000-01.

### Proportion of GNP to Higher and Technical Education

In the context of the intra-sectoral allocation of resources, it was observed that the constitutional commitment of providing universal elementary education is non-negotiable. The secondary education as a preparatory as well as terminal education cannot be ignored. In the context of globalisation and increased competition, the higher education cannot be overlooked either. Having regard to these realities, a consensus of a sort is gradually emerging to allocate at least 3 per cent of GNP to elementary education, 1.5 per cent to secondary education and the remaining 1.5 per cent to higher and technical education [CABE 2005:46; 2005a:12]. With this background, now let us examine the priority accorded to education and higher education.

Since the 1990s, the priority given to higher and technical education has declined even as their importance in facing the new global challenges is growing. The proportion of GNP allocated to higher education has sharply declined from 0.46 per cent in 1990-91 to 0.34 per cent in 2004-05 (BE). The allocation to technical education declined from 0.15 per cent to 0.12 per cent

as a proportion of GNP during the same period (Table 7). The allocations to higher and technical education put together hardly constitute 0.6 per cent of GNP in 1990-91 and further declined to 0.46 per cent by 2004-05 (BE).

### Resource Requirements

These trends clearly show that the public funding to higher education is not given its due importance as in the earlier decades. As a result, the growth of public higher education has been stunted and the sector is unable to meet the growing demand. In order to meet the needs of the emerging knowledge economy, it is desirable to raise the GER at the higher education level to 20 per cent. This is a tall order and requires massive amount of resources. The Tapas Majumdar Committee (2005) has projected the resources for education for the period 2005-06 to 2014-15 under three scenarios; scenario 'c', to the author, appears to be the most desirable scenario [NIEPA 2005]. Scenario 'c' assumes a gradual increase in the allocation resources so that 6 per cent of GDP shall be allocated to education by 2009-10, and thereafter, would continue to increase at the same pace. As a result, the proportion of GDP allocated to education will go beyond 6 per cent. According to this scenario, allocation of resources (in 2004-05 prices) to higher education has to be raised to Rs 1,96,280 million in 2005-06, and further, to Rs 9,41,790 million in 2014-15 from the current level of Rs 95,620 million in 2004-05 (BE). In case of technical education, the resources (in 2004-05 prices) may have to be raised to Rs 1,01,120 million in 2005-06 and further to Rs 4,85,160 million in 2014-15 from the current level of Rs 33,820 million in 2004-05 (BE).

It would be interesting to compare the projected resource requirements under scenario 'c' of the Tapas Majumdar Committee (2005) with the one projected on the basis of the current trends. This would show the gap that may likely to emerge if the current trends continue in resource allocation to higher and technical education (Figure 11).

The projection has been made with the assumption that the growth rate for the period 1990-91 to 2004-05 (BE) in constant prices will continue into the future. The growth rate was calculated by fitting a semi-log equation and presented in 2004-05 prices.

As shown in Figure 11, a large gap is likely to emerge between the resource requirements of the system and the availability of resources if the present trends in financing of higher and technical

**Table 7: Public Expenditure on Higher and Technical Education as Percentage of GNP and Budget**

Year	As Percentage of GNP			As Percentage of Budget		
	Higher	Technical	Higher and Technical	Higher	Technical	Higher and Technical
1990-91	0.46	0.15	0.61	1.58	0.51	2.09
1991-92	0.42	0.14	0.56	1.43	0.48	1.91
1992-93	0.41	0.14	0.55	1.42	0.48	1.90
1993-94	0.40	0.13	0.54	1.42	0.47	1.89
1994-95	0.39	0.13	0.52	1.40	0.47	1.87
1995-96	0.37	0.12	0.49	1.35	0.45	1.80
1996-97	0.35	0.12	0.47	1.30	0.44	1.74
1997-98	0.35	0.12	0.47	1.31	0.44	1.75
1998-99	0.39	0.13	0.52	1.39	0.47	1.86
1999-00	0.47	0.14	0.61	1.61	0.48	2.09
2000-01	0.49	0.13	0.62	1.79	0.49	2.29
2001-02	0.39	0.12	0.52	1.31	0.41	1.72
2002-03	0.40	0.13	0.52	1.31	0.42	1.72
2003-04 RE	0.37	0.13	0.50	1.22	0.41	1.63
2004-05 BE	0.34	0.12	0.46	1.18	0.42	1.60

Source: Government of India, *Analysis of Budgeted Expenditure*, various years.



education continue into the future. This may likely to jeopardise the efforts to make India competitive in the global market.

## IV Major Concerns and Emerging Challenges

*Access:* Though India can boast of having the largest system of higher education in terms of the number of institutions, in relative terms, it still lags behind developed and even several developing countries in terms of access. The access to higher and technical education is still abysmally low, around 12 per cent in 2003-04. Obviously, this means almost doubling the access to reach a minimum threshold of 20 per cent. The primary onus of increasing access of this level lies with the state, which needs to mobilise additional resources to open new institutions, besides increasing the intake capacity of the existing institutions. Priority must be given to the backward areas in opening new institutions. Besides, the private service providers with a proven track record need to be identified, and alongside the public institutions, they too may be promoted through appropriate incentives.

*Equity:* It is important that the increased access to higher education should be inclusive. As discussed earlier, the representation of SCs, STs and women in higher education is less than their proportion in the population (Table 5). Education, particularly higher education, is being looked at providing avenues for social mobility for the marginalised sections. Indeed, the recent spurt in the demand for reservations for Other Backward Classes (OBCs) may be a reflection of the important role of higher education in social mobility. We can no longer afford to ignore such demands. Neither these demands can be satisfied with tokenism.

Plans are afoot to nearly double the intake capacity of the central institutions to accommodate the demand emerging out of reservations. At the same time, we should also guard against the dilution of standards. Extending access through sub-standard institutions will be of no good as it will segment the higher education and help in reproducing the socio-economic inequalities. High academic standards should be maintained with due consideration to special needs of marginalised groups. Students from marginalised groups should be helped through special arrangements for the required academic rigour. It has also been noticed that the students from the marginalised sections tend to concentrate in certain easy disciplines. They should be encouraged to take more progressive and hard disciplines so that social equity in higher education assumes utmost importance.

*Cost recovery and privatisation:* The higher and technical education in India is being increasingly privatised in multiple ways. On the one hand, the public institutions had to resort to cost recovery methods to stem out from financial crisis. On the other, private institutions are cropping in large numbers changing the very face of higher and technical education. Some of these issues in turn are discussed below.

*Fees:* It is asserted that fee levels remain very low compared to the past. Though it is necessary that fees should not be at an absurdly low level, it may not be fair to expect the fee to provide substantial resources to higher education. In fact, it is noted by several researchers that the cost recovery level through fees is not high anywhere in the world and in advanced countries it hardly touches 15 per cent. In India also the total fee income constitutes about 15 per cent of expenditure on higher education. In many universities, the fee income exceeds the recommendations made by the Punnayya Committee [CABE Committee 2005]. But we

must be aware that any increase in fees beyond affordable levels may lead to regressive effects on the level and composition of enrolments.

*Self-financing courses and seats:* Many a time, the distance courses are being introduced solely with the aim of generating revenues for the university. The revenues generated through distance modes are seldom used for the benefit of distant learners but utilised to finance mainstream activities of the university. It hits hard the interest of especially those who are relatively underprivileged.

Yet another method resorted to by several institutions is to create both self-financing seats in the normal courses as well as self-financing courses. Though no data are available on the nature and extent of self-financing courses and seats, it is generally believed that this practice is picking up and even the mainstream universities and colleges are adopting it to generate additional revenues. If the trend continues, a time may come when the higher education system would gradually be restructured to offer only self-financing courses to be self-reliant. This would not only lead to truncated growth of higher education but also weaken our society.

*Privatisation:* A matter of concern is that unlike the past, the private institutions of present genre are motivated by profit. The large growth of these institutions, it is argued, represents commercialisation of higher education [Tilak 2006: 114]. These institutions make huge profits. This raises questions of affordability and equity. They do not even reserve seats for the marginalised groups with severe implications of equity. These institutions do not hesitate to admit students with poor academic credentials. They also attempt to be financially efficient by reducing costs on vital components which adversely affects the quality. The contribution of private sector to research and advanced level education is also found to be limited [Tilak 2006]. It is rightly observed, "higher education is far too expensive to be made privately profitable unless it is reserved for the rich or is of very poor quality" [Patel 2003:151].

The regulation of private institutions is fraught with several legal issues. The courts are approached on almost all issues ranging from the criteria to admit students, fees, reservation policy, etc. The judicial response to privatisation is increasingly seen to be characterised by "ambivalence" [Kumar 2003]. Though in many cases the court favours the public nature of higher education and attempts to curtail the adverse impact of rampant privatisation, the trend is not good for the balanced growth of higher education.

Nevertheless, the participation of the private sector and emergence of private institutions cannot simply be wished away. In the context of the limited capacity of the public institutions and the existence of differentiated demand, we need to ensure how the two can co-exist. It is, therefore, imperative to strengthen the regulatory mechanism so that the divisive nature of private education can be contained.

*Internationalisation of higher education:* Another challenge faced by the higher education is its internationalisation, not in the traditional sense of sharing experiences, but by way of international trade in educational services. Indeed, several foreign institutions have already been operating in India. Many of these institutions have been resisting any form of regulation. Some institutions of Indian origin and also a few public institutions are showing keen interest in going abroad to establish off-shore campuses. In fact, some of them have already set up their off-shore campuses. This situation makes things very complex and

therefore we need to evolve a policy on this subject and sooner we do it the better it is.

*Need to raise public funding:* Now, it is very much clear from the above discussions that the public allocation to higher and technical education is not only inadequate but also declining since the last decade and a half. As the public funding of higher education could not keep pace with the growing enrolment, the real unit costs have fallen dramatically since the 1990s. The financial stringency has led to cuts in expenditure on several items not on the basis of importance and relevance to higher education but the ease with which one can cut expenditures. As a result, the austerity measures have taken a heavy toll on the quality of education. Thus, it is imperative that these trends in funding be reversed and public funding for higher education raised.

*Need to evolve EMIS:* The data base on higher and technical education system in India is very weak and limited to a few areas like enrolment by disciplines and gender, aggregate public expenditure, faculty strength, etc. Data is not available on several vital aspects of higher education. The private sector is either not at all covered or covered in a restricted way. Realising the importance of adequate data, the CAFE Committee (2005a, p 30) recommended undertaking a *NCERT kind of survey (i.e., All India Educational Survey)* of higher education. Indeed, there is a good case to evolve the Educational Management and Information Systems in Higher Education (EMISHE).

To conclude, there is an increasing demand for higher education in the growing Indian economy. The growing economy has, indeed, raised the aspirations of people of diverse background and it is necessary that system should respond by expanding access to accommodate these aspirations. The growing economy also needs highly educated manpower in large numbers. Unfortunately, the expansion of public higher education has slowed down at a time when it should have been expanded fast to increase the access. It is necessary that these trends should be reversed and the state should come forward to open new institutions, besides strengthening existing institutions. Quantitative expansion and qualitative improvement of higher education should command highest priority in the policy discourse. It is important to note that the conventional system alone cannot do this job. Necessary convergence between conventional and distance modes has to be ensured besides bringing about qualitative improvement in all programmes of higher education.

Given the vast expansion needed to achieve the threshold level of GER (20 per cent), it is important to recognise the limitations of the private sector. Disciplines like social sciences, physical sciences, chemical sciences, biological sciences, mathematical sciences, astronomical sciences are unlikely to attract the private sector even though they are very vital in improving a nation's competitiveness through fundamental research and also in inculcating democratic, moral and spiritual values. The state, therefore, should take the lead role in establishing institutions in these areas. While the private sector with philanthropic motives need to be encouraged, others with the sole aim of making quick money should be banned.

Foreign institutions are entering the country in a big way taking advantage of differential and excessive demand for higher education. We cannot afford to turn a blind eye to this phenomenon. Majority of them are going to be mediocre and try to cash in the craze for foreign degrees. While it may not be desirable to close the door for all foreign institutions, we need to evolve such a policy that it attracts only the genuine institutions. Foreign

institutions accredited in their homeland should be allowed to offer only those programmes which they offer in their country, and they should be subjected to the same sanctions as applicable to domestic providers. Even the fee charged for various programmes should be determined within the regulatory framework prescribed for all institutions of higher learning. **[EW]**

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## Note

- 1 It is generally the GNP and not GDP that is used to assess the nation's commitment to education as it better represents the capacity to deploy resources. It is the GNP that was used by the Kothari Commission (1964-66), and also is commonly used in the literature. However, the Tapas Majumdar Committee has used GDP as it was mentioned in its Terms of Reference. The Tapas Majumdar Committee also notes that it makes little difference whether one uses GNP or GDP.

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