

Theme Presentation

“The Higher Education Summit: Roadmap for the Future”

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It is my privilege and pleasure to present the theme paper in this distinguished conference on Higher Education: Roadmap for the Future.” What I will attempt to do in the available time is try to outline the broad framework and topics of this conference with a view to highlight some of the issues, challenges and points of debate, which in themselves point to the direction that higher education for tomorrow must explore. It raises issues which hopefully will be discussed and deliberated upon extensively and profoundly by eminent educationists and thought leaders from India and abroad who have kindly consented to participate in this conference.

We hope that this will translate into implementable suggestions and practice-able conceptualization to result into a follow-able roadmap on the role and shape of education in the coming decades. We intend to collate the deliberations and suggested solutions at the conference in form of papers and put it on an actionable format to be able to take it further.

I am grateful to Dr. Kirit S. Parikh for being with us today and for sharing his wisdom at this conference, which we hope will mark a turning point in this attempt. I am thankful to University Grants Commission and Prof. Arun Nigavekar, Chairman, in particular for adding weight and value by partnering this conference. I am also personally indebted to John L. Hennessy, President Stanford University for acceding to my request of sharing with us his long accumulated wisdom and for travelling more than halfway across the globe for being with us today. It indicates the importance Stanford puts on India in the global scheme of things. His presence has added stature to the conference.

Although the conference is entitled “Roadmap for the Future” there is a pervasive feeling that the future has already arrived. In fact, there are three futures that we have to contend with : the ‘contemporary future’, the ‘visible and the predictable future’ and the ‘distant and unpredictable future.’ For a crucial component of human development like education, one must be constantly alert to the ubiquitous phenomenon of change – change that is evolutionary as well as revolutionary, and then prepare ourselves not only to respond to the inevitable and imperative change but also to engineer change that would be instrumental in achieving the multi-faceted growth of a social order.

Education has been around for as long as man has been, though its structure and perception has varied over centuries and civilizations. The beginning of historically-

documented higher education began with the Nanjing University founded in 258 AD in China which is generally believed to be the oldest higher education institution in the world, later becoming the first modern Chinese university in the early 1920s.

During the Vedic and Upanishadic period, India had some of the prominent institutions of higher education, which attracted scholars from distant places located in different parts of the world to come to India in pursuit of knowledge. The ancient universities of Takshashila and Nalanda, which survived till the end of the fifth and twelfth Century AD respectively, imparted knowledge in different areas according to the requirements of the contemporary society.

Later 11th Century AD saw the dawn of modern universities established in Europe and other western countries.

Great Indian leaders of yesteryear and today have spoken about the pivotal role of education in the development of a nation. Swami Vivekananda, the great thinker and reformer of India, embraced the cause of education as the very mission of his life, which for him signified '*life-making, man-making and character-building assimilation of ideas*'.

More than a century ago, he had remarked: "*We want that education by which character is formed, strength of mind is increased, intellect is expanded and by which one can stand on one's own feet. Education is the manifestation of the perfection already in man.*"

The great Nobel Laureate and writer Rabindra Nath Tagore was one of the earliest educators to think in terms of the global education village, and his educational model has a unique sensitivity and aptness for education within multi-racial, multi-lingual and multi-cultural situations. He also realized in a profound manner the importance of the arts for developing empathy and sensitivity, and the necessity for an intimate relationship with one's cultural and natural environment. He saw education as a vehicle for appreciating the richest aspects of other cultures, while maintaining one's own cultural specificity. He wrote: "*I try to assert in my words and works that education has its only meaning and object in freedom- freedom from ignorance about the laws of the universe, and freedom from passion and prejudice in our communication with the human world*".

Independent India has witnessed an upsurge in the growth of higher education. Yet from an international perspective, we are relatively slow, despite being steady in registering advancements in learning. Today India has the second largest education system in the world, next only to the USA. Yet, the total number of students represent hardly six percent of the relevant age group, i.e. 18-23 years, which is much below the average of developed countries which is about 47 percent. The gap is glaring. Hence the phenomenal challenge. The journey from being 'Good' to being 'Great' appears to be long and arduous.

In this backdrop several questions emerge and re-emerge, the answers to which shall form the roadmap for the future.

The foremost question relates to the definition and scope of higher education. A related question is what are the aspirations and perceptions on higher education today?

A clear definition not only becomes the guideline for objectives but also navigates the thoughts and professes the philosophy and spirit of the subject. In these precincts, Higher Education can be broadly surmised as education beyond the school level. The objectives of higher education may range from primary objectives, such as employability, enhancing the earning potential, seeking and advancing knowledge and wisdom, research and experimentation to more serious secondary objectives like attaining mental and spiritual growth, engaging in quest for the unknown, facilitating better lifestyle, and developing scientific outlook.

At one stage, knowledge economy was considered to mean economic activities based on or driven by technology. Economic activity was considered to be a subset of Society. However, recent advances in technology have led to rapid advances in varied frontiers of knowledge, and the way it is perceived, imparted, percolated and used. Technology has helped drive advancements in knowledge in fields as diverse as archaeology, biology, sociology, materials, weather and earthquake predictions, government services, to name a few. The dividing line between economic activity and social activity has blurred. Knowledge management has become a critical area of all economic and social activity. Knowledge economy cannot be considered outside the context of the knowledge society.

It is undeniable that we are witnessing the rise of knowledge society, i.e., a society which privileges knowledge, leads to the integration of the economies of the world, and makes the nations of the world interdependent and interconnected. Knowledge will be the key to this age, and fundamental sources of wealth may well be knowledge and information rather than raw materials and labour. Efficient utilisation of existing knowledge can create comprehensive wealth for the nation in the form of better health, education, infrastructure etc. for improving the quality of life. Ability to create and maintain the knowledge infrastructure, develop knowledge workers and enhance their productivity through creation, growth and use of new knowledge will be the key factors in deciding the prosperity of this knowledge Society.

In the knowledge economy, the objectives of a society changes from fulfilling the basic needs of all round development to empowerment. The education system instead of going by text-book teaching will be promoted by reactive, interactive self learning, both formal and informal, with focus on values, merit and quality. The workers instead of being skilled or semi-skilled will be knowledgeable, self-empowered and flexibly skilled. Finally, the economy will be knowledge driven and not industry driven.

All fields of human activity, including education, have been influenced by the process of globalisation clubbed with unexpected advancements in information and communication technology. Within the various sectors of education, higher academic and technical education has been affected the most. It is now increasingly realised that knowledge is universal and its creation and dissemination cannot be confined within national boundaries. The world is now like a global village, and continuous international interaction has become an essential component of human survival. The

globalisation of economy has led to internationalization of higher education, not merely for economic benefits, but also for increased social interaction and promotion of international understanding.

It is in this context that we need to assess the current scenario in education. There are of course wide variations over countries and within countries.

The first citizen of India today, Dr. A P J Abdul Kalam, while envisioning India of 2020, recently observed - "Spirit of Inquiry, creativity, entrepreneurial and moral leadership are the capabilities central to nation building in a democracy. Educators should develop in our children these capacities and make them autonomous learners who are self-directed and self-controlled .

Earlier all over the world, education, especially higher education, was available only to a privileged few. In the context of a knowledge society and the goals of sustainable development, higher education needs to percolate to the masses, not only just in terms of quantity, but also quality. In the last few years, this shift has been slowly taking place. Still, glaring deficiencies remain in the access to higher education, overall development of the student, sensitivity to human needs and equality in our society.

Also come into play, concerns in higher education that come with globalization and rapidity of change like fast rate of obsolescence of knowledge, quality, competitiveness of education services, networking of institutions and innovations and new practices in delivery. Combined with this are the concerns for sustainable development of the world.

To quote UNESCO

“Education should provide the skills for “learning to know, learning to live together, learning to do and learning to be”. Thus, education is the primary agent of transformation towards sustainable development and increasing people’s capacities to transform their visions for society into reality. Education not only provides scientific and technical skills, it also provides the motivation, justification, and social support for pursuing and applying them. We need to foster — through education — the values, behaviour and lifestyles required for a sustainable future. Education for sustainable development has come to be seen as a process of learning how to make decisions that consider the long-term future of the economy, ecology and equity of all communities. Building the capacity for such futures-oriented thinking is a key task of education.

This represents a new vision of education, which emphasizes a holistic, interdisciplinary approach to developing the knowledge and skills needed for a sustainable future as well as changes in values, behaviour and lifestyles.

Rethinking and revising education from nursery school through university becomes important, to include a clear focus on the development of the knowledge, skills, perspectives and values related to sustainability for current and future societies.

This implies a review of existing curricula in terms of their objectives and content to develop trans-disciplinary understandings of social, economic and environmental sustainability. It also requires a review of recommended and mandated approaches to teaching, learning and assessment so that lifelong learning skills are fostered. These include skills for creative and critical thinking, oral and written communication, collaboration and cooperation, conflict management, decision-making, problem-solving, planning and practical citizenship.

There is no universal model of education for sustainable development. While there will be overall agreement on the concept, there will be nuanced differences according to local contexts, priorities and approaches. Each country has to define its own priorities and actions. The goals, emphases and processes must, therefore, be locally defined to meet the local environmental, social and economic conditions in culturally appropriate ways. Education for sustainable development is equally relevant and critical for both developed and developing countries. ”

Additionally, the strong linkage between the economy and education was never so clearly visible as now. The functioning of the educational institutions, as well as the educational choice of the youth, has remarkably been influenced by the market economy. Quest for knowledge is no more always or the only motivating factor for prospective learners; rather, it is the availability of employment in the market that makes the learners choose their areas of study.

To function effectively and to manage or even work in any economic activity, knowledge becomes essential; hence the need for involvement and education of all people. In this perspective, looking to the role of higher education, one needs to go beyond the role of the traditional universities and degrees and the teaching- learning process.

This summarizes itself in the position that in a knowledge based society higher education is perceived to aspire to the following parameters.

Quantity: Education for the masses

Quality: To meet the aspirations and perceptions as discussed in terms of content, delivery, outcomes and relevance

Flexibility: To meet the challenges of obsolescence and change

The kind of education needed to sustain economic and social activity and development in a knowledge society would seem to include:

- 1) Education that meets the needs of the economic units (e.g. industry/ agriculture/services etc) in a knowledge society. That ensures relevance and availability.
- 2) Education that helps the individual meet the challenges of life individually and socially, and function as an effective, thinking human being (value based education). Education that engenders values, behaviour and lifestyle towards a sustainable future.

- 3) Education that facilitates mass and effective development and deployment of human capital. That facilitates redeployment, keeping in view fast changing frontiers of knowledge and fast obsolescence of gained knowledge. That does not restrict an individual in a particular stream for life, and enables him to come back to the education system in case of change of interest or new employment avenues.
- 4) Education that enables learning to learn for life.
- 5) Education that understands and facilitates the cross cultural, cross disciplinary and global networking of knowledge. That facilitates and builds on the interdependence of economies and societies.
- 6) Education that fosters a spirit of enquiry and research, creativity and entrepreneurship.

If we are in agreement so far, we have come more than half way together.

We need to now ask ourselves some hard questions. Are we anywhere close to delivering the kind of education we envisage, or are we even in the direction of attempting to deliver? Accordingly question emerges as to the ways and means of approaching this.

There are various issues that have been contentious as well as issues which may have been deliberated at accredited forums, but still remain the roads less traveled in terms of implementation. –These issues reflect themselves in the topics chosen for deliberation at this conference

We as educationists know that consensus on vision, standards, parameters and even action plan does not imply uniformity. At the Apeejay Education Society, even though all our 25 schools and colleges share one vision, similar missions and the same management, each institution is unique in itself, having evolved its own individuality, its own quality ethos and traverses its own distinctive road to excellence.

With this thought, I would like to invite you to take this platform one step further. Let us build a consensus on issues and facts, on which there is no debate. Based on those, we approach the contentious issues, which have held up the inevitable requirement of reorientation of education. As we learn from different models around the globe and our own strengths and mistakes, we will get a clearer sense of purpose and direction which is relevant in the context that we operate.

I will attempt to only touch upon some of the background against which we may like to measure these debates and find solutions.

Universities do have an indispensable role in sustainable development, by their special mission in teaching and training the leaders of tomorrow, by their rich and increasingly extensive experience in conducting trans-disciplinary research, and by their fundamental nature as engines of knowledge. This needs to be discussed against the background of availability of resources - financial, academic and managerial.

If we see the case of India-

In 1990 itself, the UGC Committee headed by Professor A. Gnanam had presented a report titled "Towards New Educational Management" which highlighted some important characteristics in the area of higher education such as the unusual expansion of higher institutions, the rise of regional universities, the need for open universities, increased demand from student bodies for a greater participation in administration of colleges and universities etc. The report also pointed out problems facing higher education such as the size of universities, the out-dated curriculum, the rigid subject-wise Boards of Studies, the relationship between the University and the affiliated colleges and the necessity to move from a highly centralized colonial, authoritarian society to an open democratic one.

In spite of the phenomenal growth of higher education in India in the last 50 years, there are some major issues today facing the higher education system, especially technical education. As already mentioned, only about 6-7% of the eligible population aged 18-23 years enters the higher education stream, which is less than the corresponding figures for most of the developed and developing countries. In the USA, for instance, more than 13 million students are enrolled in higher education, representing more than half of the eligible youth population.. This is not very conducive for the development of skilled manpower. Therefore, it is necessary for us to ensure that higher education is accessible to all, at least to all those who desire and deserve it. The number of students leaving for studies abroad even to mediocre institutions, the high cut-off marks for entrance at many universities, entry of students to below minimum standard institutions indicate a severe supply and demand mismatch.

But do we have the resources to achieve this laudable goal? In India, at least, the spending per student has been going down over the years. The share of education in our five-year plan outlay has been falling. The first five year plan gave education 7.86 per cent. By the fifth plan, education was making do with 3.27 per cent of the outlay. Even if you take both central and state government spending together, it does not get better. Current spending on education in India is not more than 3.5 per cent of GDP. The Centre itself concedes that the minimum should be 6 per cent. Again, out of the amount spent, less and less is being envisaged to be spent on higher education. Not even 2-3% of GDP. The government has its own constraints. It has to allocate sufficient funds to fulfil the fundamental constitutional commitment of basic education for all children up to the age of 14. Though not palatable, its increased focus now towards basic education cannot be faulted, in view of the prevailing wisdom as observed by renowned economist and Nobel laureate Amartya Sen, that the contrast between importance given to higher education and the neglect of basic education, if tolerably large, helps to sustain social disparities.

The reduction in the state funding for higher education has resulted in the outlay per student declining from Rs. 7676 at 1993-94 price levels to Rs. 5873 in 2001-02.—a testimony to the severe paucity of resources for expansion even within existing universities leave alone expanding in numbers. Would it be acceptable to deny our aspiring students access to higher education because the government does not have adequate resources?

Dr. Stya Paul, Founder President, Apeejay Education Society, was among the first to point out the emerging challenges in the field of education in the era of globalization and to sense that to cope with these challenges this sector will have to be freed from restrictive regulations, an observation that is relevant even today. I quote from his speech at the All-India Conference on Privatisation and Globalization of Education in the year 2000 organised by the Apeejay Education Society, and attended by eminent educationists.

‘Even after fifty years after independence, India has lagged behind other countries in industrial development and induction of technology. It ranks almost in the last place (43rd out of 47 prominent economies) on the world competitiveness as ranked by year book 2000 published by the Switzerland based International Institute of Management Development (IMD). This is mainly because the Indian economy was subjected to a plethora of controls, excessive regulations and excessive government interference. Licence Permit Raj created public and private sector monopolies and a State dominated centrally planned economy which stifled initiative. However since 1991, When New Delhi adopted its policy of economic liberalization and deregulation, the scenario has changed and Indian industry is getting into shape after a painful process of restructuring. But unfortunately, ‘License Permit Raj’ is making inroads into education. This development must be arrested forth with if Indian education is not to suffer the same fate as of Indian Industry in the post independence years.

Education is the fundamental pillar of human rights, democracy, peace and sustainable development. Educational institutions must play a role in identifying and addressing the issues that affect the wellbeing of nations and global society. Mobilisation for this purpose needs public awareness and involvement of private sector of the economy. Educational institutions will have to redefine their missions and establish the priorities as per the needs of the society. For all this to happen, education needs to be treated like any other infrastructure, such as roads, telecommunications, electricity, etc.

I strongly urge the Government to remove all such controls and regulations which prevent the private entrepreneurs for investing in education. This alone could introduce excellence and quality and help our institutes successfully compete with the best in the international arena.

Globalization has come in. Let us take the best from all other countries and give the best of our culture and philosophy to those countries.’

Liberalization has not addressed all the ills and problems in society and particularly that of inequity but it has certainly reduced it. The best example is of simple wristwatches and two-wheelers- items of mass consumption. Competition has netted the consumer a variety of choices at cost effective prices and better quality. Information Technology, which has revolutionized Indian industry and services is the by-product of liberalization.

The first and foremost issue of management presents itself as whether the higher education should be the sole responsibility of the state. It is no denying the fact that state does have the final responsibility of ensuring the availability, accessibility and quality sustenance of higher education. Yet we are already on the threshold of a new

era of partnerships in this realm. IT education aptly showcases the cause and utility of education even outside of the university system and there are other models that can be innovated. These included private training centres, corporate training centres, online education and certification etc. This is happening in sectors such as pharmaceuticals too. Additionally, Corporate houses may willingly share the financial and administrative responsibilities of optimally trained human resources with innovations like corporate learning centres, industry-specific learning centres, pay-back while working, corporate sponsorships, paying fees of desired number of candidates to be recruited and then deducting from salaries later. These ideas could be experimented with after a detailed systemization of policy. Donations, infrastructure development, laboratory furnishing, maintaining the library, providing faculty are some initiatives of Public Sector with private partnership already being already tried with in this realm.

Although it is true that higher education cannot be left to market forces alone to control and determine, self-regulatory mechanisms and quality assurance systems can ensure that higher education, whether provided by the public or private sector, meets the minimum standards and aspirations. In this context there is the intriguing issue of the glaring heterogeneity of standards in the Indian education system even in the public sector. One can take pride in the fact that in a recent survey published in the *Economist* (London), IIM, Ahmedabad has been considered as one among the top one hundred Management institutes in the world and the IITs in India have been placed at 41, in a list of the World's top 200 Universities, led by Harvard, Oxford and Cambridge by the *The Times Literary Supplement* (November 2004). Why can't we catalogue the factors that have made IIMs and IITs what they are and seriously attempt to introduce and sustain such features in a larger-much larger-domain of higher education? We can and we should do it.

In this endless debate on whether education is public good or private good, we may be missing the point regarding financial constraints of the public sector. Moreover, if we think of education as infrastructure essential for social and economic development then by its very definition it has public and private connotations and benefits. Increasingly around the world private sector has been invited to be part of the infrastructure building ownership and management. In many cases it has done so bringing in quality, cost effectiveness and intended/unintended public benefit. Education has the additional benefit of generating large scale employment directly and indirectly.

Education for masses implies mass mobilization of resources-financial, academic and human and managerial. Entry of private sector does not mean privatization of the public sector. Nor does it mean that it should happen in the absence of any quality standards and benchmarks.

If we recognize the role and need for private sector engagement in education, can it not work in partnership with the public sector? Let us not forget that some of the world's greatest universities are in the private and public sector, such as Stanford, MIT, University of California Berkeley and Cambridge. Some of the best private universities are also need-blind in their admissions policy, in terms of financial status and needs of the students. Sometimes these students get more than from the state funded universities. These students are subsidized by government grants, loans,

private scholarships and scholarships by the universities, research funding by industry and government etc.

Which brings us to the question of how to build self-sustaining models of universities, critical for autonomy and long-term viability and student-support. This question is as valid for the public as for the private sector. In fact, this issue is divorced from how education for the student is financed. Regardless of whether the financing is done by the user (i.e., students), by the government, by the universities, through private scholarships—the long term financial viability and autonomy needs to be safeguarded. There is a need to define the involvement of different stakeholders in the process to ensure adequate representation and yet retaining the autonomy of the universities and other institutes engaged in the delivery of higher education.

Then of course, there is the question of financing options. As has been observed by educationists in the past, the case for subsidy in the supply of education to the individual consumer is based on the premise that education is a mixed good involving substantial external benefits. However, it is widely agreed that such external benefits tend to taper off at higher levels of education and that there should be greater correspondence between costs involved and fees charged. Such an approach favours enhancement of tuition fees and other related fees.

Student loan schemes are an essential complement of cost -recovery and the charging of fees. Many students are unable to afford the cost of higher education out of their families' current income, and loan schemes permit them to pay out of their future earnings. About fifty countries, both industrial and developing, have such schemes, including more than half the Latin America and countries such as China, Ghana, Egypt, Jordan, Kenya, Korea, Malawi, Malaysia, Morocco, Pakistan and Philippines, and Sri Lanka.

An elaborate and well designed scholarship and loan scheme for the needy, to make higher education, accessible to all, would prove to be an effective mechanism of financing higher education.

Full-cost recovery, however, can be ruled out; just as heavy subsidization of higher education is theoretically unsound. It may be noted in this context that even in a highly developed country like the US where private universities charge much higher tuition fees than state universities, tuition fees forms less than 40 per cent of the costs; the rest comes form alumni support, endowments, etc.

In the recent past in India, some committees set up by UGC such as the Punnayya Committee have made certain recommendations in this regard and have also recommended that universities should try to be more self-sufficient in substantially generating their own financial resources so as to reduce their dependence on the UGC.

Who will pay for the education if government is unable to subsidize it to the extent it has until now leave alone increasing the subsidy level or coverage? There are different approaches to it around the world. However two principles are indisputable.

1. Those who can afford to pay should not be subsidized, particularly in the light of scarce available financial resources. Even if government commits to providing need based scholarships to all students it is currently subsidizing, at worst, it may be still spending what it is spending today, but at best, it may have surplus funds to invest in higher education.
2. Those who are subsidized by public funds, owe something in return, either by way of repayment or services.

Other time tested as well as innovative sources may be tapped; some examples include eased bank loans, innovative financial instruments, mobilization of industry and individuals to institute scholarships with tax and naming incentives, alumni support and endowments, cross-subsidization within institutions, but without diluting merit.

Another very important issue in management is the matter of access and equity of higher education. I very strongly feel that this should be based on the simple principle that *'No talented and deserving person should be denied access to higher education'*. This guiding code presumes a lot of things. One, higher education should be based on merit and desire and not economic, social or influential forces. Two, state with the help of private sector, should take primary responsibility of financing higher education, as fees will not be able to play a central role in the higher education economics. Three, a different system of screening beyond two-digit percentage shall have to be worked out to ensure deservedness. Four, education has to be freed from political and other influences. Five, the concept of earning while learning or exchange of labour or skills for education needs to be promoted. Six, acquiring of multiple degrees and diplomas simultaneously has to be encouraged. Seven, standards of evaluation have to be strengthened. Eight, the disparities and discrimination of age, gender, socio-economic background have to be tackled. Nine, return to the system for continuing or additional degrees/diplomas. The list may go on with no full stops.

Education for masses also implies non traditional models of imparting education that both changes the way universities function as well as going outside the university system.

Keeping in view the goals of education for sustainable development in the world, it is becoming increasingly clear that education in terms of individual and social concerns and value systems needs to be an integral part of the curriculum and the teaching-learning process. The increasing emphasis on Science, technology and other professional skills makes it even more imperative that our students imbue values that make good and conscientious human beings who are compassionate in outlook, emotionally balanced, socially responsible and well adjusted.

By its very nature, quality signifies a self-transcending category. It represents a continuous quest for perfection in an infinite pursuit of excellence. A second limitation of the standard based construct is that it represents a provider's view with little regard for the client's view. Quality is not always what is projected as quality by a provider. It is also that which is regarded as quality by the customer. It is a pity that in most cases it is the provider's construct of quality that is imposed on the customer, with scant consideration for the customer's view vision of it. Along with information

there should be focus on life skills, such as, decision making, creative thinking, critical thinking and problem solving.

The need of the hour today is to focus on the quality of higher education in the country. But a consensus on the definition of quality education has to be achieved first. One could define quality education as the development of human potential through a continuously supportive process which stimulates and empowers individuals to acquire all the knowledge values, skills and understanding they will require throughout their lifetimes and to apply them with confidence, creativity and enjoyment in all roles, circumstances, and environments. It constitutes the ability to think logically and analytically, to eke out an honourable living, to realize one's potential for self-development through educational experience; and to acquire a discriminatory capability to appreciate and imbibe the emerging values of our times such as concern for ecology, equality, civility, harmony and cultural pluralism.

Should measures of quality of education focus more on the substance than form, subjective appraisal of the insiders with objective appraisal of outsiders, and cognitive with social dimension of education? These indicators need to be derived from a well thought-out vision of quality education than an ad hoc view.

Good infrastructure alone does not foster good education. For a holistic approach to education, human capital and its development becomes far more critical. It is indisputable that today, there is a crying need for good faculty all over the world, particularly in the fast-growing technology areas. On the other hand, we have unemployment hand-in-hand with 'unemployability'. Even if education could financially be made available to larger numbers, we face a future where we may not even have the requisite number of faculty, let alone quality ones. Tomorrow's leaders need today's leaders in academia, industry, research, governance etc. as mentors, guide and teachers. Hence, serious consideration needs to be given to teacher development, induction and regular in-service training, paid study leave and other innovative measures for the development of human resources. At Apeejay, this is a major area of focus. Additionally, efforts need to be made to motivate talented people to take to teaching and research, part-time or fulltime, which would also create greater employment avenues. We hope that this august gathering, now or later, can come up with innovative ideas and focus on this invaluable and critical resource.

Universities in the global era need strategic alliances with industry, research organizations and laboratories for the betterment of higher education. Collaborative programs of knowledge-generation for effective research become essential. Research funds flowing to universities from industry and government, and the rigor and exacting standards of this research, bring new life to university graduate and undergraduate departments. Two-way flow of human resources between industry, academia, research and governance should be considered.

It has become critical to establish minimum standards of quality for academic, non-academic and infrastructural competencies. These parameters need to be objective and subjective covering the teaching- learning process, values, innovation amongst others. The accreditation agencies have a very important role to play here, but at the same time, there is a need for accreditation of the accreditation agencies too and for academia and industry acceptance of their benchmarking procedures and findings. We

also need to build consensus on quality benchmarking on a global basis. This is essential as the basis for the promotion of global collaboration, alliances and exchange.

Looking at the issue of benchmarking for quality in higher education, the opportunities will not convert into playgrounds of action unless the qualitative value is offered. It is not possible for a handful of accreditation agencies like the NAAC and NBA in India, for example, to solely oversee the quality standards of over 15000 colleges and 300 universities alone, and ensure higher quality standards in higher education system adequately. The whole procedure of setting up effective accreditation agencies needs to be re-examined, and other prevalent models in different parts of the world could be studied. Any quality system should involve the representation of all stakeholders. The concept of TQM in education should now be taken seriously.

The consumer is ultimately the best judge of a service. It is perhaps in this background that certification systems like CMM (Capability Maturity Model) in software industry and the ISO 9000 certificate in the manufacturing industry have been highly successful in self regulation of quality that does not impose uniformity nor impinges on autonomy. Moreover they do not act as a disincentive for creativity. Similar models of quality assurance and self-regulation present in different sectors, could be looked into, adapted and adopted.

This brings us to a very important issue that we have, perhaps, not even attempted to address – the need to have developmental programs and training systems for heads of institutions and departments to provide requisite *academic* leadership and managerial guidance in planning, resource management, education delivery and research to the institution's human resources, including effective managerial guidance and development of training programmes for a whole body of para-teaching staff members catering to administrative and other miscellaneous duties.

The tensions that come from a growing student body and diverse social groups, should be used creatively to offer choices that will improve the potential of the largest number of students. Accordingly, there is the need to train and recruit new faculty beyond the traditional university disciplines, and to maintain standards. This implies re-training faculty, fashioning a wider spectrum of courses and linking college education with employers and social concerns. In this scenario, educational institutions have to be innovative, and faculty too has to be re-trained to provide new inputs. We need a system which gives training to students for different sectors according to availability and need, and also makes it possible to re-tool employed people with up-dated skills to meet the changes in technology and industrial output. Or allowing "Going back to study" after a hiatus or a period of employment, or giving new opportunities and vitality to both the less-educated and the institutions that channel its graduates. Colleges must recognize and accept a transfer of credits for those desirous of updating their knowledge to match advances in technology. As observed in the conference's Background Paper, the old traditional model where content was pre-eminent and the student was generally the passive recipient in the teaching-learning process needs to be discarded. The very purpose of the teaching-learning process is to design opportunities so that each student can construct his/her own learning according to the individual's own world-view, learning-styles and

capabilities. Hence, the teacher's primary role should be to provide a meaningful opportunity for constructive learning. Instead of providing ready-made solutions to problems, teacher's role should be to create a series of questions in the students' mind so that they, individually or collectively, search for the solution. This constructivist approach will make each student a self-regulated learner.

With the fast expansion of computer technology, on-line education is already a reality. While information is increasingly gathered from the internet, a sensitive teacher must extend the student's knowledge through activity-learning or problem-based learning. Knowledge gained through field experience and project work extends beyond acquisition of data, towards an understanding of the wider society. Deeper insight into problems and conflicts is possibly gained through a processing of information gathered, linking its relevance to national issues and wider, global concerns. On-line education need not take away from faculty-student interaction, but promote standards and access in the process facilitating equivalence of university degrees in a global sense. International collaboration and linking of universities across the globe can also stimulate university departments and bring a cultural sensitivity through experiential education.

What is at stake in education is more important than ever. New conditions of employment, and growing flexibility of workforce relations to which people are widely subjected, rests on the belief that everyone is constantly nurturing their 'human capital' and qualifications. Significance of higher education is further highlighted by the fact that majority of 'new age' jobs require a mastery of formal skills for which specific training is given. Not going much back the flooding of call center training institutions in India is a case in favour of changing formal training needs of work force. The universalisation and internationalization of education has brought the GATS under WTO to appear on the education agenda too. The member countries of the WTO are still discussing and debating the opportunities and risks associated with the GATS in Education which has emerged as the least committed service regime. The negotiating countries have different motivations for their case.

However, all 148 signatories to GATS (General Agreement on Trade in Services) and WTO need to recognize that it is a legally enforceable document which gives enforceable rights to trade in all services. Unfortunately, by vehemently denouncing it or commending it, we cannot wish it away. It has a 'built-in' commitment to continue liberalization through periodic negotiations. It brings in the concept of 'Most favoured nations' and 'national treatment'. It covers cross border supply, consumption abroad, commercial presence and natural presence. Education is one of the services under it. The wake up call is that whatever be the outcome of the debate, we are fast approaching 1st January 2005. In the process of negotiations under GATS, the signatory countries may wish to make commitments and receive commitments from other countries on various services. One service can be a trade-off against another type. It is important to understand the entire implications directly rather than from reports and articles, and in this context, it may be useful to go through the WTO website which provides detailed information regarding GATS, including an article on common misconceptions. We need to prepare well and have a position on the give and take under the negotiations and also accordingly work on issues relating to erecting safeguards for the post-negotiations market access regime.

It is being universally accepted that the internet can unfold enormous opportunities for the expansion of our educational system. Many parts of the world have already seen the extensive use of web-based education and the evolution of e-universities. With the development of broadband infrastructure and course contents becoming web-enabled, the accessibility to higher education is bound to become greater. This however, should be regarded only as complementary to the time-tested institutional structure and not its alternative.

The management of a knowledge economy requires that information be collected, processed and relevant knowledge be created. The production of knowledge thus involves collaborations networking and alliances. The rise of globalisation offers several opportunities to higher institutions to collaborate and network resources and competencies across the world, such as alliances with alumni to act as resource persons, corporate sponsored resources, pooling resources among geographically close establishments to provide a sustainable policy in collaborative education system. Inter-establishment movement such as collaborations between universities and other higher institutions for optimal learning could also be experimented with. Shared libraries, laboratories, faculty and inter-institute revolving study circles and rationalized student exchange programmes are extensions worth trying. Industry-education exchange of faculty and training, Industry sponsored researches, and access to unaffordable by-education technology will help harness brilliance of the highest order, and also make the courses offered by the higher institutions relevant and in tune with the requirements of the market place. Developing hub-and-spoke system for rural small centers joined to a urban hub will certainly reinforce access, equity as well as excellence.

The last but not the least important issue is the issue of Corporate Governance in higher education. Disclosures, transparency, quality assurance, value for money, ethics and morality in administration are, I think, some of the issues that are so integral to the system that it should be the starting point in the roadmap for future of higher education.

Pursuit of integral knowledge and liberation, which has been a constant endeavour of Indian culture, is also the central objective of education. Undoubtedly, education is a liberating force as also an evolutionary force that enables the individual to rise from mere materiality to superior planes of intellectual and spiritual consciousness. Education is a dialogue among the past, present and the future, so that the coming generations receive the accumulated lessons of the heritage and carry it forward. In this age of globalization, we need to attract and retain “Creative Minds” to nurture and sustain the educational system which is inextricably linked with knowledge society. The roadmap for the future needs to be developed with the active and transparent involvement and representation of all stake-holders nationwide, and integrated on a global basis, keeping in view the perceptions and aspirations for higher education.

Once again, I welcome you all to this august conclave of creative minds which hopefully will find answers to the questions of excellence in higher education that have been nagging us for decades. But the pace of the future is dramatically faster than the speed of the past. Should the future carve a roadmap for us to tread or should

we become competent enough to construct a roadmap for future? This needs a concerted decision. Let's make it, now, sooner the better.

Thank you.