

Framing Higher Education in India with Special Reference To Odisha

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Abstract

The Supreme Court said today that the education system in the country has failed to achieve its objective and it has to be reformed immediately. "It is unfortunate that today education instead of reforming the human behavior, in our humble opinion, appear to have failed to achieve its objective. Instead we find troubled atmosphere in the society at large, which calls for immediate reformation with the efforts of one and all," a bench of justices BS Chauhan and FM Ibrahim Kalifulla said. The bench said that in comparison to earlier times, the literacy level has increased but it did not result in better human value which calls for transformation in education system.

The number of institutions and enrollment in higher education continue their rapid growth, but the quality of this education remains uncertain. A small number of state-subsidized institutions attract a thin top layer of talent from each year's cohort. High selectivity of admission to these elite institutions provides a screen valued by potential employers. Domestic and foreign demand for the services of these few thousand students has created an inflated reputation of the overall quality of India's higher education. The number of such graduates remains small relative to the population and the demands of India's economy for educated manpower. Reliable estimates of value-added by higher education, beyond the screening value of admission to elite institutions, are needed to assess colleges and universities, and to guide educational policy. Graduate education—the seed farm of higher education and scholarship—continues in an alarming state of disarray with respect to both quality and quantity. Pressed by budgetary constraints, the government appears to have decided on profit-oriented privatization of higher education as the solution. Political and business classes, with significant overlap between the two, see higher education as a source of lucrative private returns on investment. There is little theoretical or empirical evidence that supports the prospects of success of a for-profit model in building quality higher education. Some recent proposals hold promise of radical reform and renovation, including regulatory restructuring. It remains unclear whether the government has the wisdom, determination, financing, and power to push reforms past the resistance from entrenched faculty and from the political and business classes.

Keywords: India, Economic Growth, Higher Education, University, Reforms, Innovation, Doctoral Programs, Financing, Regulation, Teacher Scarcity, Investment.

Introduction

Ensuring quality higher education is one of the most important things we can do for future generations.

Ron Lewis

Just as a face is the mirror to the heart of a person, level of education reflects the status of a nation. Since independence India has marched much ahead in the field of science and technology. We are among the six nuclear powers of the world. In information technology we are second to none. We have our own satellites orbiting the earth launched from our own launching station and manufactured indigenously. We are self sufficient in food production and the position of balance of payments is more than satisfactory. But the social face of India is from satisfactory. In the two major segments of social face i.e. education and median age in India, we have not performed up to the mark and have thus adversely affected the social performance. Hence to reap the real fruits of growth and achievements of the country the issue of education shall have to be dealt with all seriousness. The importance of education for the development of a country must not be underestimated because education is the tool which

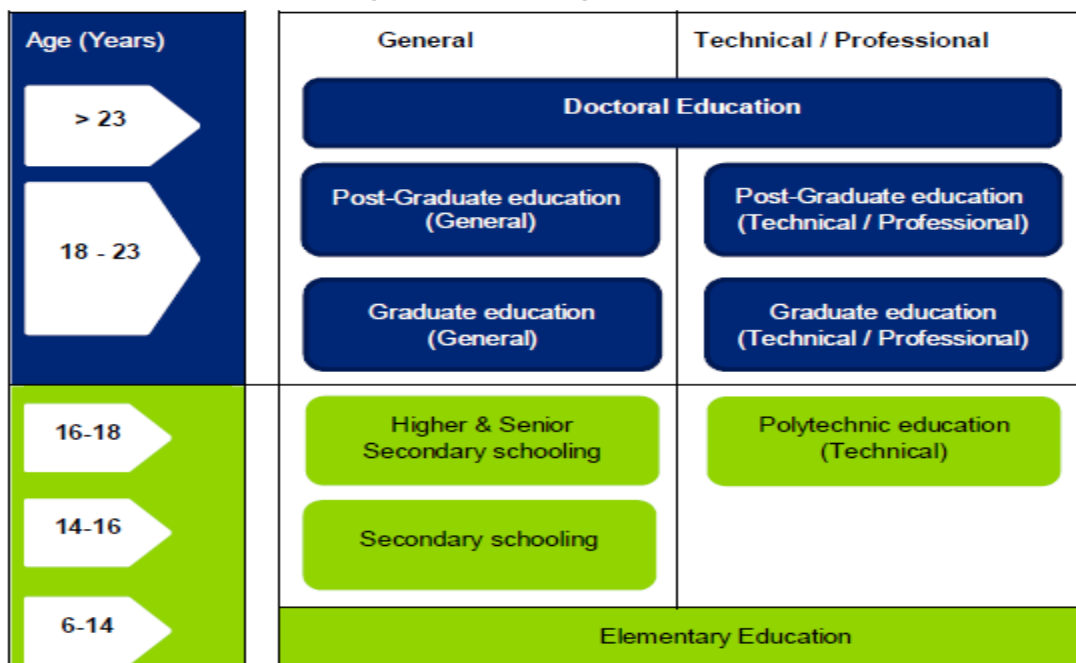
alone can inculcate national and cultural values and liberate people of false prejudice, ignorance and representations. Education provides them required knowledge, technique, skill and information and enables them to know their rights and duties towards their family, their society and towards their motherland at large. Education expands their vision and outlook, provokes the spirit of healthy competition and a desire to advance for the achievements of their consciousness regenerating truth, and thereby capability to fight ignorance, injustice, corruption, violence, disparity and communalism, the greatest hazards to the progress of the nation. Education is thus a means to stir up the consciousness of the people against injustice, violence and disparity, generally resulting in unrest and violence.

In ancient time education in India commenced under the supervision of a guru. Initially, education was open to all and seen as one of the methods to achieve Moksha, or enlightenment. As time progressed, due to superiority complexes, the education was imparted on the basis of caste and the related duties that one had to perform as a member of a specific caste. The Brahmans learned about scriptures and religion while the Kshatriyas were educated in the various aspects of warfare. The Vaishya caste learned commerce and other specific vocational courses while education was largely denied to the Shudras, the lowest caste. The earliest venues of education in India were often secluded from the main population. Students were expected to follow strict monastic guidelines prescribed by the guru and stay away from cities in ashrams. However, as population increased under the Gupta empire centres of urban learning became increasingly common and Cities such as Varanasi and the Buddhist centre at Nalanda became increasingly visible.

Education is the most important national

activity. It is the backbone of a country progress. Our system of education has often been criticised as outdated and unrealistic. It has outlived its utility. Everybody agrees that reforms in the present educational system are long overdue. But changes are often resented by the beneficiaries of the present system. If changes are brought about, the system of private tuitions and coaching shops might become unnecessary. Those who benefit from leakage of question paper, preparation of keys and test paper, mass copying and other unethical practices will run the risk of losing their business. This system of education has an urban and elitist bias. The need is to made education socially relevant and responsive to the development and man power needs of the country. Cramming of textbooks should be replaced by innovative work and environmental related teaching. Elementary education should be made universal. Students should be strictly chanelised at the higher secondary stage into academic and vocational streams. Their entry into universities or colleges should be restricted on the basis of quality and excellence. Only those having necessary talent and means to pursue higher education should be admitted to universities. Government must support talented and poor students desirous of higher education. The spread of education in society is at the foundation of success in countries that are latecomers to development. In the quest for development, primary education is absolutely essential because it creates the base. But higher education is just as important, for it provides the cutting edge. And universities are the life-blood of higher education. Islands of excellence in professional education, such as IITs and IIMs, are valuable complements but cannot be substitutes for universities which provide educational opportunities for people at large.

Fig:1-Structure of Higher Education



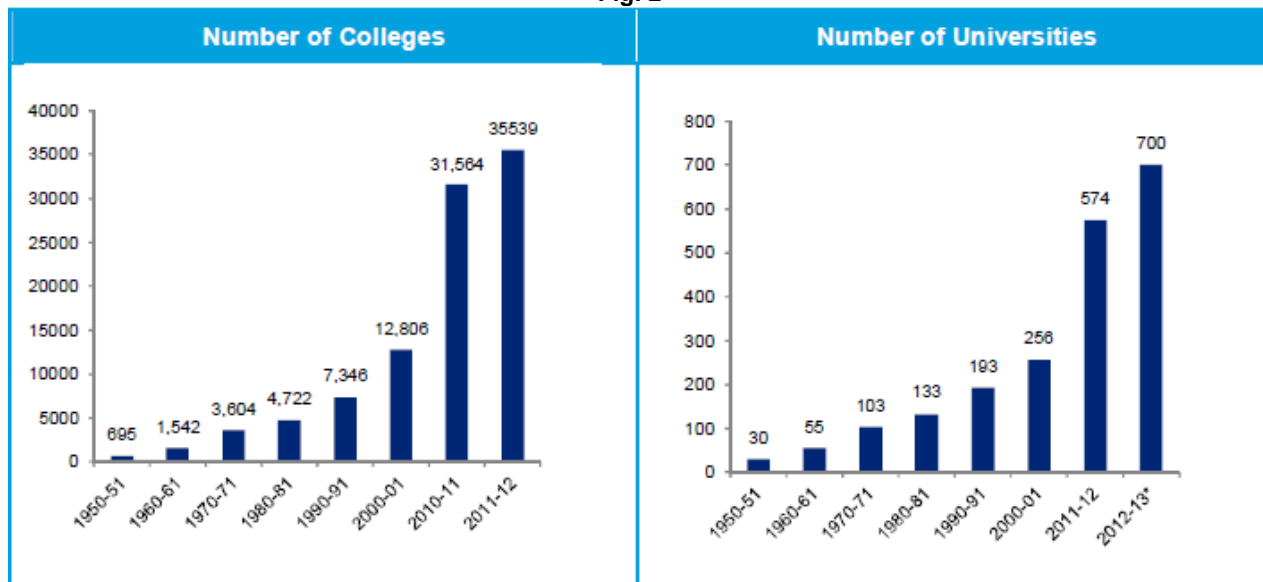
Source: Deloitte Analysis

Number of Higher Education Institutions

Higher education in India has witnessed an impressive growth over the years. The number of higher educational institutions (HEIs) has increased from about 30 universities and 695 colleges in 1950-51 to about 700 universities (as of 2012-13) and

35,000 colleges (as of 2011-12) as per a recent UGC report¹. With an annual enrolment of above 25 million (including enrolment under Open and Distance Learning system), India is today ranked as the third largest higher education system in the world after US and China.

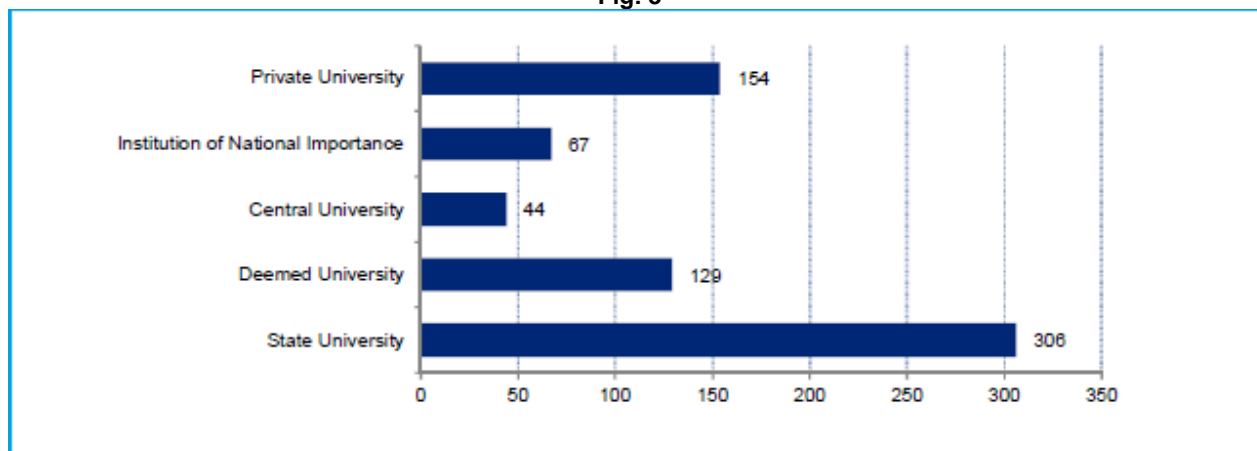
Fig: 2



Source: UGC Higher Education at a Glance - June, 2013

Higher Education Institutions Break ups

Fig: 3



Source: UGC Higher Education at a Glance - June, 2013

There can be no doubt that higher education has made a significant contribution to economic development, social progress and political democracy in independent India. It is a source of dynamism for the economy. It has created social opportunities for people. It has fostered the vibrant democracy in our polity. It has provided a beginning for the creation of a knowledge society. But it would be a mistake to focus on its strengths alone. It has weaknesses that are a cause for serious concern.

There is, in fact, a quiet crisis in higher education in India that runs deep. It is not yet discernible simply because there are pockets of excellence, an enormous reservoir of talented young people and an intense competition in the admission

process. And, in some important spheres, we continue to reap the benefits of what was sown in higher education 50 years ago by the founding fathers of the Republic. The reality is that we have miles to go. The proportion of our population, in the age group 18-24, that enters the world of higher education is around 7 per cent, which is only one-half the average for Asia. The opportunities for higher education, in terms of the number of places in universities, are simply not enough in relation to our needs. What is more, the quality of higher education in most of our universities requires substantial improvement.

It is clear that the system of higher education in India faces serious challenges. And it needs a systematic overhaul, so that we can educate much

larger numbers without diluting academic standards. This is imperative because the transformation of economy and society in the twenty-first century would depend, in significant part, on the spread and the quality of education among our people, particularly in the sphere of higher education. It is only an inclusive society that can provide the foundations for a knowledge society.

The challenges that confront higher education in India are clear. It needs a massive expansion of opportunities for higher education, to 1500 universities nationwide, that would enable India to attain a gross enrolment ratio of at least 15 per cent by 2015. It is just as important to raise the average quality of higher education in every sphere. At the same time, it is essential to create institutions that are exemplars of excellence at par with the best in the world. In the pursuit of these objectives, providing people with access to higher education in a socially inclusive manner is imperative. The realization of these objectives, combined with access, would not only develop the skills and capabilities we need for the economy but would also help transform India into a knowledge economy and society.

We recognize that a meaningful reform of the higher education system, with a long-term perspective is both complex and difficult. Yet, it is imperative. And we would suggest the following building blocks in this endeavor. First, it is essential to reform existing public universities and undergraduate colleges. Second, it is necessary to overhaul the entire regulatory structure governing higher education. Third, every possible source of financing investment in higher education needs to be explored. Fourth, it is important to think about pro-active strategies for enhancement of quality in higher education. Fifth, the time has come to create new institutions in the form of National Universities that would become role models as centre of academic excellence. Sixth, the higher education system must be so designed that it provides access to marginalized and excluded groups.

We are now entering into XII plan and allotment for education continues to be 3% of GNP whereas in the common minimum programme of the government public expenditure on education it should be six percent of GNP. In accordance with in the approach paper for XI plan it has been stressed that public spending on education must be raised to 6% of GDP so that constitutional obligation of providing free and compulsory education of good quality to children of all sects irrespective of caste, creed and color may be fulfilled.

Review of Literature

Higher Education is a very important sector for the growth and development of human resource which can take responsibility for social, economic and scientific development of the country. The University Education Commission (1948-49), under the Chairmanship of Dr. S. Radhakrishnan, gave the foundations of the future of Indian Higher Education.

In 1947 while addressing the convocation of the Allahabad University, Late Jawaharlal Neheru, the first Prime Minister of India said-A University stands for humanism, for tolerance, for reason, for the

adventure of ideas and for the search for truth. It stands for the onward march of the human race towards higher objectives. Universities are places of ideals and idealism. If the Universities discharge their duties adequately, then, it is well with the nation and the people. The above observation by our First Prime Minister initiated the formulation of the essential purpose of University education in independent India. After Independence, the first Education Minister Maulana Abul Kalam Azad took steps to appoint a commission on university education under the chairmanship of Dr. S.Radhakrishnan to report on the Indian University education. In the report, the commission said- "Democracy depends for its very life on a high standard of general, vocational and professional education. The Radhakrishnan Commission set out the aims of university education as – (a) Higher education policies and programmes should be in line with the social purposes which we profess to serve, (b) There should be a sufficient unity of purpose in the diversity to produce a community of values and ideas among educated men and women (c) Institutional forms may vary as time and circumstances require, but there should be a steadfast loyalty to the abiding elements of respect for human personality freedom of belief and expression for all citizens, a deep obligation to promote human well being, faith in reason and humanity, (d) mere vocational and technical education, important though they are, do not necessarily serve the spirit. We might have a number of scientists without conscience and technicians without taste who would find a void a moral vacuum, within themselves; (e) we should preserve the values of democracy, justice and liberty, equality and fraternity. Universities must stand for these ideals, which can never be lost so long as men seek wisdom and follow righteousness; and (f) the Indian Constitution lays down the general purposes of the state. The Universities should educate people on the right lines to make the understanding and vision of the framers of the constitution, the common possession of all the Indian people.

The report of the Education Commission (1964-66) under the Chairmanship of Dr. D.S. Kothari symbolized the symbiotic relationship between education and national development. A lot of thought has since been generated towards the emerging concerns of higher education. The vision of higher education in India is to realize the country's human resource potential to its fullest with equity and inclusion. This essentially means the need to provide greater opportunities of access to higher education with equity to all eligible, and in particular, to the vulnerable sections of the society. Thus, higher education could set its tone in our country through Radhakrishnan Commission and Kothari Commission recommendations in post-colonial India. Infact, higher education system in our country could strive to build Universities as places of culture and of learning open to all and above all, reinforcing the theme of learning throughout life. The University could participate in national development process through joining the debates with other stakeholders because of the laudable effort of both the Commissions. Expansion of

access by supporting existing institutions, establishing new institutions, supporting State Governments and Non-Government Organizations (NGOs) / Civil Society to supplement public efforts are needed to aim at removing regional and other imbalances that exists at present. Policies and programmes for strengthening research and innovations have to be initiated and institutions, public or private, will have to be encouraged, to engage in stretching the frontiers of knowledge. In recent years, the nation has embarked upon initiating a number of development linked strategies for promotion of higher education. Indian higher education has grown by 20% in one year and added more than 5,000 colleges to the system. Likewise, gross enrollment ratio grew from 12.5% in 2007-08 to 17.3% in 2009-10. India's target of doubling the gross enrolment ratio (GER) in higher education by 2020 will come at a price of R9.5 lakh crore and require an additional 10,510 technical institutions, 15,530 colleges and 521 universities. GER is the number of actual students as a share of all potential students. The human resource development (HRD) ministry has set a goal of doubling GER to 30% by 2020 from the current 15%. The ratio was approximately 12% in 2008-09 — only a fourth of the average GER in developed countries (54.6%), even worse than developing countries in transition, which have 36.5%.

National University of Educational Planning and Administration has pointed out that —The investment required in higher education is more than 9 lakh crore if we want to achieve 30% GER. This includes the cost of setting up more institutes, infrastructure and salaries. In China, government spends more than 1.5 per cent of its GDP on higher education while India spends less than 0.5 per cent. According to a provisional survey on higher education released on Friday September 28, 2012 has pointed out that the Gross enrolment ratio in India stands at an estimated 18.8 percent, with Other Backward Class recording a respectable 27.1 percent,. Enrolment ratio among Schedule Caste students in contrast stood at 10.2 percent and 4.4 percent in case of females. Similarly, enrolment ratio among the teaching staff was more under OBC at 23.3 percent as compared to 7.4 percent among SC category and 2.9 percent in Schedule Tribes category. The first 'all India survey on higher education' for 2010-11 also said 19,249 foreign students were pursuing education in India and 6,842 of them were female students. According to Ernst & Young, in the last decade, the number of universities in the country grew at a CAGR of 7.5% as against the 4.7% growth observed from 1951-2001. The number of colleges has grown at a CAGR of 11% in 2001-2011 as against 6.1% during 1951-2001. However, salient reason for the discrepancy between Chinese and Indian educational performance is the absence of the state from higher education in India. During 2005-06 period, around 52 per cent of Indian student accessed higher education in private colleges, compared to less than 10 per cent in China. China has grown its higher education sector primarily with the help of universities, which number more than 2300. India has around 600 universities but

they have more than 33,000 affiliated colleges. This is the largest number of affiliated colleges in the world, and is 10 times more than that of China. The majority of these universities and colleges in India are private and do not receive financial support from the Indian government. On 25th Nov 2013 HRD Ministry Ashok Thakur, Higher Education Secretary said that the Centre plans to create 278 new universities and 388 colleges. Now the Centre proposes to spend Rs 22,500 crore in the 12th plan under Rashtriya Uchchatar Shiksha Abhiyan (RUSA), which is aimed at improving funding at the state level for higher education.

National Knowledge Commission report 2006 pointed out that 'the existing framework, rather than fostering accountability, constrains the supply of good-quality institutions whilst excessively regulating the existing institutions in the wrong places and is not conducive to innovation or creativity'. These findings are backed up by another report which describes the Indian higher education sector as: 'Over-regulated and under-governed'. At the same time, quantity expansion has also been grossly inadequate, making the challenges daunting on dual fronts of quantity and quality.

According to the Team Lease report, well over half — 58 per cent, in fact — of young Indians suffer from some degree of skill-deprivation. The study also showed that non-availability of courses, inadequate infrastructure facilities, inadequate financial resources, lack of flexibility and autonomy to the institutions among others have dented efforts in improving the quality and scale of education, employability and employment. The study also states that the challenges of higher education been caused due to low college enrollment, employability crisis of unskilled labor and lack of flexibility of the education sector.

McKinsey-(NASSCOM 2005) He mainly pointed out that those employers stating their dissatisfaction with the quality of graduates. There are jobs — in the IT sector, for instance — but not enough qualified engineers to fill them.

Judhajt Das, opines that (Chief HR Officer, ICICI Prudential) —The issue of employability is centered on two challenges. The first one is lack of access to education and skills, and the second is rigour in education quality standards. Calculated investment and new technology can take care of the first issue. The second challenge is more about quality of students which results in aspiration mismatch between skills and job/salary expected.

Twelfth Five Year Plan (2012-2017)

This report suggested that accountability indicators designed to ensure quantity were inhibiting the quality of graduates, particularly in relation to their creative and entrepreneurial skills. It also pointed out that higher education system in India can scale up in quality and reach only by creating competition with transparent regulation. Some of the proposed solutions include legitimizing distance education, fostering public-private partnership models, deregulating higher education and tweaking the skill and employment ecosystem. While stressing the

importance of Indian higher education challenges in the context of globalization following objectives are set forth Objectives

1. To examine the Growth of higher education university/colleges/students enrollment/teaching staff from
2. 1950-51 to 2010-2011
3. To study the Growth of higher education level wise student enrollment boys and girls 2010-2011
4. To evaluate the growth of universities/colleges 2001-2011
5. To study the of total student and girls enrollment in Higher Education
6. To examine the faculty-wise students enrolment in Higher Education 2010-2011
7. To study a comparison of gross enrollment ratio of various countries.

The latest of these include the Report of the 'National Knowledge Commission' (NKC), the Report of 'The Committee to Advise on Renovation and Rejuvenation of Higher Education' and the Conclave of Vice-Chancellors and other Forums of Educationists. The 11th FYP evolved as a move towards a quantum leap in expanding and strengthening the higher education system. The 12th FYP is projected to maximize the output/outcome of access, equity and quality.

According to Jayanta Chatterji in his article :- How to improve India's higher education and research quality?

1. Reduce spending of public money on higher education and research for non-performing institutes and universities. All institutes/universities should be graded and judged as per their performance and public monetary support should depend on that. (UGC has started this but not with much cooperation from universities and so-called elite institutes and with very limited success so far).
2. Introduce strict accountability of public money for any research in any institute or university and the performance.
3. Private institutes and universities must follow a minimum standard to give degrees.
4. Start "tenure track" system in Indian institutes/universities.
5. We must increase substantially the number of primary schools and quality of those and improve on physical infrastructures like school buildings, a minimum standard of school laboratory and

library, a decent play ground, some internet connected computers in libraries etc.

6. Change the education system from the primary level (reduce work load, put more importance on physical activities, encourage original thinking etc). There should not be any form of evaluation (exam or so) till age 10 years (i.e till class 4 level). Subsequently the exam patterns should change and put more emphasis on original thinking and problem solving rather than emphasizing database-quiz type format. Basic education should be in mother tongue but English also should be compulsory from class 1.
7. Provide increased opportunities for students in rural and semi-urban India (in form of transparent information dissemination, transparent selection for fellowship/scholarships and recruitments).

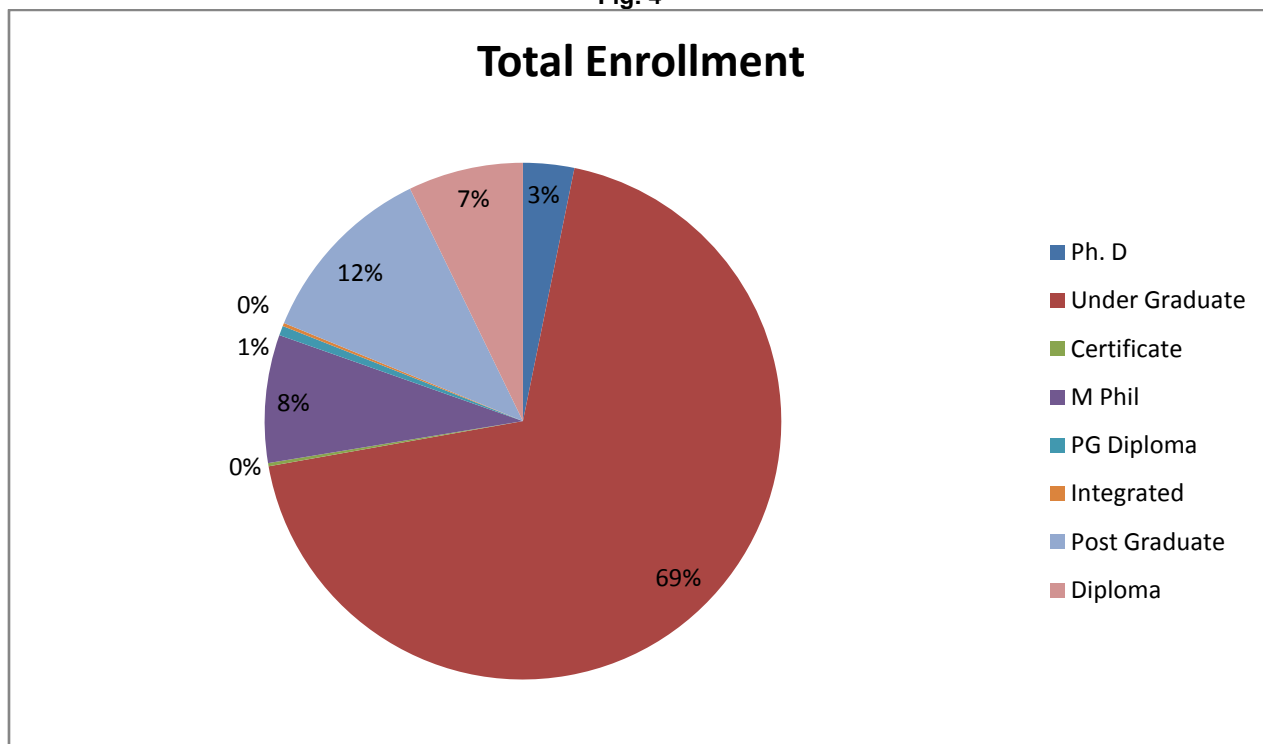
According to All India Survey on Higher Education (2011-12) 2013

The key results of this survey are as follows

1. The top 6 States in terms of highest number of colleges in India are Uttar Pradesh, Andhra Pradesh, Maharashtra, Karnataka, Rajasthan and Tamil Nadu.
2. Bangalore district tops in terms of number of colleges with 924 colleges followed by Jaipur with 544 colleges. Top 50 districts have about 36% of colleges.
3. College density, i.e. the number of colleges per lakh eligible population (population in the age group 18 to 23 years) varies from 6 in Bihar to 64 in Puducherry as compared to All India average of 25.
4. Total enrolment in higher education has been estimated to be 28.56 million with 15.87 million boys and 12.69 million girls. Girls constitute 44.4% of the total enrolment.
5. Gross Enrolment Ratio (GER) in Higher education in India is 20.4, which is calculated for 18 to 23 years of age group. GER for male population is 21.6 and for females it is 18.9.
6. Scheduled Casts students constitute 12.5% and Scheduled Tribes students 4.2% of the total enrolment. 31.6% students belong to Other Backward Classes. 4.5% students belong to Muslim Minority and 2.1% from other Minority Community.
7. Pupil Teacher Ratio (PTR) in Universities and Colleges is 25.6.

The survey report shows the total enrollment in different disciplines.

Fig: 4



The above figure shows maximum students are enrolled in undergraduate. In Post Graduate only 12% enrolled. At Ph D level maximum candidates are from science stream.

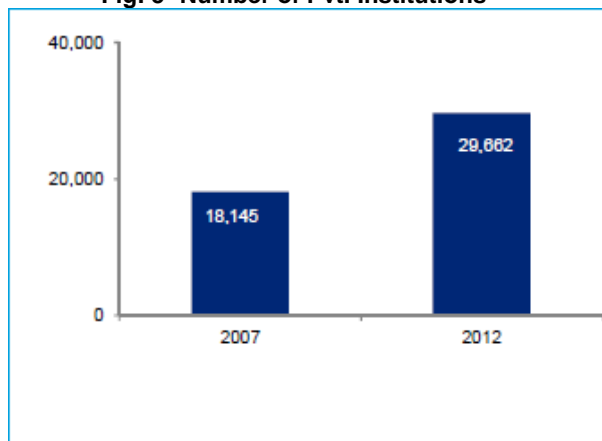
Enrollment in Distance Mode

Level	Male	Female	Total
Post Graduate	772328	531536	1303864
Under Graduate	1213524	785429	1998953
PG Diploma	44661	18003	62664
Diploma	70580	45595	116175
Certificate	37231	38671	75902
Integrated	1523	478	2001
All	2139847	1419712	3559559

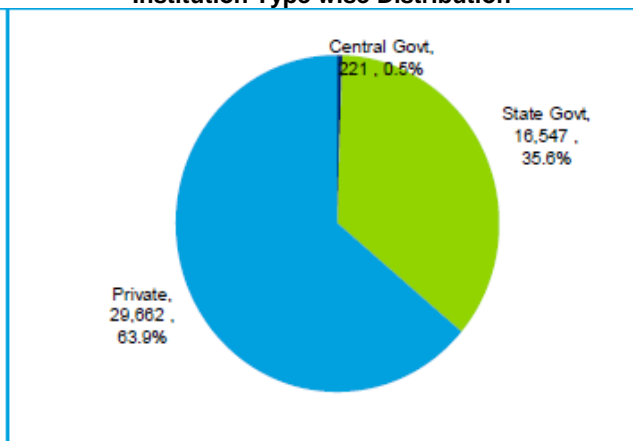
The public expenditure in higher education remained close to 1% of the country's Gross Domestic Product (GDP) over the years, which has been quite low in proportion to the burgeoning requirements of this sector. This has led to an exponential growth of private sector institutions. The

number of private HEIs has increased by more than 60% during the five year period between 2007 and 2012, as illustrated in Figure 3. As a result, the share of private sector in terms of total HEIs has increased to about 64% in 2012.

Fig: 5- Number of Pvt. Institutions



Institution Type wise Distribution



Source: Twelfth Five Year Plan (2012-2017) - Social Sectors

Objective of the Study

The objective of this study is to

1. Discuss different challenges faced by Higher Education
2. Suggest possible solutions to enrich the Gross Enrollment Ratio in Higher Education with Quality and Excellency.

Research Methodology

To study the quality, challenges of Higher Education System relevant data have been mainly gathered from the published annual reports of Ministry of Higher Education, annual reports of UGC, research papers and articles published in websites. The data collected from above source are analyzed and summarized to find out solutions to achieve quality and Excellency.

Challenges for Higher Education

Our university system is, in many parts, in a state of disrepair...In almost half the districts in the country, higher education enrollments are abysmally low, almost two-third of our universities and 90 per cent of our colleges are rated as below average on quality parameters... I am concerned that in many states university appointments, including that of vice-chancellors, have been politicised and have become subject to caste and communal considerations, there are complaints of favouritism and corruption.

– **Prime Minister Manmohan Singh in 2007**

In present scenario the challenges in higher education are:

Demand-Supply Gap

According to the recent report of HRD ministry, 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".* 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 11th Five Year Plan 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.

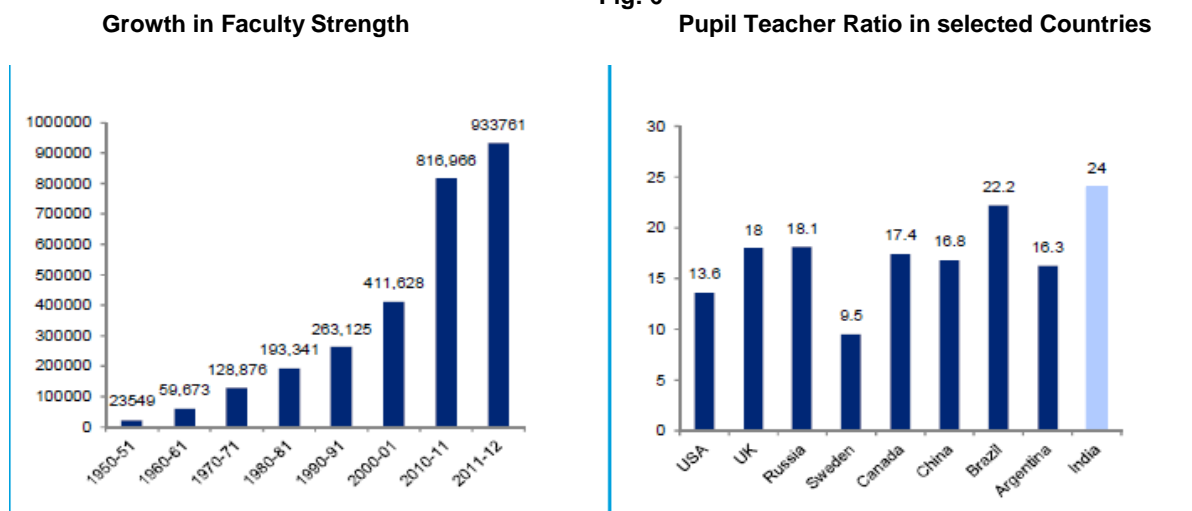
Quality Education

According to a recent government report two-third of India's colleges and universities are below standard. However, according to MHRD annual report 2009-10, a proposal for mandatory accreditation in higher education and creation of an institutional structure for the purpose of regulation is under consideration. In order to increase the supply quality should be maintained. Recently MRD ministry has decided to derecognize 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 M Phil 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.

Faculty Shortage

Availability of good quality faculty is a critical input in the functioning of a sound higher education system. While there has been a consistent growth in the faculty strength in higher education, it has not matched the growth in student enrolment numbers. While the student enrolments have gone up by more than 100 times between 1950-51 and 2011-12, the number of teachers has gone up by less than 40 times, which implies the student-teacher ratios have declined by about 2.5 times over this period. This has also led to the country's poor performance on student-teacher ratio at the international level. 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 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. There is 40% (avg.) faculty shortage in state universities and 30% shortage in central universities. 62% of universities and 90% of colleges were average or below average in 2010, on the basis of their NAAC accreditation.

Fig: 6



Source: UGC Higher Education at a Glance - June, 2013, UNESCO Institute of Statistics and Statistics of Higher and Technical education in Indi, 2009, MHRD

Expansion

India's GER of 16% was much below the world average of 27%, as well as that of other emerging countries such as China (26%) and Brazil (36%) in 2010.

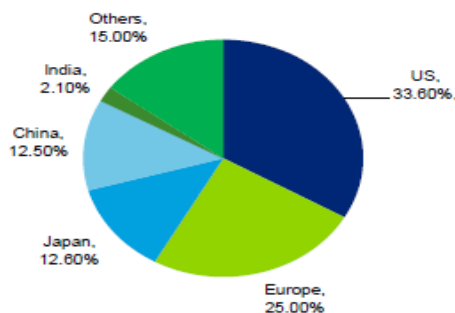
Research and Development

Research and higher education are complementary to each other. According to the available official statistics 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 R & D as a percent of their GDP were Israel (5.11percent), 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.

Research is an essential component of a higher education system to ensure it remains vibrant and is quick to respond to and anticipate changes arising in the contextual conditions. One of the input parameters to ascertain progress in research is the quantum of spending on research and development activities. As per a study⁹, India's share in R&D spending to the total global R&D spending stands at 2.1% while the share of China is 12.5%. Figure 15 compares the R&D spending of India and China with other developed economies. There is clearly a need to increase spending on R&D as we move forward to become a knowledge economy.

Fig: 7 Share of Total Spending on Research and Development

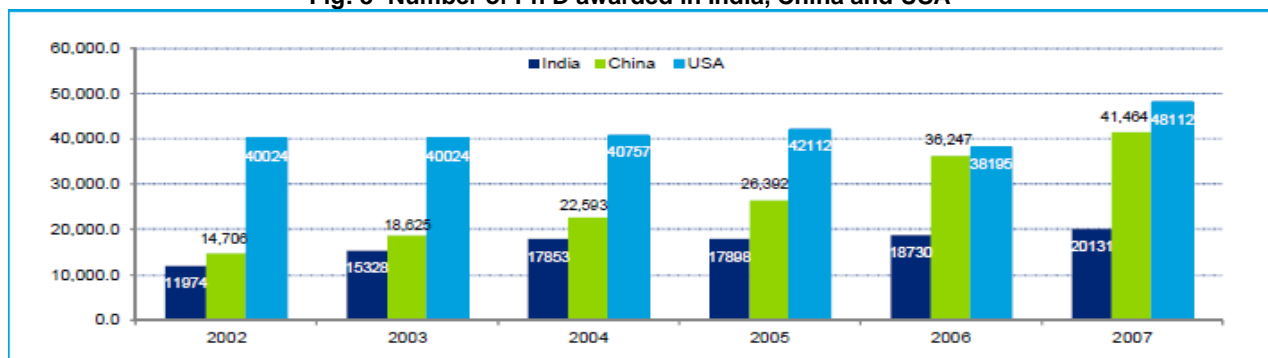


Source: Battelle, R&D Magazine -2009 RD Funding final report

Another important parameter to measure research is the enrolment and award of PhDs. The number of PhDs awarded in India has doubled over a ten year period from 1998 to 2007¹⁰. The study¹¹ also indicates that only 0.25% of the students who enrolled at the graduate level get themselves enrolled for PhD. The number of PhDs produced in India grew

at an annual rate of about 9% during the period from 2002 to 2007, whereas the number of PhDs awarded in China grew at a rate of over 18%¹² during the same period. The following figure provides a comparison of PhDs produced by India, China and USA during the period 2002-2007.

Fig: 8- Number of Ph D awarded in India, China and USA



Source: Sunder. S. Higher Education Reforms in India, Yale University 2010

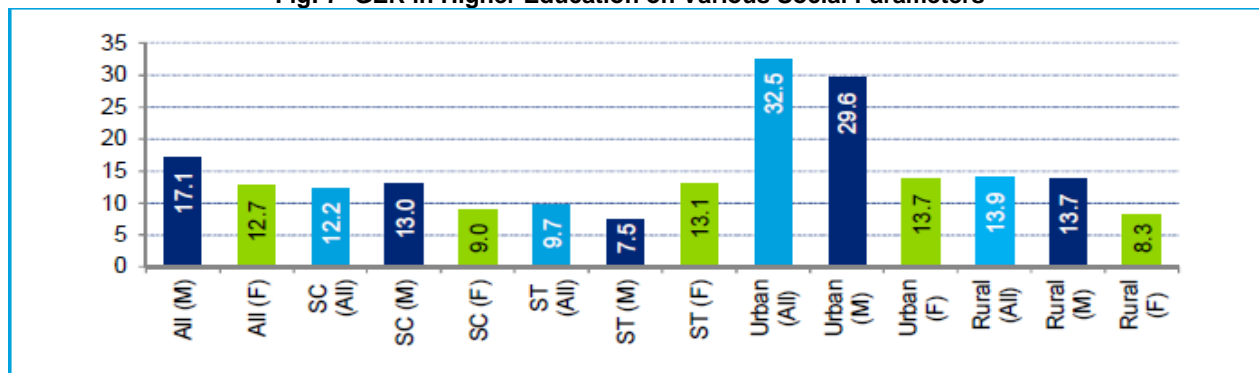
Equity

There is wide disparity in the GER of higher education across states and the Gross Attendance Ratio (GAR) in urban and rural areas, and gender- and community-wise

1. Inter-state disparity - 47.9% in Delhi vs. 9% in Assam.

- 2. Urban-rural divide - 30% in urban areas vs. 11.1% in rural areas.
- 3. Differences across communities - 14.8% for OBCs, 11.6% for SCs, 7.7% for STs and 9.6% for Muslims.
- 4. Gender disparity - 15.2% for females vs. 19% for males.

Fig: 7- GER in Higher Education on Various Social Parameters



Source: NSS 66th Round 2009-10; some of the figures have been estimated from unit level data of NSS 66th Round of Employment and Unemployment by Bino Paul, Labour Market Research Facility, TISS and RUSA

The representation of Scheduled Castes (SCs) and Scheduled Tribes (STs) in enrolments in the Indian higher education have remained low over the years. As may be seen from the above figure, the GER of SCs in higher education is 12.2% (2009-10), while that of the ST population stands at 9.7% (2009-10), which is far below than the national average. This underscores the need to initiate special efforts for these groups. Similarly, there exists a wide variation between male and female GERs in the country. The share of females enrolled in higher education is only 12.7%, while it is 17.1% for males. The gap between male and female GER is more pronounced in urban areas than in the rural areas. Further, analysis of GER among urban and rural populations provides useful insights. The GER in urban areas (32.5%) is more than double that of the GER in rural areas (13.9%). This is reflective of the concentration of private HEIs in urban areas which aim to attract young urban population. There is an urgent need to broaden the institutional reach in rural areas in order to strike a balance. RUSA, the landmark scheme of MHRD on higher education also highlights the wide disparities existing in higher education on aforementioned social parameters.

Governance

There is an acute need for reform in the structures of governance of universities. The present system is flawed. On the one hand, it does not preserve autonomy. On the other, it does not promote accountability. The autonomy of universities is eroded by interventions from governments and intrusions from political processes. This must be stopped. At the same time, there is not enough transparency and accountability in universities. This must be fostered. It is exceedingly difficult to provide generalized prescriptions. The Vice Chancellors should have a tenure of six years, because the existing tenure of three years in most universities and five years in central universities is not long enough. There must be a student grievance cell in Universities and it should be monitored and headed by the Executive council and VC respectively

Immigring issues in Higher Education System of Odisha

The Higher education system is moving towards an uncertain future in current scenario. The required infrastructure is not available to maintain the education quality in the colleges and universities. All institutions are deprived of good faculties. The state

Government has no control on the functioning of private colleges. There are no specific guidelines regarding the quality parameter and percentage of success of the private colleges. This results the growth of unemployment in the state. Though UGC has made NET qualification compulsory for the recruitment of lecturers but the volume of such qualifying candidates are very low which creates a good shortage of faculty members in different streams. The Higher Education Dept. is not taking any initiatives to increase the NET qualifying candidates in the state. The Department must take initiative to introduce SLET in the state to cement the demand supply gap. It is observed that in many universities faculties are forced to teach the subjects which are not their specialization. As a result students get a very narrow knowledge on the respective subject. Accountability is a hidden factor in the education system of Odisha. The Higher Education Dept must promote research facility and skill development programs like FDP and MDPs in the campus for the freshers. The post graduate students must be motivated to undergo a research program. The Higher Education Dept. should take initiative to establish a State Education Review Committee (SERC) by taking eminent educationists. The SERC should monitor the activities of such development programs in the colleges. The Higher Education Dept. must implement a ranking system in the state level for the Universities and colleges. The best performing institutions in all aspects will be awarded with some additional tangible

benefits. The higher Education Dept must give importance to the application of Information Technology in wide range to develop monitoring tools and knowledge hubs to enhance quality, accountability and transparency among the colleges and universities. The Government should come out of the thinking that “Pay hike will increase the Quality of Education and GER” rather the authorities should think about the Quality Enhancements and Study Environment in the campus. The Department must implement online grievance and feedback cell for the students as a result the SERC can feel comfortable in monitoring the performance of the institutions. The Higher Education Dept. must take initiative to implement parent teacher interaction system inside the campus in presence of the SERC members. Bio matrix attendance system and CBT mode of imparting education should be implemented in the colleges and universities of the state. The examination process and the valuation system is fully malfunctioned. The current system of answer sheet valuation must be analyzed thoroughly to reduce the glimpses. The involvement of political power and reference in appointments must be checked.

Higher Education Infrastructure of Odisha

The break-up of number of universities in the state on the basis of type of University is shown below. Odisha ranks 13th among all states and union territories in India on total of number of Universities with 18 Universities. ODI has 2.9% of all Universities in the country.

Fig:8 - Universities By Type

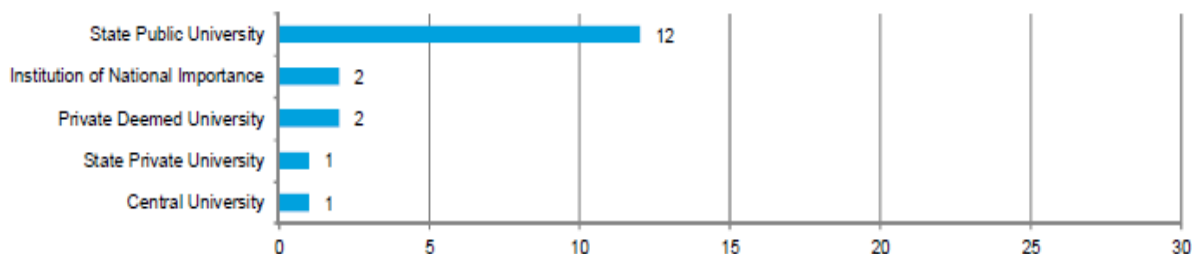


Fig: 9- Universities By Specialization

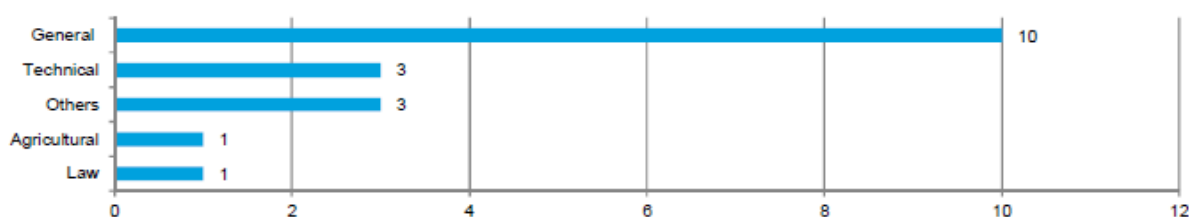


Fig: 10-Student, Faculty and Staff - Gender and Social representation

Indicator	Male	Female	SC	ST	OBC	Muslim	Other Minority
Share of Population	50.5%	49.5%	18.90%	23.60%	36.70%	2.20%	1.33%
Share of Enrolment	56.9%	43.1%	9.3%	7.2%	14.4%	1.3%	0.4%
Share of teaching staff	72.1%	27.9%	3.1%	1.2%	9.4%	0.7%	0.2%
Share of non-teaching staff	79.4%	20.6%	9.7%	4.7%	13.9%	0.6%	0.3%

Source: Share of population - Census 2011 & India Human Development Report 2011; Calculations of teaching and non-teaching staff using data from All India Survey of Higher Education, MHRD 2011;

In terms of representation of various social groups and gender in the teaching and non-teaching staff, the table 5 below provides the relative comparison with the state population. It reveals that females are under-represented among the faculty and staff in higher education institutes as compared to males. In case of social groups also, all the groups show a deficit in terms of representation in both faculty and staff in higher educational institutions as compared to their share of population in the state.

Reform Proposals

The objectives of these reform proposals are to provide a analytical suggestions to enhance the quality and to increase the productive outputs by the Higher Education Department of the state as well the country.

Expansion (National Universities & Universities)

In XI Five year plan 16 central universities are established. But the required Human infrastructure is not available in some universities. Eg- Central University in Odisha. Planning should be made so that the National Universities shall admit students on an all-India basis. They shall adopt the principle of needs-blind admissions. This will require an extensive system of scholarships for needy students. Undergraduate degrees in the National Universities, in a three-year programme, should be granted on the basis of completing a requisite number of credits, obtained from different courses. The academic year shall therefore be semester -based and students shall be internally evaluated at the end of each course. Transfer of credits from one National University to another shall also be possible. An appropriate system of appointments and incentives is required to maximize the productivity of faculty in these National Universities. Strong linkages shall be forged between teaching and research, universities and industry, and universities and research laboratories. The National Universities shall be department-based and shall not have any affiliated colleges. Existing state universities must be restructured with more research facility and information Technology.

The course curriculum should be revised and updated once in every three year. Internal Examinations must be done in a very constructive way so that students will be more conscious in semester examinations.

There must be a conscious effort to attract and retain talented faculty members through better working conditions combined with incentives for performance.

Strong steps must be taken to make university campus free from political issues, strikes, unethical works and antisocial.

All state universities must be interconnected with each other to share resources on seminars through video conference technology.

The Higher Education Dept of the state must take initiative to conduct pre placement training sessions on some short term tailor made modules for selected candidates.

The criteria for resource allocation to universities should seek to strike a much better balance between providing for salaries or pensions

and providing for maintenance, development or investment. It should also recognize the importance of a critical minimum to ensure standards and strategic preferences to promote excellence.

Faculty Development Programs (FDPs) and Management Development Programs (MDPs) should be given more importance in the campus.

Expansion (Degree College)

The system of affiliated colleges for undergraduate education, which may have been appropriate 50 years ago, is no longer adequate or appropriate and needs to be reformed. Indeed, there is an urgent need to restructure the system of undergraduate colleges affiliated to universities.

1. The performance of autonomy colleges must be evaluated by SERC in regular intervals. The examination pattern, students and faculty attendance, study methodology must be monitored.
2. Some of these affiliated colleges could be remodeled as community colleges, which could provide both vocational education and formal education.
3. The academic staffs should be involved less in the process of admission. The same time can be utilized for research and tailor made course design.
4. Inter college talent hunt scholarship system should be promoted to assist and inspire needy students.
5. The involvement of political leaders in the internal affairs of such colleges must be banned.

Identifying and Attracting Talent

Most students know little about academic careers and life of scholarship. When the teachers they respect take the time to tell them about it, they respond positively. A survey of undergraduate and master's students at three IIT campuses, available at the website of Prof. Jalote of IIT Kanpur (http://www.cse.iitd.ernet.in/~jalote/misc/phd_surveyII TK-D-B.pdf accessed on July 18, 2010), shows why these top students in India are reluctant to consider joining a PhD program in an Indian university and what factors might change their minds (see Tables 3 and 4). IIT Kanpur students thinking of joining a PhD program (24 percent) exceed the percentages at the Delhi (14) and Bombay (17) campuses. Perhaps Prof. Jalote and his colleagues supplement their writings on the subject with personal discussions with students (http://www.cse.iitk.ac.in/users/jalote/article_on_IT.html, accessed on July 18, 2010), and have influenced their students' decisions.

Microsoft Research runs an active program to identify, expose, and support outstanding students and attract them to PhD programs in Indian universities. It also provides travel grants for international conferences, makes faculty research awards, and runs internship programs for visiting researchers, undergraduate, and graduate students (including one program for women). If more Indian corporations and their industry organizations recognize importance and value of the Microsoft Research initiative, follow its example, and start carrying their share of this public service, this effort

could be scaled up sufficiently to tackle the problem of attracting and supporting talent.

Financing

Higher education is costly—even more so when the total cost of attracting and educating talented people to teach is factored into the budgets. There is little chance that government and philanthropic sources under the current policies can be sufficient to significantly expand enrollment from the current 10 million to the 30 to 40 million needed to achieve an enrollment ratio of 50 percent. Policy reforms could help expand both government and philanthropic resources.

On the philanthropic side of financing, the system of making the heads of universities responsible for raising funds from donors, alumni, sponsors, and others has several beneficial consequences. It makes the universities and their administrators accountable and responsive to their various supporting constituencies throughout society. It induces them to keep abreast of the achievements of their organization, so they can persuade others about the productive use of any support. The responsibility for raising funds also provides a non-bureaucratic context for internal academic, administrative, and financial decisions of the university. University administrators are pressed to think of innovative and efficient ways of raising and deploying resources. Vice-chancellors' efforts to convince outside constituencies about the importance and value of supporting universities helps raise awareness as to the criticality of this goal for society as a whole, beyond the philanthropic interests that have traditionally promoted higher education.

Government must allow tax reliefs to such sponsors on such contributions.

Quality

The higher education system must provide for accountability to society and create accountability within. An expansion of higher education which provides students with choices and creates competition between institutions is going to be vital in enhancing accountability.

1. There should be stringent information disclosure norms for all educational institutions such as their financial situation, physical assets, admissions criteria, faculty positions, academic curricula, as also their source and level of accreditation.
2. Evaluation of courses and teachers by students as well as peer evaluation of teachers by teachers should be encouraged.
3. There must be a focus on upgrading infrastructure, improving the training of teachers and continuous assessment of syllabi and examination systems.
4. It is particularly important to enhance the ICT infrastructure. Websites and web-based services would improve transparency and accountability. A portal on higher education and research would increase interaction and accessibility. A knowledge network would connect all universities and colleges for online open resources.
5. It may be necessary to rethink the issue of salary differentials within and between universities along

with other means of attracting and retaining talented faculty members. Such salary differentials between and within universities could be effective without being large.

6. It is necessary to formulate appropriate policies for the entry of foreign institutions into India and the promotion of Indian institutions abroad, while ensuring a level playing field for foreign and domestic institutions within the country.
7. The system of higher education must recognize that there is bound to be diversity and pluralism in any system of higher education, and avoid a uniform one-size-fits-all approach. This sense of pluralism must recognise, rather than ignore or shy away from, such diversity and differentiation.

Accountability

The quality of higher education depends on a wide range of factors. But accountability, at every level, is a critical determinant. The higher education system must, therefore, provide for accountability *vis-à-vis* the outside world and create accountability within the system. Accountability of universities must not be confused with control of the state. The essential objective of accountability to society must be to empower students to take decisions rather than simply increase the power of the state.

Accreditation

The methodology of NAAC accreditation is much too discretionary. Instead of vesting one institution created by the state with monopoly power, the **IRAHE** (Independent Regulatory Authority for Higher Education) may be empowered to license a number of accreditation agencies, public and private, to do the ratings. In doing so, the regulator would set standards for them. This will need to be accompanied by stringent information disclosure norms for all educational institutions, including the source and level of their accreditation.

Internal Systems

Evaluation of courses and teachers by students is also needed, just as much as we need peer evaluation of teachers by teachers. Such internal systems of evaluation would strengthen accountability in the teaching-learning process. These must be combined with institutional mechanisms for accountability in other dimensions of university systems.

Hi tech or E Library System

An on line library must be planned in universities with a linkage to international standards and emerging subjects.

Innovative Practices

The new technologies offer vast opportunities for progress in all walks of life. It offers opportunities for economic growth, improved health, better service delivery, improved learning and socio-cultural advances. Though efforts are required to improve the country's innovative capacity, yet the efforts should be to build on the existing strengths in light of new understanding of the research innovation-growth linkage.

Access through Information Technology

The Higher Education Department must start on line knowledge pool for the students. Analytical

research papers on selected subjects written by experts will be uploaded. The students can have a free access to the portal on their respective subjects. Students with good academic records can be motivated to submit their topics of interest. A discussion forum can be created to exchange knowledge among the students, research scholars and faculties. The best article can be awarded by the Higher Education Department. A separate portal should be created to maintain the database of top ten students of each department for 2 years along with their contact details. This will help the junior students to get some tips regarding good performance in their faculties. Smart class rooms should be created to provide in depth knowledge on subjects of demand.

National Commission for Higher Education & Research

The Bill seeks to establish the National Commission for Higher Education and Research (NCHER), a General Council and a Collegium of Scholars. It repeals the UGC Act, 1956, the AICTE Act, 1987, and the National Council for Teacher Education Act, 1993. The NCHER shall take steps for the promotion and coordination of higher education and research. Every degree granting institution established after the enactment of this law has to be authorised by the NCHER to begin its first academic operation. The NCHER may revoke authorisation on certain grounds. The Collegium shall prepare a directory of academics eligible for appointment as Vice Chancellors of central educational institutions (except a college). The NCHER shall maintain this directory. The Higher Education Financial Services Corporation (HEFSC) shall disburse grants to institutions based on norms specified by NCHER. The performance of the NCHER shall be reviewed every five years by a committee appointed by the President.

India's Gross Enrolment Ratio (GER) in higher education is at 15%3, lower than the world average of 24%.4. It spends about 4% of its GDP on education (0.5% for higher and technical education). Thus, India's spending on education as a percentage of its GDP is lower than countries such as US (5.7%), UK (5.3%), Malaysia (8.1%), and Thailand (5.2%). Several committees have suggested ways to reform the sector, which is hampered by problems of access, quality, funding and governance. Two recent reports submitted by the National Knowledge Commission (NKC) and the Yash Pal Committee made various suggestions for revamping the higher education sector. The mandate of both committees was to review the existing structure and suggest measures to build excellence in the educational system. Both committees recommended an independent regulator for the sector. The Higher Education and Research Bill, 2011 (HER Bill), introduced in the Lok Sabha on December 28, 2011 incorporates some of the suggestions of each committee.

The Commission will serve as the highest regulatory body in the field of higher education in India and will seek to redefine the field through (1) developing a vision of higher education as reflected in the framework for curricula, university benchmarks, international comparisons, and educational policies,

including costs and pricing; (2) advising the union and state governments, (3) creating norms, processes, and structures for entry, accreditation, and exit of institutions and programs; (4) developing sources and mechanisms for funding; (5) promoting effective and transparent governance; (6) creating a national database on higher education; (7) promoting an environment to attract talented youth to education and research; (8) creating processes for enriching the environment for learning and exploration through softer interaction among students and teachers; (9) finding ways of gradually freeing the universities from the administrative burdens of affiliated colleges; and (10) reporting annually to the Parliament on the state of higher education.

Conclusion

After independence, there has been tremendous increase in institutions of higher learning in all disciplines. But with the quantitative growth has it been able to attend to the core issue of quality. India is today one of the fastest developing countries of the world with the annual growth rate going above 9%. In order to sustain that rate of growth, there is need to increase the number of institutes and also the quality of higher education in India. To reach and achieve the future requirements there is an urgent need to relook at the Financial Resources, Access and Equity, Quality Standards, Relevance and at the end the Responsiveness. To attain and sustain national, regional or international quality, certain components are particularly relevant, notably careful selection of human resource and continuous human resource development, in particular through the promotion of appropriate programs for academic development, including teaching/learning methodology and mobility between countries, between higher education institutions and the world of work, as well as student mobility within and between countries. Internal self-evaluation and external review must be conducted openly by independent specialists, if possible with international experts. Report of the National Knowledge Commission and Yash Pal Committee if implemented can help boost education sector in India. We are moving towards an era which would be defined by the parameters of knowledge and wisdom. India in order to become a developed nation by 2020 and knowledge power by 2015. The decisions that are going to be taken on these are likely to hold the key to India's future as a center of knowledge production. We need higher educated people who are skilled and who can drive our economy forward. When India can provide skilled people to the outside world then we can transfer our country from a developing nation to a developed nation very easily and quickly. According to Prime Minister of India Dr. Manmohan Singh 'The time has come to create a second wave of institution building and of excellence in the fields of education, research and capability building'. We need an educational system that is modern, liberal and can adapt to the changing needs of a changing society, a changing economy and a changing world. The thrust of public policy for higher education in India has to be to address these challenges. However, one university can't make much difference. If the government

welcomes more such initiatives, the future will be ours. We will be able to match and compete with other countries and the dream to be the world's greatest economy won't be difficult to achieve. The Higher Education Dept of Odisha must open the opportunity of expansion and quality education by making accountability as the essential key. The success of the students of state universities in National and international level can give a remarkable identity to the Education system.

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