Reforming Higher Education in India

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1. Introduction

Today, more than ever before in human history, the wealth—or poverty—of nations depends on the quality of higher education. Those with a larger repertoire of skills and a greater capacity for learning can look forward to lifetimes of unprecedented economic fulfillment. But in the coming decades the poorly educated face little better than the dreary prospects of lives of quiet desperation.

Malcolm Gillis, President of Rice University, 12 February 1999

There are no great ideological battles or debates that are confronting the world anymore. The doctrine of liberal democracy has emerged as the most suitable and acceptable form of governance. 20th century broadly redefined the role of the state to provide education, healthcare, rule of law, and infrastructure development to enable every citizen to fulfill their potential, irrespective of their social position.

The main function of a higher education system is to add real value to human resources, and produce wealth creators and leaders in all fields

In today's knowledge economy, it is an indisputable fact that quality education is mandatory to fulfilling one's potential and is the key for vertical mobility and economic growth, and an educated population is the precondition for economic prosperity of any nation. The main function of a higher education system is to add real value to human resources, and produce wealth creators and leaders in all fields – business, professions, politics, administration, and creative pursuits.

Over the past six decades, India made impressive strides in the field of higher education. Enrollment in higher education has been growing at a faster rate than population growth in the 18-23 age group. A few elite institutions such as IITs and IIMs are recognized for their excellence, and we have a huge pool of technologically trained English speaking manpower. Yet, there is much that is wrong and the higher education system is in deep crisis.

The quality of the bulk of our graduates is appalling. The students are doing their best – they are studious and disciplined, they cram, clear entrance tests, pass examinations, and obtain degrees. Yet, many university graduates do not have even rudimentary knowledge, or

conceptual understanding, or problem-solving skills in their own discipline. A culture of rote learning, lack of application of knowledge, and a poor examination system have undermined our higher education. Most graduates lack basic communication skills, and have no problem solving capacity. Educated unemployment is on the rise, largely because most graduates cannot promote wealth creation and are therefore unemployable.

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This paper tries to debunk some of the myths surrounding higher education, and define what quality education means. This paper also outlines the nature of crisis afflicting higher education, points out the key challenges, opportunities and highlights a few reform proposals to address the current morass.

2. Impressive Accomplishments

In the nearly six decades since achieving Independence, the infrastructure for higher education in India has grown significantly. As can be seen from Table 1, between 1951 and 2002, the number of colleges for general education and professional education increased by about 24 and 12 times respectively, while the number of universities increased by 10 times during the same period.

Table 1: GROWTH OF RECOGNISED EDUCATIONAL INSTITUTIONS FROM 1950-51 TO 2001-2002

Years	Primary	Upper Primary	High/Hr. Sec/ Inter /Pre. Jr. Colleges	Colleges for General Education	Colleges for Professional Education (Engg., Tech., Arch., Medical & Education colleges)	Universities/ Deemed Univ../ Instt. of National Importance
	209671	13596	7416	370	208	27
1955-56	278135	21730	10838	466	218	31
1960-61	330399	49663	17329	967	852	45
1965-66	391064	75798	27614	1536	770	64
1970-71	408378	90621	37051	2285	992	82
1975-76	454270	106571	43054	3667		101
1980-81	494503	118555	51573	3421		110
1985-86	528872	134846	65837	4067		126
1990-91	560935	151456	79796	4862	886	184
1991-92	566744	155926	82576	5058	950	196
1992-93	571248	158498	84608	5334	989	207
1993-94	570455	162804	89226	5639	1125	213
1994-95	586810	168772	94946	6089	1230	219
1995-96	593410	174145	99274	6569	1354	226
1996-97	603646	180293	103241	6759	1770	228
1997-98	619222	185961	107140	7199	2075	229
1998-99*	626737	190166	112438	7494	2113	237
1999-2000*	641695	198004	116820	7782	2124	244
2000-01*	638738	206269	126047	7929	2223	254
2001-02*	664041	219626	133492	8737	2409	272

** Provisional. Source: Min. of Education, Govt. of India*

India has the third largest education system in the world, comprising of 330 university level institutions, 16,000 colleges, 10 million students and 350,000 teachers

By some estimates, India has the third largest higher education system in the world, comprising of some 330 university-level institutions, about 16,000 colleges with approx. 10 million students and 350,000 teachers. 40% of all students enrolled in higher education are women, ranging from a low of 24% in Bihar to a high of 60% in Kerala. An overwhelming majority of these students (nearly two-thirds) are enrolled in arts and sciences and another 18% in commerce/management courses.

While the number of students in absolute terms is high, only 7 % of the population in the 18-23 age group are enrolled in a higher education institution. While this is significantly higher than other developing countries, it is still lower than the average for Asia as a whole (11%) and substantially lower than OECD nations.

India is home to one of the world's largest technical manpower pools with over 5 million scientists, engineers and technicians. About 300,000 of them (6%) are engaged in research and development. India can boast of 500,000 allopathic physicians, 200,000 agricultural graduates and 40,000 veterinarians. The stock of other post graduate degree holders is about 4.5 million in liberal arts, and a million each in sciences and commerce. In addition, there are about 9.5 million graduates in liberal arts, 4.5 million in sciences and 5 million in commerce. India has more than a million engineers, with 1100 colleges producing 350,000 technologists every year, 60 percent of whom graduate from the four southern states alone!

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All these numbers are impressive by any standard and India's education infrastructure is the envy of many developing nations. India's finest scholars – approximately 5 % are a match to the best and brightest in the world. The world renowned IITs (Indian Institute of Technology), IIMs (Indian Institute of Management) and a few other centers of excellence produced many distinguished graduates, who made a lasting impact in their chosen professions.

The past two decades saw Indians making a mark on the world stage in diverse fields ranging from science, engineering, technology, to medicine, arts and business. Indians in Silicon Valley and elsewhere made significant contributions to the technological revolution and the ensuing productivity gains and the global economic development witnessed over the past two decades.

While the Indian higher education edifice looks impressive in members, it pales in comparison with what China is witnessing. As Sam Pitroda points out, university enrolment is exploding in China, growing from 6.43 million in 1998 to 19 million in 2003. China has 1497 provincial universities and 73 national universities, compared with India's 272. Two of China's national universities are of world-class standard. Massive investment and modernization are in evidence in higher education. 712

Sino joint university programmes operate now, of which 137 are degree programmes – 42 with Australia and 25 with the US. In a country which had no private colleges in 1980, there are 173 private universities in 2003. 5.27 million students appeared for examinations to gain admission to national universities in 2003. China has even started medical degree courses in English for Indian students who seek decent education at affordable cost.

3. Crisis in Higher Education

The crisis that is afflicting higher education in India has many facets. Some of the major shortcomings are discussed in this section.

3.1 Human Resources – Hourglass Structure

In any society, the human resource structure can be represented by a pyramid. At the base of the pyramid will be the unskilled work force. The semi-skilled (to suit a given society's requirements), comprising vocational trades such as electricians, plumbers, public health workers, etc. occupy the middle layer. The apex of the pyramid, usually consists of well-trained and qualified professionals such as engineers, doctors, lawyers, teachers, managers etc.

There are more electrical engineers than electricians, more civil engineers than masons, more super specialists than general physicians.

Unfortunately in India, the structure of our human resources is in the form of an hourglass. There are a huge number of mid and top level professionals such as doctors, engineers and lawyers of an indifferent quality that the society cannot accommodate or put to productive use. Yet there aren't enough number of professionally trained semi-skilled people such as electricians, plumbers and mechanics to fulfill the society's requirements. At the bottom are the millions of unskilled, illiterate workers eking out a precarious livelihood through back-breaking drudgery.

There are more electrical engineers than electricians, more civil engineers than masons, more super specialist doctors than general physicians. There are more mechanical engineers than mechanics. There are more lawyers than teachers! There is a complete mismatch between the society's requirements and the kind of graduates that our higher education system is producing. A WHO report indicated in late 1970's itself that India had more doctors than it could accommodate, given its socio economic status and yet, we continued to establish more medical colleges and produce physicians and surgeons of indifferent quality, who cannot be gainfully employed!

The past two decades witnessed a phenomenal growth in the number of so-called professional institutions offering courses in engineering, management, pharmacy, medicine, law etc. These institutions are producing hundreds of thousands of graduates every year, who don't have skills that can be gainfully employed for producing the kind of goods and services that India needs. In spite of the impressive economic growth over the past decade or so, educated unemployment is on the rise, as these graduates are not equipped to become wealth creators. In the southern states, institutions which offer professional courses such as engineering etc. are not able to fill their quota of seats, and yet new colleges are being allowed to be set up! On the other hand, there is a requirement for hundreds of thousands of new teachers, which is not being met. There is also a need for large numbers of public health professionals and general physicians, which is unmet.

3.2 Archaic Examination System

The examination system for higher education is archaic and disgraceful. The stress is often on testing the student's memory and rote learning. A careful memorizing of answers to questions posed in the three previous years (excluding the immediate past year) will guarantee high grades! Analytical skills, application of knowledge, problem-solving capacity and innovation are rarely tested.

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There is no stress on continuous appraisal and the student is only judged by his/her performance in a single final examination. There is an absolute disconnect between what is taught in the class and what is tested. One would imagine that the teacher who teaches the course is best suited to evaluate a student's performance in that course. But in the current system, a completely disconnected evaluator sitting somewhere else grades the student's exam!

This one size fits for all kind of an examination system does not leave any room for either continuous appraisal during the term of the course, or for testing the student's creativity, application of knowledge and problem solving skills. In the current higher education setup, excepting for elite

institutions such as IITs and IIMs, the teacher doesn't have any role in evaluating the student's performance.

In most western universities, the professor who teaches the course evaluates the students throughout the duration of the course, administers tests or exams and grades the test papers! Very often, the student's final grade for the course is published within a week after the finals and there is a transparent mechanism for addressing any issues the student may have with the way his/her work is evaluated or graded.

The tragedy is that Indian students are smart, ambitious, hard working and are just responding to what the system is demanding. The entire education infrastructure with the myriad coaching institutes is feeding this demand. If only the nature of demand is altered, the students and the associated infrastructure will respond to adapt to the new conditions, and improve supply. There are many models of examinations for evaluating the students skillfully, and creating demand for better education by redefining success.

3.3 Rigid Curriculum and lack of electives

Higher education curriculum is extremely rigid, centrally defined and doesn't leave any room for individual choice or experimentation

The higher education curriculum is extremely rigid, centrally defined and doesn't leave any room for individual choice or experimentation. This resulted in creating a rigid and stultifying academic atmosphere, with artificial divisions of various disciplines, and pre-determined combinations of courses on offer. As a result more and more students are ignoring humanities education and consequently lack broad perception, depth and communication skills. Excepting the IITs and similar elite institutions, none of the other universities in India offer the students any choice or freedom in selecting what courses they can take.

Even within a course, what has to be taught and what textbooks to study are prescribed, leaving no room for the teacher to be creative in designing the course! Even at the undergraduate level, the students are often advised to just follow the prescribed text books and to not look at any other reference material lest it may confuse them! There cannot be a greater contrast with the academic practices in the reputed universities all over the world. Most of the western universities in fact encourage

students to read a wide range of reference material and don't restrict them to a single text book.

There is an artificial differentiation and packaging of majors into various streams such as commerce, sciences etc. or into professional and non-professional courses. Once a stream of study (major) is taken up, the courses that one has to take are pre-defined. One can neither change the course of study in mid-stream, nor take any courses which are not pre-defined and packaged for that major. That means, if a student starts with an intent to major in sciences and for whatever reason, wants to change track and wishes to major in humanities or commerce, the system doesn't allow for it. Nor does an Indian student have the opportunity to combine humanities with science and technology in today's world, despite the fact that most knowledge is inter-disciplinary, and barriers between various branches of learning are shrinking by the day. Many youngsters in fact take up a specific stream of study more due to peer pressure, without understanding what they are getting into and the system unfortunately locks them into it. Contrast this with the western education system with its system of core curriculum and electives.

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3.4 Universities exit from undergraduate education

One of the worst anomalies that crept into Indian higher education system is that universities are completely removed from undergraduate education. Nothing could be worse than this. A high quality undergraduate education is the very essence of higher education and yet most public universities restrict themselves to graduate education and research as if they are separate entities!

Without exception, all great western universities which have a world class reputation for research and graduate programs are also well-known for their rigorous undergraduate programs. It is mandatory for the finest researchers and world renowned faculty to teach undergraduate courses in most western universities.

3.5 Poor quality teaching, inbreeding, and lack of appraisal

The quality of teachers in most colleges and universities across India is appallingly low. There is enormous in-breeding, with alumni being recruited to teach in the same institution where they graduated from. Many a time you can find someone pursue all his education in a university, get recruited to teach there, promoted in due course and end up as the Vice-Chancellor of the same university. All these without ever getting exposed to any other centers of higher learning!

This incestuous practice has created a stultifying atmosphere in most Indian universities and has stifled academic freedom. There is no cross-fertilization of ideas whatsoever, depriving the universities of new blood and rigorous intellectual discourse that accompanies it.

Due to the explosive growth in so-called professional colleges offering courses in Engineering, Sciences and even Medicine, the shortage of qualified faculty is acute. In fact many of these colleges straightaway appoint a graduating student as a teaching assistant/lecturer in the same institute! Many medical colleges are resorting to the unscrupulous practice of renting faculty for a day or two to pass the MCI (Medical Council of India) inspection.

There is no provision for appraising the quality of teaching or the performance of the teachers themselves, which means that there is no incentive for the teacher or faculty to perform well. Sometimes academic appointments are made on the basis of caste, political patronage or other corrupt considerations, without regard to either academic accomplishment or excellence.

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In most western universities, the students themselves rate their teachers/faculty at the end of the course, which are used by the respective academic departments to evaluate the course as well as the faculty member who taught the course. In fact there are numerous instances where either a course is dropped, or a faculty member is denied tenure because of poor rating by the students. The input from students is considered very seriously both for appraising the course and

faculty, and also to redesign or restructure the course to meet their expectations.

3.6 Islands of Excellence, Oceans of Mediocrity

While it is impressive that we succeeded in creating world-class institutions such as the IITs and IIMs, there is a lot of collateral damage attached to this success. The disproportionate allocation of meager resources to these islands of excellence resulted in the neglect of other public institutions which turned them into oceans of mediocrity.

These islands of excellence were given freedom to function on the lines of western institutions after which they are modeled. They were left free to design their own curriculum, recruit and retain faculty from across the world, structure their own system of testing for intake, and are supported through generous funding. Blessed with all these advantages and with the good fortune of having visionary leaders, these institutions have evolved into great centers of learning, and are recognized world over for their excellence and top notch graduates, who are considered to be as good as anyone in the world. In a society hungry for good quality higher education, there is fierce competition to enter these centers of excellence, which in turn ensured that the best and brightest joined as undergraduate students. Predictably, the IITs are favourite hunting grounds for western universities looking for talented researchers and IIM graduates are much sought after by MNC corporate head hunters as management talent.

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What has happened is that at a great cost to the Indian exchequer, a few thousand world class engineers and professionals are produced annually by these elite institutions, who are promptly snatched away by either western universities or MNCs. On the other hand, the regular universities, colleges and other similar institutions continue to function under the iron hand of misguided government regulation. The funding to these institutions is scarce and is not even a fraction of what is spent on the IITs or IIMs. Many of the best practices followed at these islands of excellence find no place in the regular universities and institutions and they declined precipitously. The result is that the bulk of Indian

universities and colleges are reeling in an Ocean of mediocrity and at best produce graduates of indifferent quality.

A vicious cycle has now set in. Poor quality higher education is producing many graduates who often lack conceptual clarity and the capacity to apply knowledge for finding creative solutions. As a result, both wealth creation in society and school education suffered. As such graduates become school teachers, youngsters are graduating from schools without the basic knowledge and understanding of subjects which are necessary to benefit from college education. The few good teachers are in great demand in coaching institutions preparing students for entrance tests for professional courses including IITs. It is not uncommon to find a good Math or Physics teacher with conceptual clarity being paid Rs one lakh or more a month. This itself is a testimony to the inadequate supply of quality teachers in a country which produces millions of graduates.

3.7 Withdrawal of state and defacto privatization

For a long time the Indian state, thanks to a socialist mindset, regarded private role in providing higher education as anathema. Yet at the same time, the state did not respond to the changing demands of the middle classes for higher education. In the absence of increased funding or budgetary allocation, the public infrastructure for higher education could not keep pace with the increased demand.

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Without any serious debate or preparation, the state opened the gates for private provision of higher education. In much of the west, especially in the US, the private providers of higher education are huge philanthropic and charitable endowments which are of a non-profit nature. But unfortunately, in India, in spite of the socialist mindset of the political class, private for-profit higher education institutions were allowed as a matter of routine. In fact the bulk of the education sector in India, especially higher education has been privatized on the sly without much of a debate! In an insightful paper, the noted political scientist Pratap Bhanu Mehta states: “this privatization is not a result of changing ideological commitments of the key actors – the state, the judiciary or

India's propertied classes; rather, this privatization has resulted from a breakdown of the state system."

Once the flood gates were opened, smart entrepreneurs rushed in to capitalize on the tremendous potential of a demographically young India and the increased demand for so-called professional courses by the middle classes. The bulk of the investment by the private for-profit sector in education has been in setting up secondary and higher secondary schools and colleges for engineering, management, medicine and law. Very little investment went into pure sciences, education or humanities as they are perceived to be of non-professional character and are not in much demand.

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Millions of middle-class families are willing to pay around Rs 10,000 per annum or more to provide hopefully decent school education to a child. This expense of Rs 20,000 per year for two children's schooling in a country with annual per capita income of about Rs 25,000 at current prices is quite extraordinary. Thanks to this willingness to pay, education has become a money-spinning industry. Even the US, the Mecca of free market, does not treat education as a profitable enterprise the way we do in India. Thousands of 'convent' schools dot our urban and even rural landscape. Even poor families feel obliged to send their kids to these schools of indifferent quality, spending Rs 100 - 200 per kid per month in the hope that somehow such 'education' will secure the children's future.

This unbridled growth in private provision of education has resulted in the middle classes becoming detached from the public education system as they don't have any stakes in ensuring that they function well. In the absence of demand from vocal middle classes and the consequent lack of political pressure, the state's abdication of education of education sector is accelerated, resulting in a vacuum that is filled by a large private for-profit sector.

3.8 Implications of Overseas Purchase of Education

The private expenditure on higher education in India is significant and is resulting in the creation of some sort of physical infrastructure, even if the education is of indifferent quality. But the more alarming aspect is the

quantum of expenditure being incurred by Indian students studying abroad. An excerpt from Pratap Bhanu Mehta's paper on this topic:

"The exit to private suppliers of higher education is a phenomenon not limited to India's borders. While the numbers are lower, the overseas purchase of higher education has much greater financial implications. Currently, our estimates are that there are about 110,000 Indian students studying abroad – nearly 75,000 in the U.S., about 14,000 each in the U.K. and Australia, and at least another 5,000 in Canada and New Zealand. Pre-liberalization, the figures were barely a quarter of this number. The main growth has been in undergraduate education and professional degrees (especially MBAs), both of which require students to put up their own money. ***This means that Indians are spending between Rs 3-5000 crores (roughly $700 million to $ 1 billion) on higher education abroad, a staggering amount for a poor country whose own educational institutions are starved of resources.*** *Even more important than the financial costs are the implications for public education when elites leave. Indeed, the problem is a more basic one—the consumption of public services by elites has adverse distributional effects. But when elites exit, so does their voice. The big difference between the higher education systems of Pakistan and India was that elites in the former usually sent their children abroad even for undergraduate education, and consequently had little stake in the system. The results were disastrous for higher education in Pakistan. Soon, India may face a similar problem."*

The withdrawal of the vocal middle classes and the accompanying political pressure is a certain death knell for the public higher education system in India

As can be seen from the above excerpt, the trend is unmistakable. More and more Indians, especially from the middle classes are increasingly resorting to sending their children abroad even for undergraduate education. They are willing to spend staggering amounts of money by Indian standards, in the hope of ensuring a solid foundation and rosy future for their offspring. But as Pratap Bhanu Mehta pointed out, even more disastrous than the financial implication of this resource drain is the fact that the withdrawal of the vocal middle classes and the accompanying political pressure is a certain death knell for the public higher education system in India. Many Indian states have already witnessed a similar phenomenon when the middle classes started

sending their children to private schools for secondary and higher secondary education.

3.9 Absence of Regulatory Framework

While the state opened the doors for private providers of education services, it didn't create a regulatory framework for ensuring standards, quality and accountability. Much of the privatization in higher education remained hostage to the discretionary powers of the state. In other words, the state controlled where and what kind of private institution will be established. This is mostly done through political patronage and rent seeking behaviour by the quasi-regulatory agencies such as AICTE (All India Council for Technical Education) and MCI (Medical Council of India). This resulted in an utterly chaotic scenario, and the higher education system is suspended between over-regulation by the state on one hand and discretionary privatization on the other hand.

Much of the education that is provided in the private sector is of an indifferent and poor quality and the students, for no mistake of theirs are paying a steep price. The students are ambitious, hard working and smart; their parents are incurring significant expenditure (a few lakhs of rupees for a 4-yr course) and yet when they graduate, they don't have a solid skill set that they can be put to productive use. There is no independent mechanism for either evaluating the quality of education or the quality of output from both public and private educational institutions.

3.10 Lack of Leadership

In the early decades of 20th century and also during the initial years after independence, many Indian universities and centers of higher learning were fortunate to have visionary leaders, widely recognized for their professional accomplishment, integrity and commitment to excellence in higher education. Illustrious names such as Pandit Madan Mohan Malaviya, the founder of Benares Hindu University (BHU), Sri Ramaswamy Mudaliar (BHU), Sir CR Reddy (Andhra University), Sri S Radhakrishnan (Andhra University), Prof. Zakir Hussain (Zamia Milia Islamia), Prof CV Raman (IISc.), Prof Kelkar (founder director of IIT Kanpur) stand out in the annals of higher education in India. These

leaders had a vision of higher education and they not only shaped the institutions they led into centers of excellence but have also influenced generations of students and faculty. The governments of the day gave them complete freedom and rarely intervened in the functioning of these institutions. More importantly these leaders were recognized public intellectuals who played a key role in shaping public policy in various spheres.

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Many western universities are led by public intellectuals, recognized for their leadership and professional accomplishments. The universities and governments go out of their way to recruit and retain leaders of eminence. Harvard, the most well-known private university in the world is led by Larry Summers, a distinguished economist and treasury secretary in Bill Clinton's administration. Donna Shalala, a political scientist of repute, who served as the Secretary for Health and Human Services in Bill Clinton's administration, is recruited as the President of University of Miami.

Contrast this with the Indian experience over the past three decades. One will have to really strain to name a major public figure who led any institution of higher learning in the past few decades! Most public universities and institutes of higher learning are reduced to personal fiefdoms of leading politicians. Caste, regional origin, and political affiliation or plain ability to satisfy rent seekers emerged as the major considerations for academic appointments rather than competence and excellence. Once these individuals are appointed, they have to satisfy their patrons by obliging their requests in appointments, promotions etc. This led to a natural decline of these institutions of higher learning.

4. Challenges

The challenges confronting India are manifold. In its quest for modernization and pursuit of economic growth, aimed at lifting hundreds of millions of people out of poverty, providing high quality education and healthcare to its population are the greatest challenges that India has to address. The policy makers and the political executive in India should address the following challenges in reforming the higher education system:

- How to create an equitable and accessible higher education system of high quality?
- How to foster competition in providing education services and offer choice to the students?
- How to promote the importance of a true liberal education?
- How to enhance public financial provision for higher education?
- How to establish an independent regulatory framework to ensure standards and quality?

5. Opportunities

While the challenges are manifold, there are quite a few opportunities and strengths that India should take advantage of, some of which are outlined below:

- Young demographic profile, (% of 18-24 age group)
- Hard working, ambitious, motivated youngsters
- Huge demand for quality education
- Culture and society that values education and treasures scholarship
- Parents willing to spend significant resources (110,000 students studying abroad spend approx $ 1 billion/year)
- Graduates no longer seek a cushy government job and are willing to compete in the market
- Impressive infrastructure that can be redeployed
- Non-monetary inputs that can make a difference

6. Critical Reforms

Given the nature of crisis afflicting higher education in India, a mix of non-monetary and monetary inputs along with critical structural reforms is the need of the hour. There are many best practices that are in vogue in most western universities as well as the elite institutes in India, that are worthy of replicating. Some of the key reform proposals that are modeled after these widely accepted best practices are discussed in this section.

6.1 Non-monetary Inputs

While enhanced funding to suit the demographic realities of India and increased investment to create better infrastructure are absolutely essential, the real issue in reforming higher education in India is not money. There are several non-monetary inputs that can make a vital difference, some of which are discussed below.

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Flexible Curriculum and Electives

Charles Eliot, the legendary educationist and President of Harvard introduced the Elective System over 130 years ago and transformed a college with one uniform curriculum into a great university without any prescribed course of study at all. Freedom of choice, opportunity to win academic distinction and discipline were all fostered at one stroke. Students could opt for courses of their choice, depending on their aptitude and the teachers' scholarship and talent. This also meant that teachers whose courses were not valued became irrelevant, and in effect students evaluated teachers! Artificial and rigid barriers of knowledge disappeared.

Even a century after all the great universities in the west adopted the Elective System, Indian universities are blissfully ignorant of any innovation! The need of the hour is to create a true university environment and make the curriculum flexible through the introduction of electives.

Encourage Liberal Education and Humanities

Any society needs a mix of specialists and generalists to fulfill its unique requirements. While the need for science and technology, and vocational and other specialized forms of skill-based education is well-recognized and appreciated, especially in a developing economy, the importance of broad, liberal education is much less appreciated.

A classic liberal education, is generally accepted as a *"broad curriculum that develops and stimulates the intellectual capabilities of an individual, teaches how to think and communicate clearly, inculcates a critical appreciation of history and society"*

While there are different ways of defining a classic liberal education, it is generally accepted as a *"broad curriculum that develops and stimulates the intellectual capabilities of an individual, teaches how to think and communicate clearly, inculcates a critical appreciation of history and society*". By definition, a liberal education is not directly tied to the study of a particular discipline or vocation, but is designed to equip an individual with the cognitive capacity to acquire knowledge in any field of her choice.

A true liberal education will go a long way in producing the kind of leaders and enlightened citizens who will take up a career in business, organizational management, government, politics and academia that are badly needed by the developing world. It is a testimony to the maturity of a highly industrialized and developed nation such as the US, that the bulk of its university graduates major in liberal arts and humanities.

Creative Examination System, Continuous Evaluation

The current examination system leaves little for imagination. The standard pattern is to test the student's breadth of knowledge and the emphasis is on one final all encompassing examination. In due course, the student community has mastered this consistent and predictable pattern of examinations through cramming, rote learning and selective elimination. This approach has guaranteed the student body high grades, but not a solid education. There should be a fundamental and radical shift in the examination system, which should achieve the following:

- Test the depth of student's knowledge, not breadth
- Test analytical skills, application of knowledge and problem solving capacity
- Test should challenge the student's ability to be creative and innovative

- Stress on continuous evaluation and not one final test
- Evaluation should be done by the faculty who teaches the course

There are many models of creative evaluation and testing that are widely applied across the world that are worth emulating.

Faculty Recruitment and Appraisal

The quality of teachers and teaching in most Indian universities and centers of higher learning is appallingly low, the reasons for which are outlined in sec 3.5. In the absence of top quality faculty, the quality of higher education in India will continue to decline. Most western universities go out of their way to recruit and retain top faculty. Even in India, in yesteryears students used to select a university or college based on the quality of instruction and reputation of faculty. The recruitment and appraisal of faculty in Indian universities and colleges should be changed, based on the following principles:

- No inbreeding at any cost, i.e. no recruitment of alumnus
- Continuous appraisal and rating by students
- Mandatory undergraduate teaching by all faculty
- Effort to recruit innovative thinkers and promote of new ideas
- Encourage rigorous intellectual discourse
- Constant new blood

Problem – Solving Research

What passes off for research is often a rehash of existing material, and lacks in intellectual incisiveness, insights, painstaking and thorough data gathering, rigorous analysis, and logical consistency

Most Indian universities are particularly deficient in meaningful research of any kind. What passes off for research is often a rehash of existing material, and lacks in intellectual incisiveness, insights, painstaking and thorough data gathering, rigorous analysis, and logical consistency. The writing and communication skills of many academics are inadequate. Much research is focused on esoteric subjects, devoid of real value in addressing the problems of contemporary society. As a result of this absence of academic rigor, poor communications, and lack of relevance, academia have become increasingly marginalized in shaping public discourse and solving real problems in the societal, scientific and technological domains. Innovative funding mechanisms, and other

incentives to promote high quality, problem-solving research in both technology related fields and humanities need to be evolved. Emphasis on reasoning and analysis and good writing skills at school level are obviously vital to make productive research possible at university level.

6.2 Monetary Inputs

Good, quality education demands significant resources. It will be naïve and short-sighted to think that providing top notch education infrastructure and attracting talented faculty will be possible without substantial resources. Some of the key issues related to provision and funding of higher education are discussed in this section.

Enhanced Public Expenditure

Demographically, India is a very young nation with 52.2 % of the population in the 0-24 age group and 18.9 % of population (approximately 190 million) in the 15-24 age group (*United Nations, 2001. World Population Prospects : The 2000 revision, New York*).

Demographically, India is a very young nation with 52.2 % of the population in the 0-24 age group and 18.9 % of population (approximately 190 million) in the 15-24 age group

As can be seen from the table below, the public expenditure on education in India, as a share of GDP has increased from a paltry 0.64 % in 1951 to 4.02 % in 2002, in spite of which 44% of population remain illiterate. Even in absolute terms public expenditure on education in India is low, when compared to an average of 4.9 % in OECD countries and 6.5 % in the US.

Table 2: Public Expenditure on Education in India (in Rs. crores)

Year	Govt. expenditure on education ((center+state)	Total Govt. expenditure on all sectors (Rev)	GDP at current prices (at factor cost) base year 1993-94	% of Expenditure on Education	% of Education Expenditure to GDP
1951-52	64.46	814.13	10080	7.92	0.64
1952-53	72.26	857.67	9941	8.43	0.73
1953-54	80.06	908.20	10824	8.82	0.74
1954-55	95.82	973.74	10168	9.84	0.94
1955-56	118.39	1111.26	10332	10.65	1.15
1956-57	132.88	1158.01	12334	11.47	1.08
1957-58	150.26	1416.62	12610	10.61	1.19
1958-59	173.78	1594.36	14106	10.90	1.23
1959-60	207.59	1770.06	14816	11.73	1.40
1960-61	239.56	1997.93	16220	11.99	1.48
1961-62	260.30	2225.40	17116	11.70	1.52
1962-63	278.76	2942.67	18302	9.47	1.52
1963-64	313.93	3488.97	20916	9.00	1.50
1964-65	369.29	3844.91	24436	9.60	1.51
1965-66	432.61	4404.82	25586	9.82	1.69
1966-67	487.83	5100.24	29123	9.56	1.68
1967-68	593.14	5619.77	34225	10.55	1.73
1968-69	649.13	6922.07	36092	9.38	1.80
1969-70	760.23	7908.07	39691	9.61	1.92
1970-71	892.36	8787.12	42222	10.16	2.11
1971-72	1011.07	10610.89	44923	9.53	2.25
1972-73	1150.43	11863.56	49415	9.70	2.33
1973-74	1300.72	12884.48	60560	10.10	2.15
1974-75	1570.67	14625.03	71283	10.74	2.20
1975-76	1849.47	17958.99	75709	10.30	2.44
1976-77	2039.09	20482.83	81381	9.96	2.51
1977-78	2630.60	22666.31	92881	11.61	2.83
1978-79	2994.69	26134.84	99823	11.46	3.00
1979-80	3347.57	30915.39	108927	10.83	3.07
1980-81	3884.20	36398.39	130178	10.67	2.98
1981-82	4435.29	33667.31	152056	13.17	2.92
1982-83	5509.17	43996.18	169525	12.52	3.25
1983-84	6229.53	61889.25	198630	10.07	3.14
1984-85	7455.88	69025.45	222705	10.80	3.35
1985-86	8713.02	67091.41	249547	12.99	3.49
1986-87	9479.13	80454.66	278258	11.78	3.41
1987-88	11798.35	92518.38	315993	12.75	3.73
1988-89	14069.82	107543.75	378491	13.08	3.72
1989-90	17192.50	126045.97	438020	13.64	3.93
1990-91	19615.85	146711.53	510954	13.37	3.84
1991-92	22393.69	170370.38	589086	13.14	3.80
1992-93	25030.30	190327.45	673221	13.15	3.72
1993-94	28279.69	218535.15	781345	12.94	3.62
1994-95	32606.22	251691.92	917058	12.95	3.56
1995-96	38178.09	286194.55	1073271	13.34	3.56
1996-97	43896.48	329389.92	1243546	13.33	3.53
1997-98	48552.14	380728.45	1390148	12.75	3.49
1998-99	61578.91	439768.11	1598127	14.00	3.85
1999-2000	74816.09	512519.33	1761932	14.60	4.25
2000-2001	82486.43	572160.14	1917724	14.42	4.30
2001-2002	84179.46(R.E)	639048.06	2094013Q	13.17	4.02

Source: Ministry of education, Govt. of India

Table 3: Annual expenditure on public and private institutions per student and as a percentage of GDP for OECD countries, by level of education: 2000

	Expenditures on public and private institutions per student 1		Expenditures on public and private institutions as a percentage of GDP			GDP per capita (in equivalent US dollars converted in PPPs)2
	Elementary and Secondary3	Post Secondary4	Elementary and Secondary	Post Secondary	Total5	
Country						
OECD mean	$5,162	$9,509	3.6	1.3	4.9	$23,317
Australia	5,867	12,854	4.3	1.6	5.9	26,325
Austria 6	7,851	10,851	3.8	1.2	5.1	28,070
Belgium	5,732	10,771	3.6	1.3	4.9	26,392
Canada	5,947	14,983	3.6	2.6	6.2	28,130
Czech Republic	2,541	5,431	3.0	0.9	4.0	13,806
Denmark	7,467	11,981	4.2	1.6	5.7	28,755
Finland	5,292	8,244	3.5	1.7	5.2	25,357
France	6,214	8,373	4.2	1.1	5.4	25,090
Germany	5,779	10,898	3.4	1.0	4.6	26,139
Greece	3,696	3,402	2.8	0.9	3.8	15,885
Hungary	2,352	7,024	2.8	1.1	3.9	12,204
Iceland	6,293	7,994		0.9	5.8	28,143
Ireland	3,976	11,083	2.9	1.5	4.5	28,285
Italy	6,506	8,065	3.2	0.9	4.1	25,095
Japan	5,971	10,914	2.9	1.1	4.0	26,011
Korea	3,644	6,118	4.0	2.6	6.6	15,186
Luxembourg						48,239
Mexico	1,415	4,688	3.8	1.1	4.9	9,117
Netherlands	5,138	11,934	3.1	1.2	4.3	27,316
New Zealand			4.5	0.9	5.5	20,372
Norway 6	7,399	13,353	3.7	1.3	4.9	36,242
Poland	1,988	3,222	3.7	0.8	4.5	9,547
Portugal 6		4,766	4.1	1.1	5.2	16,780
Slovak Republic	1,732	4,949	2.8	0.8	3.6	11,278
Spain	4,636	6,666	3.3	1.2	4.5	20,195
Sweden	6,337	15,097	4.3	1.7	6.0	26,161
Switzerland	8,187	18,450	4.2	1.2	5.5	29,617
Turkey		4,121	2.4	1.0	3.4	6,211
United Kingdom	4,844	9,657	3.8	1.0	4.8	24,964
United States	7,397	20,358	3.9	2.7	6.6	34,602

NOTE: Educational expenditures are from public and private revenue sources. Purchasing Power Parity (PPP) indices are used to convert other currencies to U.S. dollars. Within-country consumer price indices are used to adjust the PPP indices to account for inflation because the fiscal year has a different starting date in different countries. Includes all institutions, public and private, with the exception of Greece, Hungary, Iceland, Italy, Norway, Poland, Switzerland, and Turkey, which include public institutions only. See *supplemental note 7* for more information on ISCED levels.

SOURCE: Organization for Economic Cooperation and Development (OECD), Center for Educational Research and Innovation. (2003). *Education at a Glance: OECD Indicators, 2003*. Data from tables B1.1, B2.1c, B6.2, and X2.1.OECD Education Database, unpublished data (2003).

[1] Per student expenditures are calculated based on public and private full-time-equivalent (FTE) enrollment figures for the 1999–2000 school year and on current expenditures and capital outlays from both public and sources where data are available.
2 GDP adjusted to national financial year.
3 Includes postsecondary non-tertiary data (International Standard Classification of Education [ISCED] level for Belgium, Finland, Japan, Norway, Poland, Slovak Republic, Spain, and the United Kingdom.
4 Includes all tertiary level data (ISCED levels 5A, 5B, and 6).
5 Total includes elementary/secondary, postsecondary, and postsecondary non-tertiary expenditures.

Table 4: Public Expenditure on Higher Education in India as a share of GDP

Year	Expenditure on Education as % of GDP	Expenditure on Higher Education as % of Expenditure on Education	Expenditure on Higher Education as % of GDP
1981-90	3.59	15.6	0.34
1991-92	3.44	9.78	0.41
1992-93	3.78	10.79	0.40
1993-94	3.68	10.97	0.39
1994-95	3.61	10.81	0.37
1995-96	3.60	10.14	0.35
1996-97	3.57	9.77	0.35
1997-98	3.53	10.01	0.38
1998-99	3.85	9.93	0.46
1999-00 (R)	4.35	10.63	0.48
2000-01 (B)	3.91	12.14	0.60

*Note: Based on the new series of GDP with base 93-94=100; ** Quick estimates of GDP*

Source: Analysis of Budgeted Expenditure on Education, Ministry of Human Resource Development

As can be seen from the above table, the public expenditure on higher education in India is very low at 0.6% of the GDP. Compare this with OECD mean of 1.3 % and 2.7 % in US. The public expenditure on education in India doesn't match its demographic reality. Given the higher share of population in the 0-24 age group (52.2 % in India, 35.3 % in the US), both in absolute and comparative terms the public expenditure on education should be far higher compared to either the US or OECD countries.

The public expenditure on higher education in India is very low at 0.6% of the GDP, compared to a OECD mean of 1.3 % and 2.7 % in US

In recent years, the government of India has set a target of progressively increasing the public expenditure on education to 6 % GDP by 2010. To make a realistic impact on the quality of education and to be a key driver for economic growth, the expenditure on education in India should be in the range of 10% of GDP. This will be commensurate with the demographic profile of India and will go a long way in ensuring that the youth of India are equipped with the quality education and skills necessary for wealth creation and fulfillment of the growing needs of population in a modern society.

Financing Higher Education

The bulk of public expenditure on higher education (in some instances 95 %) in India is in the form of revenue expenditure and is barely enough to meet the faculty wage bill. There is little scope left for any capital expenditure.

On the other hand, the private institutions that stepped into the vacuum created by the withdrawal of state in providing professional education do charge significant fees from the students. While the state is silent on regulating the private institutions in terms of how they are financed and the quality of education, it didn't give public institutions the same flexibility to raise resources. As a consequence, there is serious erosion in the quality of infrastructure in the state-funded public institutions.

Much of the private investment in higher education went into the setting up of colleges offering professional courses such as engineering, medicine, law and management. In spite of the fact that approximately 65 % of enrollment in higher education is in institutions offering courses in arts, sciences or humanities, there is practically no new private investment in these critical areas.

There are three central facts of higher education which need to be internalized in order to find a solution to the problems of financing in higher education. First, there is enormous hunger for good quality higher education. Many talented youngsters from middle and wealthy classes are migrating abroad for good education. Even middling universities in the US, Britain, Australia and Germany are providing better educational opportunities than our own state universities. This unmet demand for education and the consequent migration and alienation of the elites of our society have extremely debilitating consequences to wealth creation, leadership development and social harmony in India.

There is enormous hunger for good quality higher education

Second, the state cannot really deploy significant additional resources to improve the quality of higher education, or create new institutions in the required measure. Our combined fiscal deficit stands stubbornly at about 10% GDP. Public expenditure on school education alone needs to be enhanced by at least 1.5% to 2% of GDP. In addition, healthcare public

expenditure, which stands now at an appalling 0.9% of GDP, needs to be at least doubled. The social security measures now on the anvil – the employment guarantee programme, unorganized sector security, nutrition and child care programmes – cost another 1 to 1.5% GDP. Creation of adequate infrastructure to meet the challenges of a modern economy requires vast additional allocations, even after taking into account the private investments which will be attracted into these sectors. Even by a conservative estimate, the state needs to allocate additionally at least 4% of GDP for school education, public health, social security and basic infrastructure. Considering that our total tax base at union and state levels put together is of the order of 15% of GDP, there simply is no realistic possibility of significant additional allocations for higher education. We have to encourage private sector – both non-profit and for-profit – to invest large amounts in higher education.

Third, Indian students and their parents are willing to pay substantial sums for quality education. Right now, nearly 85-90% of all engineering education and close to 50% of medical education are in private sector. Apart from higher fees – in the range of Rs 30,000-50,000 per annum for engineering, and Rs 2 lakhs per annum for medicine, many parents are paying vast, unaccounted capitation fees for admission to private colleges. Reputed institutions command nearly Rs 6 lakh capitation fee for preferred branches of engineering, and close to Rs 25 lakh to 30 lakhs for medicine. On top of these astronomical sums, about Rs 5000 crore is spent abroad by Indians for higher education. India is in a position to attract bright youngsters from Asia, Africa and Latin America offering quality educational services. Instead, Indian youngsters are now studying abroad in ever larger numbers, and subsidizing education in the rich, host countries. Even China, despite its language barrier, has now started professional colleges only to cater to Indian students. Low cost, poor quality education is promoting neither equity nor self-reliance. It simply is leading to mediocrity, migration, and flight of capital.

Indian youngsters are now studying abroad in ever larger numbers, and subsidizing education in the rich, host countries

We therefore need to evolve sensible and viable financing mechanisms to meet the demand for quality education, through higher investments – public or private, and to guarantee uniformly high quality education which

fosters innovation, creativity and wealth-creation. This involves both financing reform and structural and regulatory reform.

As far as financing is concerned, university fees need to be substantially enhanced in order to meet the growing needs. Even in China, decent university education costs 25,000 to 40,000 yuan per annum in all universities. Even high school education from ninth to twelfth grades costs a hefty fee – typically 6,000 to 10,000 yuan per annum. The state does not give any subsidy for higher education. However, students are guaranteed subsidized loans to meet the cost of education, and no one is denied an opportunity for want of money. Such a financing model also creates a demand for better quality, since no one would be willing to pay unless the benefits outweigh the expenditure.

School education has to be based on universal access and reasonable quality of education to help every child become a productive and self-reliant citizen. But higher education has to promote excellence, help the youngsters fulfill their full potential, and create wealth-creators and leaders to meet the challenges of our economy and society. In addition, higher education must be able to supply the key service providers in the fields of education, health care, governance, and community leadership, and knowledge workers to add value in an increasingly sophisticated, complex, globally integrated economy. Therefore, while access should be based on talent and motivation, costs should be recovered to make quality education sustainable. However, financing mechanisms should be evolved to make sure that access is never denied on grounds of unaffordability. The notion of free, mediocre quality education has hurt all sections of society. Those who can afford are now fleeing the system, those who go to state institutions are under-performing for no fault of theirs; and the poor in society are subsidizing the not-so-poor for higher education. This model is clearly unsustainable and wrecked our higher education system.

6.3 Regulatory Framework

In terms of competition, choice to the students and multiple providers (public, private and non-profit) offering quality education, the American model is worth emulating. The US higher education system has a vast network of state-funded public universities, a significant number of private non-profit universities and a few for-profit providers of skill based courses. The major public universities include the world famous University of California system, University of Texas system and the top-notch universities in the Industrial heartland. All the Ivy League schools such as Harvard, Yale, Cornell, Stanford etc. are private philanthropic institutions with huge endowments supported by generous alumni.

A robust regulatory framework is absolutely essential to encourage a diverse range of providers, facilitate choice and competition and create an environment that will demand excellence. Unfortunately in India, while on one hand we allowed the de-facto privatization of professional higher education, we haven't created a regulatory framework to match it. Setting up a major world class university involves both capital and recurring expenditure that could run into hundreds or thousands of crores. Recently, Nottingham University of UK setup shop in China with a sprawling campus built at a capital cost of $68 mn.

Indian students spend US $1 billion annually outside India for buying higher education

The need of the hour is to create a regulatory framework that will encourage investment from a diverse range of sources in higher education infrastructure. This should also include investment from sources of Indian origin and even non-Indians. There are many who are willing to invest in this sector with a non-profit motive, but held back due to the absence of an enabling regulatory framework. What is the point in allowing Indian students to spend US $ 1 billion annually outside India for buying higher education? We should make it possible for these students to avail quality education in India, irrespective of the provider.

The regulatory framework should ensure that there is room for providers of all hues and at the same time ensure that every student will have equal access to these institutes of higher education. Every eligible student should have access to financing guaranteed by the state or the financial institutions to pursue the education of her choice in an institute of her choosing. In other words, the money should follow the student and

not tied to a particular school. This will naturally lead to competition and choice and will be a powerful incentive for the schools to perform well.

The greatest hurdle that we have to overcome to create a robust regulatory framework, is to change the minds of our decision makers, who are still prisoners of their own ideological beliefs. The notions of uniform fee structure, regulation of fee, and stultifying state or para-statal control are out-dated. Education is like any other service which adds value to human life and makes a person more fulfilled and productive. Higher education system must therefore be refashioned, based on a few core principles.

The greatest hurdle that we have to overcome to create a robust regulatory framework is to change the minds of our decision makers who are still prisoners of their own ideological beliefs

- Freedom to invest and establish institutions of higher learning
- No entry barriers except where professional regulatory mechanisms are necessary to safeguard the public interest.
- Full autonomy and freedom in designing the course curriculum, examination and evaluation system, recruitment and personnel policies, and admission policies – subject to professional regulation, fairness, and equitable opportunity to all.
- Elimination of UGC (University Grants Commission) recognition or state university affiliation as a criterion for employment in public systems. The employer will determine criteria for selection in terms of skill-requirements and proficiency, not a formal degree in a state university, and apply them uniformly.
- A system of voluntary, independent grading of courses offered by every university / institution, and full transparency, disclosure and dissemination of information to facilitate informed choices.
- Full freedom in designing fee structure, and applying differentiated fees depending on merit, economic status and demand for the courses.
- Mandatory mix of humanities courses with basic sciences and technology in all universities – public or private
- Electives system in all non-professional degree courses, and a minimum required (say 30%) humanities and language courses in professional education.
- Mandatory undergraduate courses as the foundation of higher education system in all universities – public or private.

6.4 Structural Reforms

Differentiation of Higher Education Institutions

The current system of higher education in India consists of 3 yr colleges offering courses in humanities, commerce and pure sciences, 4 yr colleges offering courses in engineering and related technical fields. In addition there are Medical colleges (5 yr), Law Schools (3yr and 5 yr) and Universities which offer graduate (Master's and Doctoral) programs in various disciplines. There are many research institutes which offer doctoral programmes. This structure presumes that everyone in the higher education system need a 3 or 4 yr college degree. There is no room for the majority of youngsters, who might be on the lookout for acquiring a skill that is readily marketable and which will get them gainful employment. This structure puts most of the students in a straight jacket and doesn't leave much room for flexibility, choice or experimentation of any kind.

The Indian vocational education system is based on polytechnic colleges providing diploma education in engineering, and industrial training institutes providing skilled workers to industry. Both suffer from a fatal flaw, as they are delinked from the mainstream education, and a student cannot change her mind mid-course, nor can the credits be automatically transferred to pursue undergraduate education in a university.

The need of the hour is bring about a qualitative differentiation in the structure of higher education, with the following objectives:

- Offer flexibility and choice for students
- Offer strong vocational and skill based courses (diploma) of shorter duration (2 yrs on average)
- Facilitate vertical mobility, i.e. people who with a 2-yr diploma can use that credit to earn a 3 or 4 yr college degree at a time of their choice.
- Couple the vocational courses with internships in partnership with industry.

There are two models that are worth studying and emulating. One is the much-acclaimed German model of vocational education. The other is the equally impressive American model of Community colleges. In 1992 about 65 percent of Germany's workforce had been trained through vocational education. In 1999, approx. 41 % of all undergraduates in US were enrolled in Community Colleges. Both systems offer a diverse range of courses. The vocational courses could be for getting trained as an electrician, auto mechanic, doctor's apprentice, factory worker, legal apprentice, health worker, library assistant, beautician etc. The German system combines vocational education with training and internships sponsored by Industry. In both German and American systems, these educational institutions are run by the local governments and significant allocations are done from the local tax receipts. These institutions play a key role in training the work force and also serve as a stepping stone for university education.

In 1992 about 65 percent of Germany's workforce had been trained through vocational education; In 1999, approx. 41 % of all undergraduates in US were enrolled in Community Colleges

In India, the current higher education infrastructure can be easily restructured to offer vocational courses of shorter duration and the Industry should be proactive in facilitating internships and training for these students. A significant share of public expenditure on higher education should be earmarked for these institutes.

Public, Private, Non-profit Providers

We need to recognize that higher education cannot be the state monopoly. Equally important, excessive state regulation has only weakened our educational edifice, and stifled innovation and excellence. Therefore, the key policy decision the Indian state should take is that there should be minimal entry barriers in creation of private universities. Suitable tax incentives should be offered for all educational investments, and full tax benefits for all endowments in education. A nation-wide examination on the pattern of SAT or ACT in the US, or 'A' levels in the UK should be conducted in a creative way to assess the caliber of students seeking university admission, in order to provide uniform basis for appraisal of the candidates' scholastic level. Competition and choice should dictate admissions, and demand and supply should dictate the fee structure. The state can cater primarily to the economically weaker sections, and offer admission at subsidized fees. Non-state institutions

can be encouraged to adopt a differentiated fee structure, charging higher fee from those who can afford, and cross-subsidizing the education of those who need support. State as well as financial institutions should provide educational loans to fully cover the costs, and the state should guarantee those loans and create an effective and viable mechanism for recovering loans. The state should also facilitate creation of a permanent, viable rating of all courses in all universities – public or private, as well as wide dissemination of such information to all stake-holders through internet and other means.

Such strategic and selective intervention, freedom of entry, autonomy in operation, complete transparency, competition, choice, cross-subsidization, and credible rating will together constitute the necessary conditions to create a first rate higher education system to meet the challenges of the future.

7. Politics, Governance and Education

Limited government and political and economic freedom to citizens are vital for individual growth and national advancement. But liberty cannot be construed in a very narrow and negative sense of State not abridging individual freedoms. State is not merely a necessary evil to defend our frontiers, maintain public order, protect citizens and ensure justice. State can, and should, also be a positive institution to create basic infrastructure, develop natural resources, and most of all to provide quality school education and effective primary health care. Liberal think-tanks and academics have been vehemently advocating rollback of the State from these areas. While State's role in business is now universally opposed, there are no realistic substitutes to State in school education, primary health care and the like. Equally important, the state has to create conditions for imparting good quality higher education and promotion of excellence to meet the challenges of a growing, modern economy and vibrant society.

State can, and should, also be a positive institution to create basic infrastructure, develop natural resources, and most of all to provide quality school education and effective primary health care

It does not mean that State alone should pay for these services. Private and voluntary sectors have a significant role, and nowhere in market economies is that role more pronounced than in India. Nor does it mean that State should necessarily deliver these services. Stakeholders groups and voluntary organizations often do the job much better. But the financing has to come from the State. And, the State does not mean the centralized, remote, big-government, but localized, citizen-centered government starting with a community of stakeholders, and expanding in concentric circles to local, provincial and federal governments based on the principle of subsidiarity.

Politics in India continues to be medieval in nature. Much of the debate on education is centered round rewriting history or detoxification of textbooks. The 'great' debates are about the location of a temple or a mosque, or past insults and private injuries, or perpetuation of barbaric practices and shunning of modern, humanistic vision. Obscurantism is zealously guarded, and "the clear stream of reason has lost its way into the dreary desert sand of dead habit."

Incompetence and laziness have become virtues in our political domain. Even now, our vision of education is merely increasing enrolment of school children and reduction of dropouts. Quality of education, high productivity of citizens, and seizing opportunities that modern world offers do not even enter our public discourse. Our universities languish despite the undoubted potential of our youngsters and the civilization strength we enjoy.

In a well-functioning democracy, the political process ought to find answers to governance problems. Every election holds a promise for peaceful change. People in India have been voting for change time and again. But the political process is locked into a vicious cycle, and has become a part of the problem. There are several factors complicating the political process, perpetuating the status quo.

In a well-functioning democracy, the political process ought to find answers to governance problems

We need to remember that the economic growth rate of a country is not merely a product of economic policies and productive capacity of its industry and agriculture. The economic growth rate of a country is also contingent on the way it governs itself. The collapse of erstwhile Soviet Union bears testimony to this fact. This, combined with the experience of East European countries demonstrates that good governance is a prerequisite for economic growth. Comprehensive political reform to alter the incentives in public life and promote excellence in governance is critical for the future prosperity and harmony of the nation. Public discourse needs to be based on evidence, logic and long-term national goals, not short-term expediency and irrational prejudices. Power should go back to where it belongs – communities and local governments. A system of rule of law should be strengthened by a series of judicial and police reforms. Self-correcting mechanisms of accountability should be institutionalized to prevent abuse of authority, and ensure mid-course corrections based on experience and evidence. All these are prerequisites to a well-governed, liberal, democratic, humane society. We cannot isolate reforms in education from reforms in governance and administration. Freedom is not a liability; it is a glorious asset for growth. Sound politics is about making democracy and growth compatible, not finding alibis for non-performance. We can, and should, overtake China in long-term growth. But we need to set our house in order first.

None of the problems of governance is intractable. All these crises are amenable to simple, practical, effective, acceptable solutions. And our society has the resilience and strength, just as our economy is robust and can make the transition smooth. We need far reaching reforms of the great institutions of state to make our politics work for our people, to ensure decentralization of power and citizen-centered governance, to provide speedy, efficient and accessible justice to all, and to hold our public servants – elected or appointed – to account by a variety of self-correcting mechanisms. Only when we accomplish these goals will our children fulfill their true potential, and India will be free from the great sin of avoidable suffering. In a fundamental sense, the future of India, and indeed that of much of the world, depends on what this generation of Indians will do. Through collective, informed assertion we can, and will, make a difference, and transform our governance. No challenge is greater, and no task is nobler.

Perverse status-quoism and the game of blame-throwing on our campuses have cost the nation dearly. A vicious cycle is in operation, with poor quality schooling creating a weak foundation for higher education, and poor university education not being able to produce quality teachers to improve schools! Even tiny Eritrea in East Africa boasts of a better university than most of ours! The net result is, most of our graduates and technocrats are unsuited to creation of wealth or generation of value-added services. Lacking basic skills in handling tools, they certainly are not competent factory workers.

Yes, India has the potential to be a great source of technological manpower. Our youngsters have the ambition and our tradition worships knowledge. But as always a lot of hard work and common sense are needed to bridge the gulf between promise and fulfillment. Some critics say education is not necessary for prosperity. They point to Tanzania and Kenya, and Eastern Europe and Cuba to prove that high levels of education do not guarantee prosperity. But that is a disingenuous argument. Education is a necessary, but not sufficient condition for high growth. Infrastructure, free enterprise and rule of law are the other conditions, which guarantee prosperity. But first, we must set our education right. The people are ready and willing. Are governments and 'educationists' prepared to accept the challenge?

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