India

Country Summary of Higher Education

1. Background

1.1: *Current Status*

India possesses a highly developed higher education system which offers facility of education and training in almost all aspects of human creative and intellectual endeavors: arts and humanities; natural, mathematical and social sciences, engineering; medicine; dentistry; agriculture; education; law; commerce and management; music and performing arts; national and foreign languages; culture; communications etc. The institutional framework consists of Universities established by an Act of Parliament (Central Universities) or of a State Legislature (State Universities), Deemed Universities (institutions which have been accorded the status of a university with authority to award their own degrees through central government notification), Institutes of National Importance (prestigious institutions awarded the said status by Parliament), Institutions established State Legislative Act and colleges affiliated to the University (both government-aided and –unaided) As on 31.3.2006, there were 367 University level institutions including 20 Central Universities, 217 State Universities, 104 Deemed Universities and 5 institutions established under State Legislation, 13 Institutes of National Importance established under Central legislation and 6 Private Universities.. There were 18,064 degree and post-graduate colleges (including around 1902 women's colleges), of which 14,400 came under the purview of the University Grant Commission, the rest were professional colleges under the purview of the Central Government or other statutory bodies like the AICTE, ICAR, MCI etc. Of the Colleges under UGC purview 6109 have been recognized by the University Grants Commission (UGC) under Section 2(f) and 5525 under Section 12(B) of the UGC Act, which recognition permits them to receive grants from the UGC. In 2006-07, an estimated 13.93 million students were enrolled in the institutions of Higher Education as against 10.48 million in the previous year and the faculty strength was 0.488 million as compared to 0.472 m in the previous year. The enrolment of women students at the beginning of the academic year 2006-07 was 4.466 million, constituting 40.40 per cent of the total enrolment. Of the total women enrolment, only 12.35 per cent women have been enrolled in professional courses and the rest in non-professional courses. The women enrolment is the highest in Kerala (66.00 per cent) and lowest in Bihar (24.52 per cent) in terms of percentage enrolment to total enrolment. (Annual Report, Ministry of Human Resource Development, 2006-2007).

1.2: *Growth of Higher Education*

In its size and diversity, India has the third largest higher education system in the world, next only to China and the United States. Before Independence, access to higher education was very limited and elitist, with enrolment of less than a million students in 500 colleges and 20 universities. Since independence, the growth has been very impressive; the number of universities (as on31st March 2006) has increased by 18-times, the number of colleges by 35 times and enrolment more than 10 times (Annual Report, MHRD 2006-07). The system is now more mass-based and democratized with one third to 40% of enrolments coming from lower socio-economic strata, and women comprising of some 35%of the total enrolments (Tilak 2004). It is little more than half a century ever since the government initiated a planned development of higher education in the country particularly with the establishment of University Grants Commission in 1953. Thus early 1950's is an important reference points from which we could look back at our progress of higher education. Table 1 depicts the growth of institutions from 1950-51 to 2004-05 while Table 2 classifies the Central and State Universities in the type of disciplines offered by them.

Table1: Growth of Colleges for General Education, Colleges for Professional Education, and Universities during 1950-51 to 2004-2005

Years	Colleges for General Education	Colleges for Professional Education	Universities/Deemed Univ./Institutes of National Importance
1950-51	370	208	27
1955-56	466	218	31
1960-61	967	852	45
1965-66	1536	770	64
1970-71	2285	992	82
1975-76	3667	3276**	101
1980-81	3421	3542**	110
1985-86	4067	1533**	126
1990-91	4862	886	184
1991-92	5058	950	196
1992-93	5334	989	207
1993-94	5639	1125	213
1994-95	6089	1230	219
1995-96	6569	1354	226
1996-97	6759	1770	228
1997-98	7199	2075	229
1998-99	7494	2113	237
1999-00*	7782	2124	244
2000-01*	7929	2223	254
2001-02*	8737	2409	272
2002-03*	9166	2610	304
2003-04*	9427	2751	304
2004-05*	10377	3201	364

** *Includes institutions for Post-Matric courses.*

Source: Educational Statistics 2004-2005.MHRD 2007

Table 2:Distribution of Central and State Universities into types of Discipline

Type	Number	%
General	126	54
Agricultural	35	15
Technological	14	6
Language	11	5
Medical	9	4
Law	6	2.6
Woman	5	1
Animal & Fishery	4	1.7
Open	11	5
Others	16	5.7
Total	237	100

Source: UGC Annual Report, 2004-05

Among the 104 deemed universities, there is greater diversification. Apart from majority being in technological discipline, there are universities in specific research areas such as English and foreign language, yoga, brain research, dairy research, mines, basic science, neuro science, physical education, fisheries, economics and politics, development research, armament technology, population science, social science, IT, management, education, home sciences, rural studies, music, veterinary research, forest research, drama, planning and architecture, foreign trade, educational planning and administration.

1.3: ***Enrolment***

Enrolment in Higher education has been rising steadily although the enrolment rate has continued to remain low compared even to some of the developing countries of Asia and Latin America. Table 3 shows the growth of enrolment in Tertiary education (at Doctorate, Post-graduate, Degree and Diploma levels) during the period 1980-81 to 2003—04, where as Table 4 shows the total enrolment growth during 2001-2002 to 2005-2006 under different types of Management under which the colleges and Universities were functioning. Table 5 displays the actual distribution in enrolment of Boys and Girls at different levels of education for the year 2004-2005.

Table 3: Enrolment by Levels and Major Disciplines

Year	PhD	PG	General Graduate (Art, Science & Commerce)	Technical Graduate (Engg., Medical, B Ed)	Total Higher Education (Degree (2+3+4+5)	Diploma	Total Higher Education (Degree, Diploma) (6+7)
1	2	3	4	5	6	7	8
1980-81	25417	291341	1886428	239267	2442453	430126	2872579
1990-91	32468	354216	3285776	416828	4089288	796686	4885974
2000-01	45004	647338	7244915	688625	8625882	987279	9613161
2001-02	53119	647016	7139497	790050	8629682	1104594	9734276
2002-03	65357	782590	7633125	1035701	9516773	1199785	10716558
2003-04	65525	806636	8026147	1110840	10009148	1191447	11200595

Source: Selected Educational Statistics, Different years

Table 4: Higher Education Institutions and Enrolment ***(by Type of Management)***

Type (by Management / Funding)		Universities		Colleges		Higher Education Institutions		Enrolment (in thousand)	
		2000-2001	2005-2006	2000-2001	2005-2006	2000-2001	2005-2006	2000-2001	2005-2006
Public	**Government**	245	268	4097	4225	4342	4493	3443	3752
	Private Aided	#	10	5507	5750	5507	5760	3134	3510
Private	**Private Un-aided**	21	70	3202	7650	3223	7720	1822	3219
Total		266	348	12806	17625	13072	17973	8399	10481

Source: University Grants Commission (India) and Agarwal (2006)

Table 5: Enrolment by Stages in 2004-2005

S.No.	Educational Degree stage	Boys	Girls	Total
1.	**Ph.D/D.Sc./D.Phill**	32526	22826	55352
2.	M.A	250546	218745	469291
3.	M.Sc	107841	90878	198719
4.	M.Com	80616	41641	122257
5.	B.A./B.A.Hons.	2117637	1654579	3772216
6.	B.Sc./B.ScHons.)	910440	580345	1490785
7.	B.Com/B.Com Hons.	928181	536847	1465028
8.	B.E/B.ScEngg/B.Arch	531207	165402	696609
9.	Medicine/Dentistry/Pharmacy /Nursing/Aurvedic/Homeopathy	167696	89052	256748
10.	B.Ed/B.T	87143	68049	155192
11.	Others*	1921887	1173212	3095099

12.	**Total in Higher Education**	**7135720**	**4641576**	**11777296**

*Others include data of Open & Distance Learning Institutions. Source: Selected Educational Statistics 2004-05, MHRD2007

1.4: *Enrolment Rate*

The extent of higher education is generally measured by enrolment ratio in higher education. Three alternative methods are used to estimate the extent of access to higher education namely Gross Enrolment ratio (GER), Net enrolment ratio (NER) and Enrolment of Eligible ratio (EER). The GER measure the access level by taking the ratio of persons in all age group enrolled in various programs to total population in age group of 18 to 23. The NER measures the level of enrolment for age specific groups namely those in age group of 18 to 23. While the EER measure the level of enrolment of those who completed higher secondary level education. These three concepts thus look at the access to higher education from three different angles. Three alternative sources namely Selected Education Statistics, (SES) National sample Survey (NSS) and Population Census (PC) provides data on number of student enrolment. In 1950-51 the enrolment rate was 0.7%, which increased to 1.4% in 1960-61.For the early 2000 the GER based on the SES is 8. % .The NSS and PC arrived at enrolment ratio of about 10% and 14% respectively. Thus the SES data under reports gross enrolment rate by 4-5%. For 2003/4 the GER work out to 9%, 13.22% and 14.48% respectively .The SES under estimates enrolment rates because of the under-reporting of enrolment in unrecognized institutions and also due to non-reporting of enrolment data on an annual basis by some of the State governments. Extrapolations are used to fill the gaps arising from non-reporting by some of the States. The problem with the NSS and also census data is that as it is collected from households, it is likely to over estimate the student enrolment in colleges and universities as it might include those who are doing diploma or training programmes (e.g. computer training) in unrecognized institutions also. A further problem with the population Census data is that it does not distinguish between enrolment in professional degree and diploma programs. Table 6 shows the GER by alternative sources while Table 7 gives the value of GER/NER/EER for 2003-04 as per National Sample Survey.

Table 6: Enrolment Ratio By alternative sources

Years	**Total Higher Education**		
Sources	**SES**	**NSS**	**Census**
1983	4.04	7.67	N.A.
1987-88	4.69	8.57	Na
1991	4.63	Na	10.95
1993-94	4.80	8.85	11.74*
1999-00	7.22	10.08	13.19*
2001	7.85	10.00	13.82
2003-04	9.01	13.22	14.48*

Source: SES - UGC

Table 7:The Comparative Profile: GER/NER/EER as per NSS for Population Group (18 - 23 Years)

GER	13.2
NER	13.2
EER	59.0

The Working Group for Higher Education for the 11th Plan has projected a growth of GER based on SES from current 10.5 to 15.5 by the end of the Plan period as well as based on census data from 15.6 (current) to 20.6 by the end of the Plan. Table 8 details the projection based on enrolment in the base year 2006-07.

Table 8: Current and 11th Plan Enrolment Rates based on SES and Census Data

Year	Academic Year	Population 18-23 Years	Total Higher Education enrolment based on SES	Total GER based on SES	Total Higher Education enrolment based on Census Data	Total GER based on Census Data
	Base Year					
2006	2006-07	132243	13934	10.5	20666	15.6
	11th Plan					
2007	2007-08	135440	15034	11.1	22212	16.4
2008	2008-09	138318	16460	11.9	23929	17.3
2009	2009-10	141257	18222	12.9	25850	18.3
2010	2010-11	144259	20341	14.1	27986	19.4
2011	2011-12	144287	22365	15.5	29723	20.6

Source: Draft Report of Working Group on Higher Education for 11th Five-year Plan.

1.5:*Discipline wise Output of Graduates and Post-graduates*:

The output of the Higher Education Institutions in terms of graduates and Post-graduates is shown in Tables 9A and 9B respectively for the Year 2003.

Table 9A: Graduate Output during 2003.

No.	Faculty/Course	Pass out Male	Pass out Female	Pass out Total
1.	Arts-B.A level courses	547324	425396	972720
2.	Science-B.Sc level Courses	196058	131717	327775
3.	Commerce-B.Com level Courses	227744	145448	373192
4.	Education-B.E	58258	47790	106048
5.	Engineering/Technology-B.E level Courses	101143	26467	127610
6.	Medicine-Bachelor level courses	22756	16031	38787
7.	Agriculture-Bachelor level Courses	6524	1277	7801
8.	Vet. Science-Bachelor level Courses	1151	346	1497
9.	Law-LL.B level courses	47008	11220	58228
10.	Others: Lib.Sc, Journalism, Phy.Edn., Music, Fine Arts, Computer Appl., Performing Arts, Mass Comm, Visual Arts, Theatre, Hospitality Mgt. etc.-Bachelor level courses	27478	11061	38539
11	**Total Graduates**	**1235444**	**816753**	**2052197**

Table 9B: Post Graduate Output during 2003

No.	Faculty/Course	Pass out Male	Pass out Female	Pass out Total
1.	Arts-M.A level Courses	**168036**	**138383**	**306419**
2.	Science-M.Sc. level Courses	**42364**	**31931**	**74295**
3.	Commerce-M.Com level courses	**59118**	**35308**	**94426**
4.	Education-M.Ed.. Course	**3044**	**1669**	**4713**
5.	Engineering/Technology-M.Tech level courses	**10205**	**2165**	**12370**
6.	Medicine-M.S, MD, MAMS, MHMS, M.Pharm, MSc (Nursing), MCH,DM etc.	**5834**	**2385**	**8219**
7.	Agriculture, Fisheries, Forestry-M.Sc Level	**3009**	**707**	**3716**
8.	Vet.Science-M.Sc, M.V.Sc.	**577**	**123**	**700**
9.	Law-LL.M	**1414**	**779**	**2193**
10.	Others; Lib.Sc., Journalism etc. Master level courses	**23604**	**10003**	**33607**
11	**Total Post Graduates**	**317205**	**223453**	**540658**

12.	**Total Graduates and Post-Graduates**	**1552649**	**1040206**	**2592855**

Source: SES 2004-05 based on UGC Report

It is seen from the tables above that among the prominent disciplines at the Bachelor's level 47.4% of students obtain degrees in arts, 18.2%in commerce, 16% in science, 6.2% in engineering/technology and 5.2% in education courses while at the Master's level arts degree is obtained by 56.6%, commerce by 17.5% and science by 13.7%, and engineering by only 2.3% of students. The ratio of Male graduates to Female graduates is 1.51:1 at the Bachelor's level and 1.42:1 at the Master's level.

1.6: *Teachers in Higher education*

Of the 472,000 teachers in Higher Education, 77,000 are in University departments whereas 3,95,000 are in affiliated colleges. While the student/teacher ratio in University departments is 18:1 that in affiliated colleges is 23:1.Table 10 gives the data of enrolment and the teachers employed in 2004-2005 (Source: UGC Annual Report, 2004-05**)** while Table 11 gives the ratio in NAAC accredited Colleges. Table 12 gives an idea of the percentage distribution of Teacher's qualification in Colleges.

Table 10:Number of Teachers in Institutions of Higher Education, 2004 (Source: UGC Annual Report 2004-05)

Institution	Enrolment (in '000)	Teachers (in '000s)	Student teacher ratio	Students per Institute
University Departments & University Colleges	13,88	77	18	
Affiliated Colleges	90,93	3,95	23	
Total	104,81	4,72	22	594

Table 11: Distribution of student teacher ratio in the NAAC accredited colleges

	NAAC Grades					
Indicators	A & Above	B++ & B+	B only	C++, C+ & C	Non-Accredited	Total
No. of Sample Colleges	110	547	298	233	285	1473
STR (Student Teacher ratio)	20.4	31.8	28.6	28.5	25.2	25.0
STR by Permanent teachers	29.8	31.8	38.1	35.8	35.6	33.5

Source: Analysis of Self Assessment Report of NAAC Accredited Colleges by UGC (unpublished).

Table 12: Qualification of Teachers in various grades of Colleges in 2003-04

Percentage distribution of teachers by qualification in various grades of colleges 2002-2004							
	NAAC Grades						
Nature of Appointment	Qualification	A & Above	B++ & B+	B only	C++, C+, & C	Non-Accredited	Total
PERMANENT	Ph.D	35.9	33.0	26.6	28.6	28.8	31.0
	M.Phil.	20.6	19.7	18.4	17.9	20.2	19.4
	PG	43.0	45.9	54.7	52.0	50.7	48.6
	Others	0.4	1.4	0.2	1.5	0.3	0.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0
TEMPORARY	Ph.D	10.1	11.4	6.9	8.2	8.3	9.7
	M.Phil.	7.9	8.6	6.7	8.7	7.3	7.9
	PG	81.2	77.7	85.7	81.5	83.9	81.0
	Others	0.8	2.3	0.6	1.6	0.5	1.4
	Total	100.0	100.0	100.0	100.0	100.0	100.0
PART-TIME	Ph.D	9.3	11.5	6.8	13.2	5.8	9.4
	M.Phil.	7.0	6.6	3.5	4.3	8.0	6.2
	PG	83.2	80.6	88.8	81.9	84.1	83.2
	Others	0.6	1.2	0.9	0.6	2.0	1.2
	Total	100.0	100.0	100.0	100.0	100.0	100.0
TOTAL TEACHERS	Ph.D	28.1	28.0	21.9	24.9	22.4	25.6
	M.Phil.	16.7	17.0	15.3	15.6	16.5	16.3
	PG	54.7	53.5	62.4	58.1	60.6	57.1
	Others	0.5	1.5	0.4	1.4	0.6	1.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0
No. of Sample Colleges		110	547	298	233	285	1473

Source : Self Assessment Reports submitted with NAAC and NAAC Grades.

1.7: *Quality Assurance Mechanisms*

The Higher Education sector ensures quality of the educational process with the help of accreditation agencies established for the purpose. The main agency which accredits University and Colleges in general education is the National Assessment and Accreditation Council (NAAC) established by the UGC in 1994, where as similar function is done for Technical Education by the National Board of Accreditation (NBA) set up by AICTE in 1994, and for Agricultural education by Accreditation Board (AB) set up by ICAR in 1996. Some of the other professional regulatory bodies are attempting to set up their own accreditation agencies, for instance both the Distance Education Council (DEC) and the National Council for Teacher Education (NCTE) are currently discussing with NAAC the procedures for developing their own accreditation mechanisms. Because of their very late arrival on the scene, the progress of accreditation so far has been very slow. As on May 21, 2006, NAAC has accredited only 128 universities and 2879 colleges and reaccredited 4 Universities and 43 Colleges (NAAC Website), where as NBA by June2005 has accredited merely 1232 programs from 325 institutions (NBA Website) as against a total of 14000 programs in 3589 approved UG and PG and 1608 diploma institutions. Initially the progress of accreditation was very slow but has picked up speed in the last few years, and both NAAC and NBA have plans to complete the backlog of accreditation of eligible institutions during the next few years .In addition to National accreditation, local quality inspection of affiliated colleges are carried out by the affiliating University to ensure provision of adequate academic infrastructure and satisfactory teaching-learning processes. Analysis of examination performance of students is also used by Universities to assess the quality of educational offerings of individual colleges.

1.8. *Financing Higher Education*

Higher Education in India has received enormous financial support from both the Central and the State Governments. At the start of the Planning process in 1950, the total allocation for higher

education was only Rs.170 million which has now gone beyond Rs.90, 000million. This impressive increase is offset to some extent by the rise in prices (inflation) and rise in number of students entering higher education. An analysis of government expenditure on higher education shows a real annual growth rate of 7.5% in the 1950s, 11%in the 1960s, 3.4%, in the 1970s, and 7.3% in the 1980s. (CABE Report 2005) The following Table13 gives details of total expenditure incurred by Centre and States on Education from 1993-94 to 2004-2005.where as Table 14 gives both nominal and real expenditure per student in all sectors of education for the same period.

Table 13: Sector wise Plan & Non Plan Budgeted Expenditure for Education Departments of State & Center (Revenue Account)

(Figure in Rs. Thousand Crore)

Year	Elementary	Secondary	Higher	Technical	Higher + Technical	Total
1993-94	10822	7759	3104	1018	4122	23413
1994-95	12639	9050	3525	1189	4714	27232
1995-96	15218	10344	3871	1290	5161	31517
1996-97	17850	11736	4288	1450	5738	36372
1997-98	20392	13262	4859	1623	6482	41109
1998-99	25150	16782	6117	2073	8190	51225
1999-00	27905	20845	8248	2459	10707	61281
2000-01	29758	19743	9195	2528	11723	62498
2001-02	32493	20431	8087	2560	10647	64847
2002-03	33474	22049	8859	2820	11679	68561
2003-04(R)	38260	23983	9380	3138	12518	76387
2004-05 (B)	40586	24990	9562	3387	12949	80286

Source: Analysis of Budgeted Expenditure on Education, MHRD, Govt. of India, Various Years. 1 Crore is 10 million

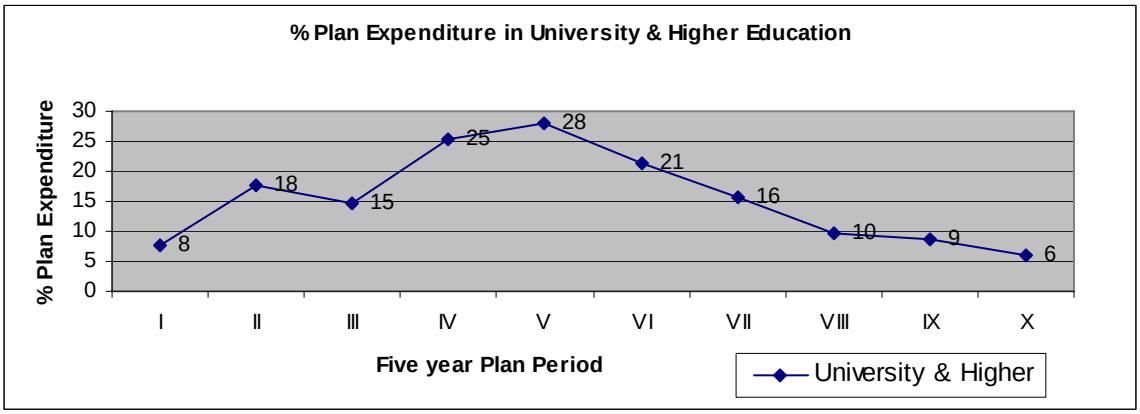
Table 14:Public Expenditure per Student: Nominal and Real (Base year – 1993-94)

Rs.

Year	Elementary		Secondary		Higher	
	Nominal	Real	Nominal	Real	Nominal	Real
1993-94	825	825	3748	3748	8961	8961
1994-95	893	793	4040	3588	9821	8722
1995-96	1052	865	4517	3715	9384	7717
1996-97	1220	959	4890	3844	8438	6634
1997-98	1361	1025	5221	3932	9003	6779
1998-99	1654	1175	6285	4467	10238	7276
1999-00	1792	1233	7392	5087	13219	9097
2000-01	1900	1220	7153	4594	13956	8963
2001-02	2047	1269	6699	4153	12099	7501
2002-03	1977	1185	6641	3982	12294	7370
2003-04®	2162	1229	6852	3896	12518	7117

Table 15 shows how the Plan allocation for Higher Education, which went up to 28% in the Vth Plan period, has been slowly going down in subsequent plans and has reached only 6% of the total Plan expenditure during the Xth Plan period. Table 16, which gives the annual Plan allocation during the Xth Plan period and the actual expenditure, highlights the priority given in allocation to Technical education (10.72%) over Higher Education (9.53%) although Higher education sector overspent the allocation whereas the Technical education sector had a significant saving. Table 17 shows the distribution of total public expenditure per student in Higher education.

Table 15: Plan Expenditure on Higher Education as % of Total Plan Expenditure



Source: Annual Financial Statistics of Education Sector 2003-04, MHRD, Govt. of India, New Delhi, 2005.

Table 16: Central Plan Allocation and Expenditure During X plan

(Rs. Crore)

Scheme	X plan Allocation	Percent To total	2002-3 (Actual)	2003-4 (Actual)	2004-5 (RE)	2005-6 (Revised)	2006-7 (B)	X Plan Expenditure	% To total	Difference (2-9)
1	2	3	4	5	6	7	8	9		10
Univ.& Higher	4176.5	9.53%	619.14	560.44	789.95	873.27	1403.5	4246.3	7	-69.8
Tech. Edu.	4700	10.72%	600.47	626.34	653.31	643.67	930	3453.79	6	1246.21
Total Education	43825	100.00 %	6388.84	7377.21	9570.84	15041.76	20744	59122.65	100	-15297.7

Source: Annual Financial Statistics of Education Sector 2003-04, MHRD, Govt. of India, New Delhi, 2005 and Expenditure Budget 2006-07, Volume – 2, Government of India, February, 2006

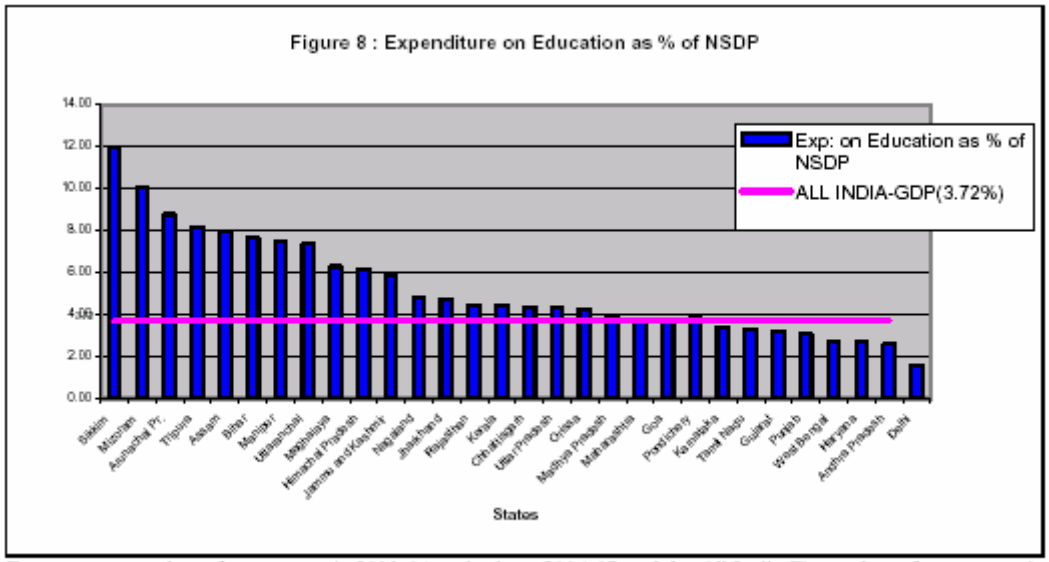
Table17: Distribution of Total Public Expenditure per Student in Higher Education

	Public Expenditure per Student		
	2002-03	2003-04 (R)	2004-05 (B)
Central Plan	758	639	686
Central Non-plan	1386	1336	1240
State Plan	527	558	529
State Non-plan	8176	8063	7803
Total	10847	10596	10258

1.8:*Public Expenditure on Education as a Percentage of GDP*

Table 18 below shows how different States in the Indian Union spend different amounts on Education as a percentage of their net domestic product with Sikkim spending close to 12% where as Uttar Pradesh and Delhi spend less than 3%. Table 18: Expenditure on Education as a % of Net State Domestic Product

Table 18: Expenditure on Education by Different States as % of NSDP



*For some states the reference year is 2003-04 and others 2004-05 and for All India Figure the reference year is 2005-06-see Table-7

The total expenditure on the Revenue Account at the all India level during 2005-06 formed 28.33% of the total Gross Domestic Product (GDP) and only 3.01% of the GDP was provided in the budgets of the education departments. When the provision for education for all departments including education departments is taken into account this percentage works out to be 3.72% (Source: Analysis of Budget Expenditure on Education from 2003-2006, Ministry of HRD Planning and Monitoring Unit 2006). So far as expenditure on Higher education sector is concerned, there is some variation in data depending on the source. Table 19 is reproduced from the CABE report on financing of Higher and Technical Education (June 2005) whereas Table 20 is taken from Selected Educational Statistics 2003-2004 document published by MHRD in 2007.

Table 19: Public Expenditure on Higher and Technical Education as % of GDP

Table 10 **Higher Education: Relative Priorities**				
	Government Expenditure on Higher Education as		Government Expenditure on Technical Education as	
	% of GNP	% of Total Government Revenue Expenditure	% of GNP	% of Total Government Revenue Expenditure
1990-91	0.46	1.58	015	0.51
1991-92	0.42	1.43	0.14	0.48
1992-93	0.41	1.42	0.14	0.48
1993-94	0.40	1.42	0.13	1.47
1994-95	0.39	1.40	0.13	0.47
1995-96	0.37	1.35	0.12	0.45
1996-97	0.35	1.30	0.12	0.44
1997-98	0.35	1.31	0.12	0.44
1998-99	0.43	1.39	0.13	0.47
1999-2000	0.47	1.61	0.14	0.48
2000-01	0.49	1.61	0.13	0.44
2001-02	039	131	0.12	0.41
2002-03RE	0.40	128	0.13	0.41
2003-04BE	0.37	1.23	0.13	0.42
Source: Based on *Analysis of Budget Expenditure on Education* (various years).				

Source: CABE Report on Financing of Higher and Technical Education, June 2005.

It is seen from the CABE report that public expenditure on Higher Education including Technical education has varied between 0.45 and 0.6 of the GDP, whereas Table 20 gives the figure between 0.52 and 0.77 of the GDP. This variation could be due to the inclusion of expenditure on HRD training by government departments other than Education in both at the Centre and in the States.

Table 20: Total Expenditure on Education and Training under Different Levels

(in crore)

Year	Total expt. on education & trg. (Rev) by Education and other Departments															Total expt.on all sectors (Rev)	GDP at current prices(at factor cost) base year 1993-94
	Elementary			Secondary/Higher secondary			Adult Education			University& Higher Education*.			Total				
	Expen-diture	%age to GDP	%age to Total expt.on all sector	Expen-diture	%age to GDP	%age to Total expt.on all sector	Expen-diture	%age to GDP	%age to Total expt.on all sector	Expen-diture	%age to GDP	%age to Total expt.on all sector	Expen-diture	%age to GDP	%age to Total expt.on all sector		
1990-1991	9076.28	1.78	6.19	6310.33	1.24	4.30	273.15	0.05	0.19	3956.09	0.77	2.70	19615.85	3.84	13.37	146711.53	510954
1991-1992	10967.83	1.78	6.09	7400.56	1.26	4.34	226.52	0.04	0.13	4396.78	0.75	2.58	22393.69	3.80	13.14	170370.38	589085
1992-1993	11321.5	1.68	5.95	8574.97	1.27	4.51	210.97	0.03	0.11	4922.9	0.73	2.59	25030.30	3.72	13.15	190327.46	673221
1993-1994	13071.14	1.67	5.98	9371.34	1.20	4.29	280.01	0.04	0.13	5557.20	0.71	2.54	28279.69	3.62	12.94	218535.15	781345
1994-1995	15133.05	1.65	6.01	10835.33	1.18	4.30	338.31	0.04	0.13	6299.53	0.69	2.50	32606.22	3.56	12.95	251691.92	917055
1995-1996	18433.93	1.72	6.44	12530.38	1.17	4.38	259.71	0.02	0.09	6954.07	0.65	2.43	38178.09	3.56	13.34	286194.55	1073271
1996-1997	21543.63	1.73	6.54	14164.00	1.14	4.30	205.74	0.02	0.06	7963.11	0.64	2.42	43876.48	3.53	13.33	329389.92	1243547
1997-1998	24083.17	1.73	6.49	15653.5	1.13	4.22	209.8	0.02	0.08	8595.67	0.62	2.32	48552.14	3.49	13.09	370838.48	1390148
1998-1999	30191.07	1.89	6.87	20100.97	1.26	4.57	189.45	0.01	0.04	11097.42	0.69	2.52	61578.91	3.85	14.00	439768.11	1598127
1999-2000	34068.78	1.93	6.65	25447.89	1.44	4.97	188.53	0.01	0.04	15112.89	0.86	2.95	74818.09	4.25	14.60	512519.32	1761838
2000-01	39274.60	2.06	6.88	28057.50	1.37	4.55	226.12	0.01	0.04	16928.21	0.89	2.95	82486.43	4.33	14.42	572182.14	1902998
2001-02	40019.35	1.91	6.48	25163.47	1.20	4.05	359.56	0.02	0.05	14323.32	0.69	2.31	79865.71	3.82	12.89	619713.14	2090957
2002-03	41747.28	1.88	6.15	27498.97	1.22	4.05	402.25	0.02	0.05	15858.83	0.70	2.34	85507.31	3.80	12.60	678548.31	2249493
2003-04	44349.47	1.74	5.96	28475.89	1.12	3.83	395.56	0.02	0.05	15858.34	0.62	2.13	89079.25	3.50	11.96	743668.96	2543395
2004-05(RE)	53796.74	1.89	6.57	31508.08	1.11	3.85	450.11	0.02	0.05	18813.07	0.66	2.30	104568.00	3.68	12.78	819231.90	2843897

* Including expenditure on Physical education, Technical education,Language development etc.

Note: Expenditures on education by other Departments has been distributed by level, on the basis of expenditure (%)by education departments

RE: Revised Estimates

Source: SES2004-2005, MHRD2007

2.0: Issues

Although Higher Education has expanded several times since independence, the major issues of access, equity, and quality continue to be areas of concern. These are discussed briefly in paragraphs below.

2.1: ***Access***: The enrolment rate (GER) for Higher Education which has risen from 0.7%in 1950-51, 1.4 %in 1960-61, and 8% in early 2000 is still very low (about 10%) compared to the world average of 23.2%, and an average of 54.6% for developed countries, 36.3% for countries in transition, and 11.3 % for developing countries. Even the existing EER of some 60% indicates that 40% of students who complete their higher secondary programs do not enter the realm of tertiary education. Even if we increase enrolment rate by 5% every plan period, it would take so more than a quarter century to come close to the level of developed countries.

Table 21:Enrolment Rate in Higher Education by Regions – 2001-02

Groups of Countries	**GER**
Countries in Transition	36.5
Developed Countries	54.6
Developing Countries	11.3
World	23.2
India (Tentative)	**About 10%**

Source: Higher education in the world 2006, the financing of University, 2006, (Palgrave Macmillan)

2.2: ***Equity:*** while the GER continues to be low for the overall population, there are large variations among the various categories of population based on gender, urban or rural habitation and reach and poor. Table 22 below illustrates these divergences.

Table 22: Enrolment Ratio under Different groups of Population

	GER			NER	EER
Source/Year	**SES 2006-07**	**Census 2001**	**NSS 2003**	**NSS 2003**	**NSS 2003**
All	9.7	13.8	13.2	13.2	59.0
Gender					
Male	11.1	17.1	15.3	12.3	62.9
Female	7.9	10.2	11.0	8.7	54.1
Caste					
Schedule Tribes	4.6	7.5	5.0	4.0	57.4
Schedule Castes	7.0	8.4	7.5	5.9	56.4
OBC			11.34		
Others			24.89		
Religion					
Hindu			12.0	9.0	57.0
Muslim			8.2	6.3	58.1
Other Religion			**30.9**	**24.3**	**65.8**
Rural/ Urban					
Rural		**9.0**	**7.8**	**6.1**	**51.5**
Urban		**24.5**	**27.2**	**21.9**	**66.0**
Poor			**2.43**		
Non-Poor			**12.81**		

Source: Chairman UGC's Nehru Memorial Lecture, University of Mumbai, Nov.24, 2006

2.3:Quality: The higher educational institutions suffer from large quality variation in so much so that a recent Nasscom-Mackinsey Report (2005) has said that not more than 15% of graduates of general education and 25-30% of Technical Education are fit for employment. Since only a small number of Universities and colleges are eligible for funding by UGC and hence monitoring for quality by NAAC for ensuring quality standards set by it, a vast majority of institutions are under no quality monitoring and control except what is provided under university regulations and occasional university team visits. Tables 23A and 23B below give the quality status of colleges (as on 31st March 2005) and Universities as in 2007.

Table 23 A: Current Quality Status in Colleges of Higher Education in India (As on March 31, 2005)

Details	**Number**
Total Number of Colleges	17,625
Number of Colleges under UGC purview	14,000
Number of Colleges recognized under Section 2(f) of UGC Act	5,589 (40%)
Number of Colleges recognized under Section 12(B) of UGC Act	5,273 (38%)
Number of Colleges actually funded by the UGC	4,870 (35%)
Number of Colleges accredited by the NAAC	2,780 (20%)
Number of Colleges accredited by the NAAC and scoring above 60%	2,506 (17.9)

Source: Draft Report of Working Group on Higher Education for 11th Five-year Plan.

Table 23 B: Current Quality Status of Universities in India (As in 2007)

Details	Total Number
Total Number of University Level Institutions	367
Total Number of Universities under UGC Purview	317
Number of Universities actually funded by the UGC	164
Number of Universities accredited by the NAAC	128
Number of Universities accredited by the NAAC and scoring above 60%	128

Source: Draft Report of Working Group on Higher Education for 11th Five-year Plan.

As per the University sector is concerned, a total of 317 Universities under the purview of UGC only about 50% (164) have been assessed for minimum quality under 12(B) while seeking UGC funding whereas only about 40%(128) have been assessed for more elaborate criteria of quality as per NAAC. A sample study by UGC of 111 universities funded by it has shown that 31% of them fall under A grade (High quality), 52% in B grade (Medium quality) and 16% under C grade (Low quality). It is observed that A grade Universities generally perform better with respect to number of indicators, which include faculty strength in number per department and quality (PhD degree), and both physical and academic facilities. (Based on UGC Chairman's Nehru Memorial Lecture, Univ. of Mumbai, November 2006). As per the latest data available NAAC has completed accreditation of 140 Universities (28 more than the above Table), and 3492 colleges (some 700 more than given in table above). An analysis of 2698 colleges accredited earlier is given in Table 24 below which confirms that even under the small number of colleges so far accredited, some 24% are of low quality and one does not know anything about the quality standard of some 80% of colleges under UGC purview.

Table 24: NAAC Ranking of Colleges 2006

Total Colleges – 14000				
1)	A++, A+, A – (A)	245	High Quality	9%
2)	B++, B, B- (B)	1785	Medium Quality	66%
3)	C++, C, C- (C)	668+	Low Quality	24 %
	Total	2698		100%
4)	Collage not assessed (self financing and not permanently affiliated)	11302	Grade not known (presumably low quality)	

An earlier analysis of performance standard of facilities in NAAC accredited Colleges is given in Table 25 below. It is obvious that performance parameters are better in institutions with A and B++/B+ grades.

Table 25: Performance quality of selected accredited Colleges

Some aspects of availability of facilities and quality in select institutions of Higher Education, 2002-2004						
	NAAC Grades					
Indicators	A & Above	B++ & B+	B only	C++, C+ & C	Non-Accredited	Total
No. of Sample Colleges	110	547	298	233	285	1473
STR (Student Teacher Ratio)	20.4	31.8	28.6	28.5	25.2	25.0
STR by Permanent Teachers	29.8	31.8	38.1	35.8	35.6	33.5
No. of Books per student	9.5	10.7	6.4	7.4	7.0	8.8
No. of Books per college	15215	13921	7019	6504	6748	9882
No. of Journals per college	22.2	13.0	6.1	4.4	4.0	10.0
Students per Computer	145.2	143.8	251.3	546.7	202.7	258.0
Average no. of Enrolled students per college	1603	1301	954	885	960	1140
Organised Workshops/Seminars	54.5	27.2	17.4	17.4	20.0	24.3
Facilities available (percent colleges having)						
Library	94.5	91.6	90.9	82.4	90.2	90.0
Computer Centre	86.4	83.7	76.8	64.0	74.7	77.7
Health Centre	74.5	53.7	48.7	36.4	48.1	50.4
Sports facilities	92.7	88.8	91.6	84.9	88.1	88.9
Hostels	72.7	55.9	39.6	41.9	40.4	48.7
Guest House	44.5	30.9	23.5	21.7	22.8	27.4
Teachers' Housing	47.3	36.9	19.8	18.4	20.7	28.2
Canteen	80.0	77.1	74.8	49.3	64.6	70.1
Common Room (Day Scholars)	30.9	23.8	19.1	9.7	16.1	19.7
Welfare Schemes	49.1	45.5	48.0	35.4	42.8	44.2
Gymnasium	8.2	7.1	3.0	3.6	4.2	5.3
Auditorium/Seminar Rooms	20.9	11.7	7.7	7.1	9.1	10.4

Source : Self Assessment Reports submitted with NAAC and NAAC Grades.

3.0 Government Initiatives to tackle the above Issues:

3.1: ***Access and Equity***: The Central Government is conscious of the need to raise both the enrolment rate and access to higher education to all who deserve irrespective of class, caste, religion, gender or economic status. In the last plan period enrolment rate has gone up form some 6% to 10%and the 11th Plan it is proposed to raise it 15 percent. 30 new Central Universities, 8 new IITs, 20 new IIITs and 7new IIMs, and several high grade Medical Institutes are proposed to be established during the next plan period, and one degree college would be established in each district of the country. The Prime Minister has invited private sector participation in this venture. Knowledge Commission, which was established at the suggestion of the present Government, has submitted its first report on Higher Education and is under scrutiny for implementation by the Government. There are proposals for improving access to quality higher education to disadvantaged groups in the population (Moily Committee and Sachar Committee reports). The Indian Prime Minister in his Independence Day speech on 15th August 2007 said, "We will also ensure that adequate numbers of colleges are set up across the country, especially in districts where enrolment levels are low. We will help States set up colleges in 370 such districts. The University system, which has been relatively neglected in recent years, is now the focus of our reform and development agenda. We will set up thirty new Central Universities. Every state that does not have a central university will now have one. In order to promote science and professional education, we are setting up five new Indian Institutes of Science Education and Research, eight new Indian Institutes of Technology, seven new Indian Institutes of Management,

and twenty new Indian Institutes of Information Technology. These will generate new educational opportunities for our youth. I am sure that, working together, we can ensure that at least **a fifth** of our children go to college as compared to **one-tenth** now."

3.2: ***Some Public Initiatives***: The success stories of the initiatives of the Government in the field of higher education, which have already received both national and international recognition, are only a few:

- the setting up of Central Universities, with high quality of infrastructure for teaching and research
- setting up Indian Institutes of Technology and Indian Institutes of Management, which are leaders in Technical and Management Education in the country and have earned very high reputation for their graduates internationally
- Opening up the Professional Education Sector to large scale private investment and permitting the investors cost recovery from student fees
- establishing Indian Institutes of Information Technology both in the Public and Private sectors, and crating a new phase of public/ private partnership in the IT area with the Institutions given Deemed University Status and ensuring active Industry involvement in Governance.
- implementing the plan for producing the required human resource for the rapidly growing Information Technology Industry permitting private sector to establish a world class institution
- permitting private sector to establish a world class institution in Management (ISB at Hyderabad) with linkages with world class institutions
- permitting some deemed Universities to open campuses both in other states and abroad

3.3. ***Innovative Schemes****: A* number of innovative schemes have also been in operation in the Higher Education sector, some promoted by the University Grants Commission, others by the Technical education division of the Ministry of Human Resource development and All India Council Of Technical Education, and yet others by Indian Council of Agricultural research and several other Departments of the Central Government dealing with Science and Technology and their applications. A brief description of some of these schemes is listed below in Tables 26A and 26B:

Table 26 A: Some Selected UGC Schemes and new Initiatives:

Name of the Scheme	**Purpose /Functions**	**Implemented in Number of Institutions**	**Limitations**	***Rating of Impact**
1. Vocationalization of higher education	Career oriented courses offered	368 colleges and 2 Universities	Not enough depth in courses	Low
2. Academic Staff Colleges	Continuing Education of Teachers	51 Universities have established them so far and more planned	Not enough for such a large system	Low coverage, Medium quality of offering
3. Autonomous Colleges	Authority to curricular and examination reforms	132 in 29 Univ. in 8 states (2003-04)	Plan to make 10%colleges autonomous remains a dream	Good but so few autonomous
4.Inter University Centers/ National Facilities Centers	Provide advanced research facilities to all who need	Six IUCs and 4 National facilities centers	Very few areas covered	Excellent for researchers in the area
5. UGC Infonet	Nation wide high speed communication network for information sharing, access to educational	149 Universities so far connected, 108 network managers from 99 universities trained at	Although dedicated secure quality network, start of sharing could have been implemented through internet	Would be very useful when fully implemented, would improve information

	materials and distance education	ERNET Center, New Delhi and 63 library professionals at INFLIBNET center at Ahmedabad		collection and reliability of statistics
6. Consortium Based Subscription	Access to e-journals through consortium	Implemented from Jan.2004 with membership of 100+ Universities subscribing 4450 journals from 25 publishers	Needs early extension to all Universities and colleges as well with incentives, if necessary	Advantage so far limited to connected Universities but very useful to research for PG students, PhD scholars and faculty.
7. Performance Radars	Evaluation of Universities on Academic, Research and Governance and comparison on bench mark parameters	Implemented through 10th plan visits to Universities. Basis for performance-based grants from UGC	Can be used also for self monitoring and evaluation of colleges	Benchmarking difficult and often controversial otherwise a good tool
8.PIEHEAD	To collate efforts for promotion of Indian Higher education abroad	Implemented through conference in June 2005	Needs permanent secretariat, and a current website to be effective	Useful initiative
9.New National Institutes of Sciences	High Quality Institutions for world class science education	Institutes at Allahabad, Bhubneshwar, Chennai, and Pune	Still early days of implementation, needs networking with local universities and colleges	Too few to make impact. 5more planned in 11th Plan.
10. Higher Education Information System (HISP)	Ambitious system for collecting and collating information on higher education with 9 functional modules	Concept stage awaiting detailed Project report and specifications of functional modules	Early implementation required even with fewer modules	Very useful when completed
11. Promotion of Knowledge Based enterprises through Institutions of Higher Learning (A concept note)	Collaboration with DST/NASSCOM to promote Entrepreneurship development cells (EDC) Technology and Business incubators (TBI), and Science and technology Entrepreneur's Parks (STEP)	Still to be implemented in although several EDCs, TBIs, and STEP have been established	Very active involvement of Government, Industry, venture capitalists needed with Higher Education Institutions	A necessary Initiative needs encouragement and incentives for start-ups and exploitation of Research results
12. NET Examination	Quality benchmarking for eligibility for teaching and	For 84 subjects at 65 centers in India and 6 abroad	Need to extend to all subjects and review test	Good quality filter but impedes motivation for

	research		procedures	Research degrees
13. Career Advancement Scheme	Promotion on merit after years of service in a grade	Almost universally applied	Merit is often a casualty, only years of service considered	Satisfaction of teachers but serious in breeding

Based on author's experience and Information collected from UGC Publications and MHRD annual reports.

Table 26B: Selected Schemes under MHRD/ AICTE/ICAR and Other agencies

Name of Scheme	**Purpose/Function**	**Implementation status**	**Limitations**	**Impact**
1. INDEST-AICTE Consortium	Subsidized subscription to International E-Journals	Implemented for IEL-on line, ASCE, ASME, Springer Link, DEL, and ESDU	Although selective it covers 80% of requirement	Welcomed by Institutions as only 4% of listed price in print form is paid per journal
2.DELNET	For Digital Electronic Library Development for Technical Institutions	Subsidy from AICTE for membership	Not yet extensive in membership	Will be very useful when fully implemented3
3. Internet-Ernet Scheme	Provision of subsidized access to Internet	Many institutions are members	Higher subsidy may be needed for some colleges	Very useful when implemented
4 Faculty Development Scheme	Short term courses for up gradation of faculty competence	Large number of summer winter programs run, all expenses paid to teachers nominated to attend	Programs of variable standard, occasionally used for academic tourism	Very useful if properly planned and executed
5.Early Faculty Induction Program	Financial Incentive to those wanting to become teachers	Scheme not been able to attract large numbers	Incentives insufficient in highly competitive market.	Good scheme needs review to make it more effective
6. Quality Improvement Program (QIP)	Deputation of teachers for higher qualifications in good institutions	Very useful for teachers with no post-graduate qualifications	Numbers of placement limited against large demand	Has been very successful in teacher up gradation
7.TEQIP	World bank assisted project for up gradation of quality of 128 engineering and polytechnic institutions	Covers a small fraction of all institutions	Implementation slow	Very important project will have far reaching impact when completed
8.IIT Delhi-FITT	To help market research results	Working satisfactorily since 1992 with large clientele for education, technology transfer, Industrial consultancy, Incubator development and	No inter institutional arrangements for large projects, but highly successful in marketing innovations	A good example for replication

		IPR. Collaboration with NIIT for Net varsity course in Bioinformatics, with CII for upgrading innovations some 30 technology transfer projects per year and more than 80 Patents applied for		
9.Industry interaction at Other IITs	Have similar centers like FITT/IITD for interaction with Industry and promote innovation and consultancy	Successful interaction and large consultancy income.	No attempt so far to combine and synergize resources of all IITs	Very useful individual initiatives
10 Industry interaction at other Universities and engineering Colleges	Many Universities have very strong Research departments and also offer consultancy to Industry	Most of the central Universities which deal with science and engineering departments, Anna University, Jadavpur, Madurai Bengal Engg. College, NITs are in the forefront	Number of places where high quality research and innovation is done is very limited perhaps about 100 or 150 in among over 17000 institutions	Needs special policies from UGC, AICTE and MHRD to promote Research
11.Extension activities at ICAR Institutes and Agricultural Universities	Research their major function and have significant achievements including the Green Revolution	Although not statutory, ICAR regulates research in all Universities under its jurisdiction	Some rethinking of roles to bring in the second green revolution through emphasis on biotechnology and genetic engineering	Needs massive input for modernization and entering new areas

Source- Information collected from UGC/AICTE/ICAR Publications and Annual Reports.

3.4*: Some Recent Policy Initiatives by the Government for Higher Education*

- Prime Minister's speech on 15th August 2007 announcing Government's decision to establish many centrally funded high level institutions and help states to establish degree colleges in districts having poor enrolment
- National Development Council's approval to increase XIth Plan allocation to UGC by four fold compared to the Xth Plan allocation
- Prime Minister Speech inviting active public –private partnership while dedicating the Bharti School of Telecommunications Technology and Management at IIT Delhi, and promising liberalizing rules and procedures to make the partnership effective (March 20,2006)
- Finance Minister's allotment of an additional INR1000 million each to Universities of Mumbai, Kolkata, Chennai and the Punjab Agricultural University to make them world class (Budget Speech 2006)
- Finance Minister's allotment of an additional INR1000million to Indian Institute of Science, Bangalore to become a world level university (Budget speech 2005)
- Setting up of a Knowledge Commission (2005)
- Draft National Biotechnology Plan (2004/05)
- Liberal grant of Autonomy-Deemed University Status to IIITs, NITs (2004)

- Setting up Indian Institutes of Information Technology, Design and Manufacturing (IIITDM) at Kancheepuram and Jabalpur in 2003-04. These institutes are to provide a sustainable competitive advantage to the Indian industry in the area of design and manufacturing of new products
- New Science and Technology Policy (2003).
- Setting up an Educational Satellite (2003)
- Transforming India into a Knowledge Superpower (2003)
- Ambani Report on " A Policy Framework for Reforms in Education" submitted to the then Prime Minister as part of a special subject group on Policy frame work for private investment in Education, Health and Rural Development (April 2000)
- National Policy on Education (1986/92/2000)
- Information Technology Action Plan (1998)
- Technology Vision Of India 2020(1996)
- Establishment of NAAC, NBA (1994)
- Encouraging Private Investment in Professional Education (Since 1980s)
- Upgrading Technical Education System through World Bank Assistance-Tech Ed.I, II, III and TEQIP (1987-2008).
- Selecting Universities and Colleges with "Potential for Excellence" started by UGC during Xth Plan to identify at least 161 colleges during the Plan period.. So far 9 Universities and 97 colleges have been identified and given special grants.

3. 5: ***References:***

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