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Redefining the Role of Universities in a Knowledge Economy: Can India Transform Its Education System to Serve the New Role?*

Introduction

It is a great pleasure and privilege to deliver a lecture instituted in the name of Prof. V. C. Kulandaiswamy in this very renowned university. Prof. Kulandaiswamy, who I have known for the last several decades, is an academician and renowned author of repute. The country has honoured him by giving him the Sahitya Akademi Award for contributions in Tamil literature; and the Padma Shri (1992) and the Padma Bhushan (2002) for distinguished service in the fields of education and science. He has served as the Vice Chancellor of this great university and also of Indira Gandhi National Open University (IGNOU).

Prof. Kulandaiswamy is among the rarest of people—an acclaimed writer of repute, a scientist, an educationist and, much more than all these rare combination of skills, a person with a passion and love for the well-being of society in general. He is modern in his thinking and keeps pace with technological changes. The conceptualization and establishment of the Tamil Virtual University is a wonderful gift that he has given to the state of Tamil Nadu. Even at this age, he devotes time and effort for the welfare of the youth in this country. Today, he completes 80 years. The entire fraternity of academicians and scientists of India, and the people present this evening, join me in congratulating him and wish him good health to continue to serve society in future.

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I am deeply touched by his personal invitation and also by the special invitation from Prof. Mannar Jawahar, the renowned Vice Chancellor of Anna University, to deliver this talk. It is a rare honour. I have decided to speak on the topic of higher education because in the twenty-first century, education is at the crossroads for an emerging nation like ours. We not only have to address larger issues connected with education, but will also have to formulate policies that will create what I call enabling infrastructure, to make it a positive force for addressing the challenges of this dynamic century. All of us are witnessing the enormous influence that knowledge has in shaping the economy of nations and also in linking nations across the globe. Universities have been serving society for the last several hundred years and have always changed with time. Indeed, it is this ability to change with the times that has made this institution immortal. Interestingly enough, in this knowledge-linked society, universities are once again taking on a new avatar. Today, I intend to explore this new role further. I would also like to share my views on how we can address the challenges of the twenty-first century in the domain of higher education.

Higher education is an essential social as well as economic infrastructure for every developing and emerging nation. The first identity, i.e., social, is an age-old one. Higher education, under this identity, has become more a tool for gainful employment, thus ensuring a better life for individuals and their families. In a sense, it is an approach for the removal of poverty. However, it has succeeded only partially in producing appropriate and useful skilled human power for industry and science and technology; for the creation of basic social infrastructure (education, health, nutrition, food, shelter) and economic infrastructure (agriculture, energy, water, transport, communication); and for better social and administrative governance.

The second identity, i.e., economic, is a new one, acquired in the last decade or so. This developed mainly because of the new relationship that has emerged between education and the economy. The changed economic environment throughout the world has brought such an identity into the picture, and every nation is now talking of economic reforms. Both these identities are equally important while planning for higher education in the first decade of the twenty-first century. Indeed, they need to be fortified by cleverly and imaginatively addressing key issues like increasing demand, relevance, quality and excellence, governance and resources.

Universities and the Knowledge Economy

I now intend to address a few issues related to the development of nations and the role of higher educational institutions in the process of development. Today, every nation is witnessing development; and in each country, development is taking place at a certain pace. The speed with which a country develops is linked to the economic base and strength of that nation. Economic strength, in turn, is linked to the growth of infrastructure. But it is not only the growth of infrastructure, which could be a one-time activity, that is vital. One also needs to examine the sustainability of the development model that will bring stable economic growth. This implies examining the core issues related to economic development. The core issue is education, and this is where universities come into the picture.

The role of universities has undergone a metamorphosis from perseverance and advancement of the societal knowledge base to contributions to innovations that accelerate the economic growth of a nation. Higher educational institutions and systems have gradually been transformed by technologies into new multi-faceted systems. Educational institutions can be characterized into three broad types: First is the traditional campus-based university system that has a face-to-face approach. The second type is the open learning environment that serves off-campus students. This is often takes the form of open universities which use distance education methodologies. Today, both types of institutions use technologies to facilitate the delivery of quality education. Information technologies have helped to run systems more effectively and efficiently, mainly because they allows us to process information in an organized manner so as to achieve best results using cost-effective methods. The new entity that has brought in such a fundamental shift is the Internet. The Internet facilitates and cultivates the new virtual world for economic and social activities that are global in nature. This has had an impact on the working of universities.

Information technologies and the Internet that have brought into picture the third type of educational institutions—the virtual university. In the most advanced sense, we can define a virtual university as a campus-less university that solely uses Internet technologies for imparting education. However, in this purest sense, no virtual university exists today. This may happen in future, but we have a long way to go since research on the pedagogy of e-learning is still in its infancy. The trend that is emerging is the creation of a ‘networked organization’ in which institutions share their resources with each other.

Typically, this is one way of increasing the services offered by one or all the organizations in the network. In its more advanced form, these networks of organizations can employ the Internet for coordinating their work more closely. Nations that do not have a good educational base, and which are looking for a sound educational system, may have to adopt a networked organization structure. Thus, we need to understand the role of the university in the twenty-first century in such a networked structure.

To understand the role of universities in the twenty-first century, it is necessary to understand the present global scenario in totality. There is growing interdependence between people in today's interlinked world. The present era of globalization has certain distinctive features. Geographical boundaries are disappearing, and time and space are shrinking. People everywhere are becoming connected, and there are great opportunities for human advancement. The surge of globalization over the past decade or two is now redefining the meaning of education. One is also talking of stronger governance. A type of governance that preserves the advantages of global competition in the local environment and, at the same time, strengthens the forces that support human advancement. It is knowledge that is going to be a powerful force in all these changes.

In recent times, the world has rediscovered the meaning and importance of knowledge due to advances in information technology and science and technology. It is universally recognized that social well-being and advances in the economy have a direct link with the knowledge wealth of a nation. It begins with the realization that strong economies are not merely the result of accumulation of physical capital or for that matter richness in human skills. Rather, they are an organic outcome of how well the foundation of information has been laid and how deeply rooted is the mechanism of learning that facilitates the adaptation of knowledge for the growth and development of a particular nation. Human development is always linked with a nation's economy. The purpose of development is to create an enabling environment for people to enjoy a long, healthy, meaningful, satisfying, fulfilling and creative life. This simple statement has both material and mind aspects. Good governance therefore has to mould itself to accommodate both these diametrically opposite aspects—the spiritual and the material. Interestingly, good governance depends upon the policies of a nation for harnessing knowledge to its advantage. At this stage of the discussion on the link between knowledge and the economy, one can raise the question: What is the power and reach of knowledge in the present world?

In simple language, knowledge is very critical for development because everything that people do depends upon knowledge. Be it simple day-to-day living or working for a better tomorrow, all depends upon our capacity to transform resources into entities that we need for leading a good life. Moreover, this depends upon our ability to use resources in ways that generate ever-higher returns on our efforts and investments. This requires the creation of knowledge that can trigger such changes. Today, for countries that are at the vanguard of the world economy, the balance between knowledge and resources has shifted in favour of the former. This has happened because, presently, most of the technologically advanced economies are truly knowledge-based. These nations generate knowledge, use knowledge to innovate, and the innovations finally become tradable commodities. This, in turn, brings wealth to these nations. Those who create, adopt and use knowledge become economically rich. This is the simple rule of the twenty-first century.

However, one should realize that knowledge is not merely a tradeable commodity. It has other dimensions as well, which enrich the human mind and bring peace and tranquility to society. It allows humans to link individuals, families, societies, nations and the world into a harmonious entity. The power and reach of knowledge is enormous, and it is essential for every nation to understand this critical property of knowledge. Developing and emerging nations, therefore, have to increase their capacity to create and use knowledge. Knowledge per se is not a commodity that can be bought off the shelf in the market. It is an entity that, in a sense, is a 'good' in the public domain. Thus, everyone has to have access to knowledge. However, in reality, such a straightforward and simple approach towards knowledge is not feasible. The creation of knowledge needs financial investments. But an important aspect of knowledge is that each financial investment in the creation of knowledge need not necessarily bring in profit. Indeed, it is proven that one cannot exclusively attribute 'profit' to the generation of new knowledge. The inability to appropriate all the returns from knowledge could prove to be a disincentive to its private creation and supply. Innovators put in money to create knowledge through costly research and development, and they look for suitable returns. The government does have such motives, and private investors too have motives while investing.

Precisely because of such hidden aspects, one talks of patents, copyrights and other forms of intellectual property rights (IPR). They all have evolved so as to provide innovators an opportunity to recoup the costs of creating

knowledge and make a fair profit. I have used the term ‘fair profit’; and this is the crux of all the issues in the present knowledge-linked economy. Rich nations are missing this aspect, and poor nations are becoming mute observers of supremacy over knowledge by a select few. Often, the social returns from knowledge exceed the private returns. One can think of many examples in health, agriculture and environmental matters, where the social returns far exceed the private returns. Nations need to strike a judicious balance between social returns and private returns in the creation and dissemination of knowledge. It is here that education moves to centre stage. It is education that facilitates the creation of knowledge and provides the tools for its use for the betterment of human life. Education gives the humane touch to this entire process that is so vital for the creation of a sane world.

Education is the key to humanity. It has two roles: (i) to aid the creation of knowledge and the processes associated with its use; and (ii) to help imbibe values and enrich culture. The former has ‘economic dimensions’, whereas the latter has ‘human dimensions’. Basic education, primary and secondary, as well as higher education fulfill both these roles. I will dwell on the human dimensions later. I will explore further the economic dimensions. Basic education develops a person’s capability for learning, interpreting information and adapting knowledge to individual or local conditions. In a way, basic education provides a scaffold for lifelong learning. Higher education goes beyond this. It provides the foundation for building knowledge for an information-based society. Information-based science and technologies demand more skills for diffusing, interpreting and applying knowledge. Higher education, in traditional as well as professional streams, besides laying the foundation in basic, core disciplines, gives students new and better skills to monitor, assess and develop appropriate strategies for the use of technology. Universities, thus, serve a multiplicity of roles. They not only produce people who create knowledge but also those who have the skills to adapt it. They fulfill these roles through teaching and research. Universities, thus, deal with knowledge in all its aspects. Moreover, knowledge is development. It is because of these attributes that higher education attains its importance in this Knowledge Century. Hence, universities will have to play multiple roles—generate new knowledge, acquire the capability to decipher and adapt knowledge produced elsewhere, and create intelligent human power at all levels.

I would like to address a different, but related, issue at this point. There is a perception, that too a strong perception, that the humanities and social sciences

have no role in this modern world. This is an unfounded perception. Indeed, in my view, the present century belongs to these disciplines. It is true that the twentieth century belonged to science and technology. The latter half of the twentieth century not only saw various discoveries in pure and fundamental sciences but also witnessed a transformation of these discoveries into technologies. It is interesting to note that these changes have touched every aspect of human life. So much so that today, the materialistic approach has become the core of humanity. Naturally, the capacity to purchase has become more significant and ‘money-minded’ people and ‘economy-driven’ nations have become important. Interestingly, when the world is moving closer due to economic interdependency, nations are simultaneously making efforts to invent, adopt and use modern technologies in all sectors, in isolation. Hence, it is important to realize that the ‘economic revolution’ is too important to be left to be managed as it is at present because it has the capacity to do extraordinary harm as well as good. The growing interdependence of people’s lives calls for shared values and a shared commitment to the human development of all people. Thus, the social sciences—which make systematic efforts to understand human relationships in organized group life by the study of verifiable aspects of human behaviour and human sciences, comprising the languages and literature, fine arts, philosophy and history—become important. It is here that teaching, learning and research in the social and human sciences have to be re-elaborated in terms of conceptualization, formalization and synthesis so as to transcend the frontiers of the new world.

This brings us back to the role of universities in this new era of a knowledge-linked economy. Universities in developing nations are facing entirely different challenges. The key issues are increasing demand, relevance, quality and excellence, governance and resources. These issues are not merely controlled by internal factors specific to a particular nation but are also governed by events at the global level. To be competitive at the global level, we need a sizeable number of people who are not only educated but also of high professional calibre.

Let us examine the increasing demand for higher education. Today, the access parameter in most developing nations is hovering around single digit, which is almost four times less than that in the developed countries. The access parameter indicates the number of students enrolled for higher education courses in the eligible group of the population. Even if we succeed in increasing the access parameter to 20, say in the coming five years, we may have to cater for a few million students. It is a large number, and we will

have to come up with a genuinely different approach to meet such a huge demand. We may have to enhance the capacity of the conventional higher education system by using the physical infrastructure in two shifts and by adding appropriate teaching and other human support. We may also have to opt for a combination of the conventional and open education structures. Moreover, it is important to create and use information and communication networks linking all the colleges and universities in the country. This will ensure uniformity in access to teaching material and also help to maintain high standards of education. The information network will help teachers to supplement their teaching in the classroom by imaginatively blending it with multi-media support material on a particular topic; or giving the students a feel of demonstration experiments through computer simulation; or allowing them the opportunity to watch experiments being conducted in well-equipped laboratories, or listen to experts in their own country and also other countries. The innovative use of information networks will virtually enhance the academic infrastructure in the classroom, that too in a cost-effective way. We need to train and encourage teachers to develop multi-media material.

I now turn to another key element, namely, the relevance of education. This has always remained an open issue. Indeed, relevance has a direct bearing on the projected human power need of any nation. This is a vital issue because the bulk of the student population in developing nations in formal education is in traditional disciplines like the sciences, arts, humanities and social sciences, law and commerce. The relevance of education, for the past several decades, in these nations has been synonymous with the incorporation of vocational subjects in the conventional education system. This has drawbacks as it interferes with the core subjects and introduces professional subject matter at a marginal level. Thus, students are neither sound in the core subjects nor skilled in vocational subjects. Often, the system produces graduates who are neither accepted by industry nor equipped to become entrepreneurs. The emergence of knowledge-linked societies, in a new economic environment, demands graduates who are sound in their fundamentals, have analytical abilities and are equipped with appropriate utility-oriented skills. We have to do away with the good old concept of grafting vocational subjects onto an over-burdened degree structure (it is mostly three years in developing nations) and think of a more dilated definition of educational relevance. We need to adopt a more open and flexible education approach, where students can simultaneously pursue a degree and add-on utility-oriented programmes. This will allow students to acquire an advanced diploma along with a degree, or

opt for another year of intensive professional subject learning and acquire two degrees at the end of four years. The convergence of open and conventional education is going to be of help in this aspect as well.

Another parameter that becomes vital is the governance of higher education. Higher education systems in developing nations are not only big but also very complex. They have to manage demands and aspirations of an extreme nature. At one level, they have to meet the global challenge. At the same time, they have to ensure—although it may seem trivial but is significant from the perspective of work culture—that marks certificates are dispatched on time or that classrooms are cleaned and opened at the right time. The quality of education is primarily dependent on what happens in classrooms and laboratories. However, it goes beyond the wall boundaries of classrooms; it is imbibed on sports grounds, in libraries, hostels, central administrative offices, in principals' rooms—the list is endless. The point to recognize is that we have to think of total quality management in higher education. And this is where governance takes centre stage. The huge and multi-faceted education systems in developing nations need to embrace the management information system approach to achieve efficiency.

Are We Ready to Accept the Challenge?

So far, I have explored the changing role of universities. It is quite clear that knowledge is going to remain a magic word in the vibrant world economy. A nation not only has to create knowledge but must also devise methods to adapt it for the benefit of its people. It is education alone that will help the nation to surmount these new challenges; and it is higher education alone that will build its supremacy in a 'knowledge competitive' world. In this new world, universities have a new role to play. Nations must also realize that investing in higher education is investing in the future of their younger generation to make it brighter. The question that I would now like to address is: Have we as a nation comprehended this dynamic scenario, and are we ready to change with the times?

Globalization has had a tremendous impact on Indian higher education. The constraints faced by India are not only confined to the relevance and quality of education; but also pertain to issues of access, limited resources, and the lack of a coherent legal framework and operating structure that can promote qualitative and proactive changes in the education system.

Globalization of higher education has also brought forward the issue of *accountability*. In India, access to higher education is akin to a passport for better socio-economic status; and public awareness of, and aspirations in, the knowledge-linked economy are on the rise. Employers are increasingly seeking highly qualified personnel instead of opting for retraining less-than-suitable recruits. Thus, the government is expected to formulate and implement policies that meet the needs of the public and the market. Meanwhile, academic communities have expressed their discomfort with this trend because their definition of accountability is different. In academia, accountability refers to the freedom to pursue knowledge, and the creation and protection of an environment that encourages free inquiry and discussion of ideas. These aspects cannot be quantified; hence, it is difficult to make them accountable.

Indian higher education is facing all the above-mentioned challenges. We have institutions that are comparable in facilities and quality to any top institute at the international level, and also institutions that are weak in infrastructure and quality. The government has largely funded higher education. The subject is on the Concurrent List in the Constitution and hence on the agenda of both the central and state governments. The concern for accountability is linked to the growing Indian economy, which has benefited from the financial reforms initiated in the 1990s. However, the education system is not market driven. Out of the 300,000 graduates that pass out each year, a very small proportion is deemed suitable for employment (i.e., relative to their qualifications). There is also a disconnect between the outdated legal framework to which it is subjected and the magnitude of the entire education system, which suffers from inefficiency and excessive bureaucratic interference. Thus, the governance and management of the Indian higher education system needs to change.

Even though the terms 'governance' and 'management' appear similar in meaning, the Indian higher education needs distinct reforms in both aspects. Governance refers to lawful control over the affairs of a system. It is thus more related to policy-making and the legal framework for translating that policy into action. Management is the art or act of managing the system. In fact, it refers to an operational mechanism for the judicious use of means to accomplish an end, which in this case is relevant and quality education. If Indian higher education is to respond to the challenges of the twenty-first century, it needs to undergo radical changes in its governance and management. Indian higher education needs a paradigm shift.

It is unfortunate that in spite of innumerable reports—right from the Radhakrishnan Commission Report (1949) to the recent Yashpal Committee Report (2009)—we have not been able to substantially reform our higher education system. Indeed, never in last six decades after Independence has the education sector suffered as much setback as in last five years. During the previous term of the present government, there was a clear gap between the policy focus at the PMO and Planning Commission level, and the nodal Ministry of Human Resource Development (MHRD). Such was the sycophancy of the minister and the bureaucracy in the ministry that the entire machinery was vitiated by incompetent officials and neo-educationists on various prime policy-making agencies in the education sector. They became decision-makers not because of their contributions to and experience in the sector but because of their alignment with certain political parties or their close proximity to the minister. The net result was the formulation of haphazard and inconsistent policies and their poor implementations across the entire spectrum of education, right from the primary level to higher education. As expected, in such a scenario, clever and manipulative individuals and their institutions got the advantage while the nation and the education system suffered a serious setback. We hope that the new government at the Centre—with a sufficient number of MPs belonging to the Congress Party and thus less dependent on its allies for support, and with a person like Mr. Kapil Sibal, who is known for an open and transparent approach in all matters, heading the HRD Ministry—will accelerate the process of reforms in the education sector.

We must realize that the entire spectrum of education—from kindergarten, primary and secondary to higher secondary and higher education, in the domains of core fundamental education and applied skills in professional education—is critically important for the social and economic development of a nation. The challenge lies in formulating and implementing policies and operating procedures that give every citizen the opportunity to acquire education; and in cultivating and nurturing talent independent of the social and financial status of individuals.

I am quite clear that mere patchwork in our education system is not going to help. MHRD must candidly address the following aspects.

First, the education scenario has changed the world over; and technology has made cross-border education a reality, affecting affordability, access, relevance and quality. The country has to have a national strategy that brings coherence to policy formulation, the decision-making process and its

implementation. The federal structure demands such an approach if India is to benefit from education as a tool for economic advantage and social good. The new national policy should create an umbrella structure under the Higher Education Commission (HEC), and all the present commissions and councils need to be brought under the commission. HEC should be an enabling body, which facilitates the growth of the education sector and ensures the provision of quality education, rather than a regulatory body.

Second, we must remember that equalizing access does not necessarily bring in equality of chances of success for all learners. The time has, therefore, come to dispense with the concept of fitting conventional education into the rigid frame of +3 years and accept the more flexible approach of adaptive pace of learning. Such an approach, besides specifying the minimum and maximum duration for the completion of a degree, should build academic and structural bridges between conventional learning systems, on the one hand, and open and distance learning systems, on the other.

Third, we need to establish empowered autonomous institutions with the power to confer degrees. A paradigm shift must also take place in this respect to bring all high-quality and autonomous colleges within this domain. The various university acts need to be rewritten to usher in a new culture for the innovative, effective, efficient and accountable governance and management of institutions of higher education.

Fourth, India now has a huge but non-regulated private education sector. The entire domain of this education sector is now well accepted by the market as it serves their immediate needs. There is merit in their training strategy, and it should be accepted as a parallel mode for adding skills. The private education sector not only needs to be recognized but also accredited for quality. The recognized blending of this sector with the public education sector will help to address the question of demand and relevance. This requires the adoption of an open and flexible policy in respect of the private education sector.

Fifth, in addition to not-for-profit educational institutions, we should think of creating for-profit educational institutions and work out a new economic approach for enhancing the resources of public institutions. The participation of the private sector in education will enhance growth and bring in competitiveness. The creation of appropriate financing structures and mechanisms for giving scholarships and soft loans to students through a special instrument funded by both the government and the private sector

will maintain the balance between accessibility for students, social equity, competitive quality education, governments' responsibility of retaining the 'public good' identity of education and returns for investors in for-profit institutions.

Sixth, India can become a strong competitor to developed nations in attracting foreign students as well as taking our education to other nations. Indian education is affordable and of reasonable quality. English is the dominant medium of instruction, and the cost of living in India is much lower than that in developed nations. Apart from the creation of a modular credit-based system, we need to formulate an open and attractive policy for the export of education with built-in incentives for all Indian public and private universities. We also need to create 'special education zones' (SEZs) for attracting foreign students to our institutions. Public and private universities, in single or conglomeration format, need to be encouraged to operate in such SEZs. Indeed, the fees charged from foreign students can form an important component of the revenues of universities, which will help to protect the interests of such sections of society who seek education at affordable cost. We need to devise such an open and progressive policy for taking good Indian education to the world market.

Finally, the government should establish a higher education finance corporation, which should be a professionally managed financial entity. The government needs to initially make bulk investment and generate a continuous flow of revenue by introducing an employment tax that is applicable to employers. Each employer (private and public industries and institutions, state and central governments, and any other type of employer) should be levied a tax equivalent to the first month's salary for every addition of a new employee. The corporation should make provisions for giving soft loans to students and to institutions for the development of academic and other infrastructure.

Conclusion

I think the message of my talk is loud and clear. India needs to radically reform her legal structure in the education domain. For too long, we have avoided reducing the complexities, the overlaps in responsibilities and the duplication of powers in various departments and ministries dealing with higher and technical education. Each power centre tries to protect its respective turf and simply block attempts at reform. Hence, the first priority of the new government should be to simplify and make transparent the legal

and regulatory machinery. It does not require extraordinary intelligence to bring about these changes; we do have ideas, concepts and alternative structures to build an integrated yet simpler system. What we do not have is the desire and will to carry out these reforms. There are bureaucratic and vested interest barriers that have the support of political parties. If India is to become a great nation in this century, then we need freedom from the personal interests of politicians in all parties, which is a national problem. Even though the nodal ministry should take forward the reforms in the education sector, it simply cannot do so on its own. This requires efforts at the highest levels—at the PMO's level and also by Mrs. Sonia Gandhi. She should call an all-party meeting and try to bring about consensus across the political spectrum for total reforms in education. The Prime Minister's Office can undertake a similar exercise, in parallel, at the level of all ministries. If we have the social desire and the political wisdom, we can do it. The time for reforms is now or never.

Thank you.