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## Higher Education in India: Structure, Statistics and Challenges

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### Abstract

India's education system is often cited as one of the main contributors to the economic rise of India. The size of India's higher education market is about \$40 billion per year. Presently about 12.4 percent of students go for higher education from the country. If India were to increase that figure of 12.4% to 30%, then it would need another 800 to one thousand universities and over 40,000 colleges in the next 10 years. This paper presents the development and present scenario of higher education in India by analyzing the various data and also identifies the key challenges that India's higher education sector is facing. This paper also presents the key initiatives by the government and recommendations to meet these challenges. The ideas presented in this paper were initially presented at the International conference on India Emerging, held at IBA, Greater Noida, India, Feb 24-25, 2011.

**Keywords:** Higher Education, Knowledge Economy, Technical Education, University

### 1. Introduction

In order to promote economic and industrial development in a country, the essential requirement is the capacity to develop skilled manpower of good quality in adequate number. According to population projections<sup>[1]</sup> based on the 2001 Census figures, in 2011 nearly 144 million of India's population will be between the age-group 18 to 23-the target age group for Higher Education. At the beginning of India's independence, there were 20 universities and 591 colleges while students enrollment at the tertiary level of education was 0.2 million. After independence, the growth has been very impressive. India now possesses a highly developed higher education system that offers facility of education and training in almost all aspects of human creation and intellectual endeavors. India's higher education system is the third largest in the world after China and United States in terms of enrolment. However, in terms of the number of institutions, India is the largest higher education system in the world with 26455 institutions (504 universities and 25951 colleges). This means that the average number of students per educational institutions in India is lower than that in the US and China. The education commission<sup>[2]</sup> set up in 1964 under the chairmanship of Dr. D.S.Kothari (Kothari Commission) had recommended that government should spend at least 6% of its gross domestic product (GDP) on education. However, in over 45 years, we have been able to achieve only half the target. The Knowledge Commission additionally recommends an increase of at least 1.5% of GDP for higher education out of a total of at least 6% of GDP for education overall.

### 2. Knowledge Economy

Knowledge is the driving force in the rapidly changing globalized economy and society. Education general and higher education in particular, is a highly nation-specific activity, determined by national culture and priorities. The emergence of India as a knowledge-based service driven economy has made its human capital its major strength and opportunity for growth. Unlike China or other Asian economic giants, India's growth has not been led by manufacturing. Instead, the nation's pool of skilled workers has allowed India to move quickly up the economic value chain in several knowledge based industries. According to a report<sup>[3]</sup> by ICRIER, New Delhi, India is home to the world's largest pool of scientific and knowledge workers

and produces 400,000 engineers per year while the US produces 60,000. According to the same report, in August 2006 India filed 1312 patent applications second only to the United States. This indicates that on the science and technology side, India has built up the largest stock of scientists, engineers and technician. In order to sustain these positive trends and an economic growth rate of 7%, a venture Intelligence calculates that India's higher education gross enrollment ratio (GER) would need to increase from 12 to 20 percent by 2014.

### 3. Structure and Statistics of Higher Education in India

In India 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), and *Institutions established by State Legislative Act and colleges affiliated with the University* (both government-aided and unaided) <sup>[4]</sup>.

In India technical education is treated as a separate sector. There are 65 centrally funded institutions like IITs, IIMs, NITs, IISc, etc. Additionally, State Governments have also set up technical institutions. AICTE and equivalent sectoral regulators (like the Medical Council of India) both approve and regulate technical institutions in engineering/technology, pharmacy, architecture, hotel management & catering technology, management studies, computer applications and applied arts & crafts. Vocational Education is another stream of higher education in India. For this a network of public and private polytechnics and vocational institutions exists, controlled and supervised by the Councils specializing in each discipline. India has also developed an Open University system to encourage distance learning. Indira Gandhi National Open University (IGNOU) was the pioneer and now there are 14 open universities in India <sup>[5]</sup>. The open universities in India are regulated by the Distance Education Council of India (DEC), New Delhi which maintains the standards, encourages and organizes the activities of Open and Distance learning in India (ODL). Distance education with new information and communication technology (ICT) promises to expand the frontiers of Higher Education as never before. This is because it costs 66 per cent less and the students need not leave their homes or profession. The internet and satellite technology are being put to use to further the cause of distance education.

The Higher Education sector ensures the quality of the educational process with the help of accreditation agencies established for the purpose. The main agency which accredits universities and colleges in general education is the National Assessment and Accreditation Council (NAAC) established by the UGC in 1994, whereas a 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 the Accreditation Board (AB) set up by ICAR in 1996. NAAC proposes to introduce the India Education Index (IEI) for ranking institutes based on academic, research performance and other parameters. The outcome will help in the international comparison of institutes. NAAC has entered into an MOU with higher learning institutes of the United States, Taiwan, Norway, Kuwait and with the Commonwealth of Learning (COL) to facilitate collaborative work on quality assurance in higher education institutions (HEIs).

Universities in India, both private and public, are spread across the length and breadth of the nation. The number of universities in India increased from 20 in 1947 to 504 in 2010, a 25 times increase (See table 1). The growth of universities and colleges from 1947 to 2010 is shown in figure 1. It is clear from the figure that growth during 2004-05 is remarkable. However during 2005 to 2007 the growth rate is low but again it increased and attained to a good number.

According to MHRD Annual report 2009-2010 <sup>[6]</sup>, as of March 2009, the country had 26455 institutes of higher education; 504 universities and university level institutions and 25,951 colleges. At the commencement of the academic year 2009-2010 the overall formal system enrollment in the various universities and colleges was reported at 13.6 million, while the total number of faculty members has been reported at 0.59 million. Table 2 shows the type of institution and there number in 2010 and figure 3 shows the percentage share of different type of institution shown in table 2.

#### 4. Challenges in Higher Education

In present scenario the challenges in higher education are:

*4.1 Demand-Supply Gap:* According to the recent report of HRD ministry <sup>[6]</sup>, presently about 12.4 percent of students go for higher education from the country. If India were to increase that figure of 12.4% to 30%, then it would need another 800 to one thousand universities and over 40,000 colleges in the next 10 years. Addressing a higher education summit organised by the Federation of Indian Chambers of Commerce and Industry (FICCI), HRD Minister Kapil Sibal said “*We will need 800 new universities and 40,000 new colleges to meet the aim of 30 percent GER (gross enrolment ratio) by 2020. Government alone cannot meet this aim,*”

Statistics show that there is a huge gap between the demand and supply. The HRD ministry says that the foreign institutions could fill this gap to a large extent. Close to 50 Foreign universities may enter India in near future. But realistically speaking, the foreign institutions could not fill this gap. This is the third attempt being made by government to liberalize education system. Two attempts were made in 1995 and 2006 to bring foreign universities to India. Against the projected requirements, the 11<sup>th</sup> Five Year Plan <sup>[7-8]</sup> provides for a total of 30 new Central Universities (with medical and Engineering colleges), eight new IITs, 20 NITs, 20 IIITs, 3 IISERs, seven IIMs, and two SPA and 373 new colleges in districts with GERs that are below the national GER.

*4.2 Quality Education:* Quantity and quality of highly specialized human resources determine their competence in the global market. According to a recent government report <sup>[3]</sup> two-third of India’s colleges and universities are below standard. However, according to MHRD annual report 2009-10 <sup>[6]</sup>, a proposal for mandatory accreditation in higher education and creation of an institutional structure for the purpose of regulation is under consideration. India’s highest-quality institutions have severely limited capacity. In order to increase the supply quality should be maintained. Recently MRD ministry has decided to de-recognize as many as “44 deemed universities”. These 44 deemed universities have 1,19,363 students at the undergraduate and postgraduate levels. In addition, there are 2,124 students pursuing research at MPhil and PhD levels and another estimated 74,808 students pursuing distance education programmes. As many as 41 of the 44 deemed universities have several constituent institutions under them, which would further swell the number of affected students.

*4.3 Research and Development:* Research and higher education are complementary to each other. According to the available official statistics <sup>[9]</sup> the expenditure on R&D in the field of Science & Technology as a percentage of gross domestic product (GDP) was 0.8 percent during the year 2005-06 in India. For perspective, countries spending the most on S&T as a percent of their GDP were Israel (5.11 percent), Sweden (4.27 percent), Japan (3.11 percent), South Korea (2.95 percent), the United States (2.77 percent), Germany (2.74 percent) and France (2.27 percent). Among other countries, China (1.54 percent), Russia (1.74 percent), U.K. (1.88 percent) and Brazil (1.04 percent) have spent more than India.

Moreover, India’s higher education institutions are poorly connected to research centers. So this is another area of challenge to the higher education in India.

*4.4 Faculty Shortage:* According to a recent report of HRD Ministry premier educational institutes like the Indian Institute of Technology (IITs) and the Indian Institute of Management (IIMs) are facing a faculty crunch with nearly one-third of the posts vacant. According to a report published in IANS <sup>[10]</sup> around 35 percent posts are vacant in the central universities, 25 percent in the IIMs, 33.33 percent in the National Institute of Technology (NITs) and 35.1 percent in other central education institutions coming up under the Human Resource Development (HRD) Ministry. However in order to overcome this, government is planning to have short-term measures like raising the retirement age in teaching posts from 62 to 65 years and enhancement in salaries and other benefits for teachers. Also some long-term measures have also been initiated for attracting young people to opt for this (teaching) career. These include enhancement in fellowships and attractive start-up grants in various disciplines.

#### 5. Key Initiatives

The key initiatives of the government to improve the quality and further development of higher education in India are as follows:

- A proposal for establishment of an autonomous overarching National Commission for Higher Education and Research (NCHER) for prescribed standards of academic quality and defining policies for advancement of knowledge in higher educational institutions. The said proposal is based on the recommendations of Yash Pal Committee and National Knowledge Commission.
- A proposal to prevent, prohibit and punish educational malpractices.
- Law for mandatory assessment and accreditation in higher education through an independent regulatory authority.
- Establishment of a national database of academic qualifications created and maintained in an electronic format which would provide immense benefit to institutions, students and employers.
- A proposal to establish 14 innovation universities aiming at world class standards.
- Setting up 10 new National Institutes of Technology (NITs).
- Launching of a new scheme of interest subsidy on educational loans taken by professional courses by the economically weaker students.
- Setting up of 374 Model degree colleges in districts having GER for education less than the National GER.
- As part of reforms in All India Council for Technical Education (AICTE) norms, the HRD ministry announced an increase of almost 200,000 seats in engineering courses, additional 80,000 seats in management and 2,200 seats in architecture courses. The ministry also made it mandatory for technical institutions to reserve 5 percent seats for the weaker sections of society.
- HRD ministry has liberalized the norms for land requirement for engineering colleges. Now lesser space will be needed for establishing technical institutes. While an engineering college in rural India will need 10 acres of land, just 2.5 acres of land will be needed in urban areas.
- Conduction of special evening in the areas of Engineering, Technology, Architecture, Town Planning, Hospitality and Pharmacy by AICTE-approved institutes.
- Introduction of Section 25 of Company's Act to allow good corporates to set up Technical Institutions.
- Review of the functioning of existing Deemed Universities.
- Passing of the Right of Children to Free and Compulsory Education Bill.

## 6. Recommendation

As per the present scenario of the higher education in India we recommend following in order to further meet the challenges:

1. Government should offer tax concessions/fiscal incentives for setting up campuses of higher education by private/corporate sectors.
2. Open Universities need to be encouraged to offer quality programmes at the least cost.
3. Government should encourage foreign universities to come to India to set up independent operations or collaborate with existing Indian Institutions.
4. A regulatory set up is required to ensure that there is no cheating or hoax and , fixation of fees should not be in state control.
5. There is great need for providing broad band connectivity to all students along with low priced computer accessibility.
6. Good salary packages and benefits to the faculty so that good brains can be attracted to this profession.

7. Private sector should run universities not for a profit-basis through charitable trusts/societies but as a part of a corporate social responsibility (CSR).
8. Possibilities for foreign collaboration and participation as 100% foreign direct investment (FDI). The government can encourage this initiative to improve the quality of formal education, particularly, in government run institutions.

## 7. Conclusion

In this paper we have presented the development and present scenario of higher education in India by analyzing the various data and also identify the key challenges like demand-supply gap, quality education, research and development and faculty shortage in India's higher education sector. In this paper also identified the key initiatives from the government side which include the establishment of NCHER, independent regulatory authority for accreditation and national database of academic qualification, increase in number of universities including IITs, IIMs, NITs and SPAs during 11<sup>th</sup> five year plan and increase in the number of seats in existing institutions, and passing of the Right of Children to Free and Compulsory Education. Looking to the present scenario of the higher education in India we recommended some points in order to further meet the challenges.

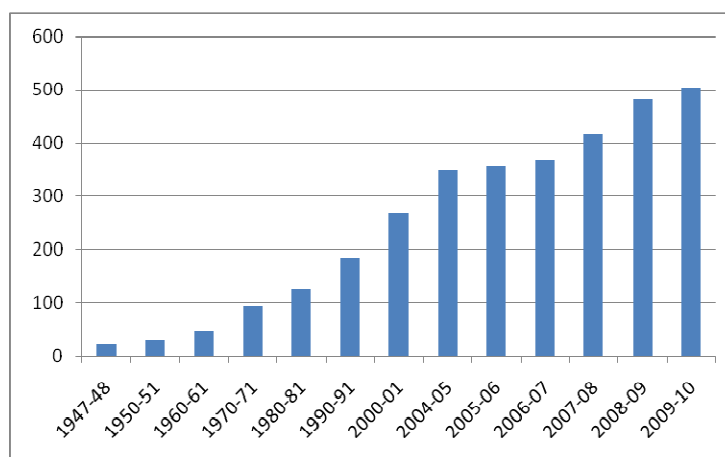
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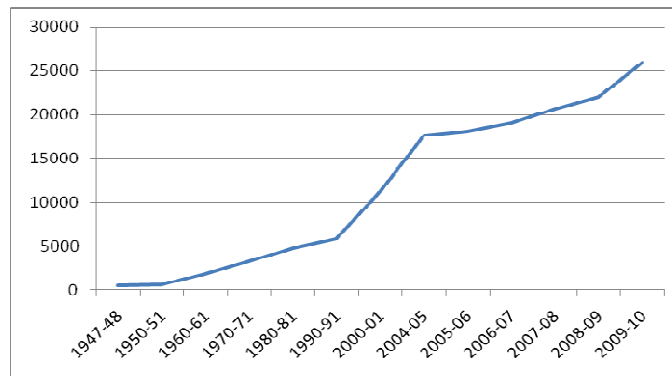
**Table-1: All India Growth of institutions**

Year	Universities	Colleges	Total
1947-48	20	496	516
1950-51	28	578	606
1960-61	45	1819	1864
1970-71	93	3227	3320
1980-81	123	4738	4861
1990-91	184	5748	5932
2000-01	266	11146	11412
2004-05	348	17625	17973
2005-06	355	18064	18419
2006-07	367	19000	19367
2007-08	416	20677	21093
2008-09	480	22000	22480
2009-10	504	25951	26455

*Source: UGC and Higher Education in India, Annual Reports (Universities include central, state, private, deemed and also institution of national importance established both by the central and state legislatures). Ref [6-7]*



**Figure 1: Growth of universities in India from 1947 to 2010**

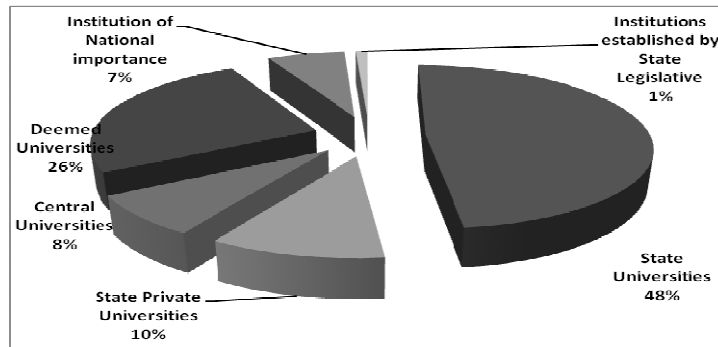


**Figure 2: Growth of number of colleges in India from 1947 to 2010**

**Table2: Number and type of institution in 2010**

Type of Institution	Number (Total 504)
State Universities	243
State Private Universities	53
Central Universities	40
Deemed Universities	130
Institution of National importance	33
Institutions established by State Legislative	05

Source: MHRD, Annual Report 2009-2010.



**Figure 3: Share of different types of universities in India in 2010**



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