

## Higher Education in India : Prospects and Perspectives

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I feel highly honoured that I have called upon to deliver this memorial lecture, which you instituted in memory of Dr. Rajendra Prasad, who was the founder president of your Society, which was established 47 years ago in the year 1947 to promote the science of statistics and its application to agriculture, animal husbandry, agricultural economics and allied fields. You were indeed fortunate to have had the privilege of having a person of his eminence to preside over the destinies of your Society in its early years, because he was fully conscious of the role of agricultural statistics in agricultural planning and development, and he had profound knowledge and deep grasp of the practical problems of agriculture in India. No wonder that during the past 47 years your Society - the Indian Society of Agricultural Statistics - has grown big and mighty on the firm foundations ably laid by Dr. Rajendra Prasad. On this happy occasion of your 48th Annual Conference, I offer to you my hearty felicitations and compliment you on the great contributions your Society has made to the promotion of Indian agriculture. Agriculture is the backbone of the country's economy and it continues to face several daunting problems. The recent globalisation of our agriculture has thrown up numerous new challenges before you. And now there is the proposal to move agriculture from the state list to the concurrent list and to extend the benefits of industry to the farm sector. I am sure you will deliberate on the implications of many of these issues during this conference.

At the outset let me tell you that I am not a man of agriculture or statistics. I have spent all the 37 years years of my professional life in the field of education. I therefore thought that I would utilise this opportunity that you have given me to share with you some thoughts on the prospects and perspectives of higher education in India.

### *Role and dimensions*

It has now been established beyond doubt that education is the most crucial input for socio-economic development. Education provides strength and resilience to people to respond to changing situations. Education enables people

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to cause and to contribute to societal development. Education is the tool for ushering in changes in an orderly manner. Education is the mainstay of all national endeavours. Education has the responsibility for transferring human beings into human resources. Development of human resources is the main function of education.

In particular, higher education is the main instrument for development and change. It has the important task of preparing leaders for different walks of life-social, intellectual, political, cultural, scientific and technological. Universities function as the focal centres of higher education. The place and role of universities have undergone major changes. In addition to their usual scholarly functions of teachings and research, they have now been assigned the extension and developmental functions also. They play a key role in the generation, transfer and application of new knowledge. They produce trained manpower required for industry, agriculture, administration, services and all other sectors. The intellectual dynamism, resourcefulness and economic prosperity of a country is reflected in the quality of university education. The ideological climate required for a better quality of life and pace of development is created by the universities and the intelligentsia nurtured by them. The role of universities in societal formation, nation building and scientific development is very big and all pervasive.

When we became independent in 1947, we had only 19 universities and 636 colleges with a student enrolment of about 1,06,000. Today in 1994, we have a higher education system consisting of more than 220 universities and university level institutions, and more than 8,200 colleges accounting for about 3,00,000 teachers and 5 million students!. This university level institutions in India have several types of organisational structures. We have central universities, institutions of national importance, state universities, and institutions deemed to be universities. They all exist making the mosaic of higher education system polychromatic. These institutions offer a wide variety of courses and programmes in all relevant branches of humanities, science and technology. The best that the country has produced in science, technology, industry, trade, education, and even in politics and administration, owes its sprouting and blossoming to these institutions. No other developing country has attained as much self reliance in the field of education and training as India has done. It is common knowledge that even advanced countries welcome and employ highly qualified personnel from India. Thanks to the contributions made by our higher education system, we have made significant advances in agriculture, atomic energy, space technology and such other fields.

But let me hasten to add that our higher education system is not without maladies. While we do have quite a few world class institutions, many others are very average, and many more are substandard. They are facing a crisis of confidence and a crisis of character. There is a general denigration of and disillusionment with their present functioning. This rot that has set in has to be stopped. We are facing a veritable explosion of knowledge in all fields all over the world. Our higher education system has not only to keep pace with these developments, but also remain internationally competitive. We have therefore to concentrate on rejuvenating, revitalising, and reforming the system with a view to meeting the challenges of the 21st century.

#### *Management of the system*

It was in 1956 that the government of India established the University Grants Commission (UGC) to discharge the functions of promotion, coordination and maintenance of standards in higher education. But during the past 38 years, not much has happened in improving, modernising and reorienting the management system to suit the many developments that have taken place and the unprecedented expansion of higher education that we have witnessed. The UGC did make several efforts and did launch numerous schemes from time to time, but they have all ended up as bureaucratic rituals. The UGC has to be a little more assertive in fulfilling its statutory and intellectual responsibilities.

Even today there are no proper organisations in the states to plan and develop higher education and to assist the UGC in its responsibilities of coordination and maintenance of standards. Consequently, there has been unplanned and haphazard proliferation of universities and colleges leading to deterioration of standards. Many of them have been established not based on needs. They do not have the approval of the UGC. They do not have enough students, or teachers, or basic minimum facilities like buildings, class rooms laboratories and libraries. At present as many as 55 state universities and 3,000 colleges belong to this category!. They have been declared as nonviable and they do not receive any assistance from the UGC. But they exist and continue to impart substandard education producing ill equipped graduates with doubtful social values and attitudes.

This is a reflection of the lack of perspective planning for higher education. It is paradoxical that the institutions of higher learning always reiterate the value of adopting a futuristic perspective in development, and yet they themselves ignore this important aspect of growth. In the absence of adequate information on manpower requirements, it will be difficult to anticipate areas

of growth and plan for manpower development. Forecasting of manpower needs, especially in the emerging areas, is therefore a priority requirement.

We have to develop a formal management system by which the leaders in education will be involved in guiding, counselling, planning and developing higher education. It is in this context that the National Policy on Education 1986 suggested the establishment of State Councils of Higher Education as statutory bodies in all states to ensure proper planning and co-ordination of the development of higher education. These State Councils should be established without any further delay. They should undertake detailed surveys of their existing facilities for higher education and project their needs and requirements for the year 2,000 and beyond. The information so collected should be used to develop a computerised management information system (MIS) to identify problems and deficiencies. This information system should be utilised to consolidate the existing institutions and proceed with need based selective expansion.

The efficiency of higher education depends upon the efficiency and performance of universities. The management structure of most universities in India leaves much to be desired. The university administration is dominated by non academic persons who do not have proper academic orientation to administration. In terms of their composition, functions and powers, the university bodies such as the syndicate, senate and academic council have become totally outdated. Absence of effective decentralisation, failure to evolve priorities and pursue objective oriented programmes, weak personnel management system, and ineffective intra-departmental and inter-departmental coordinating mechanisms have adversely affected the performance of our higher education system. In this context, the reforms suggested by the UGC Committee headed by Prof. A. Gnanam deserve to be accepted and implemented. The Gnanam Committee has emphasised the principle of autonomy of universities and decentralisation of their management structure.

During the pre-independence days, our universities were administered better, thanks to the then existing Indian Education Service. The Indian Education Service needs to be re-established as an all-India service to bring a national perspective to the management of higher education. Increased professionalism on the part of managers of higher education in the areas of administration, planning and decision making will have to be sensitised to respect the consultative processes.

As proposed in the National Policy of Education 1986, a National Council for Higher Education (NCHE) should be set up as a national apex body to

bring about greater coordination and integration in the planning and development of higher education covering general, agricultural, medical, technical and other fields.

#### *Autonomy and accountability*

The affiliating university system which has a history of nearly a century and a half has outlived its utility. It has been discredited and abandoned long ago in the country of its origin, namely Britain. It has become irrelevant and counter-productive. In spite of all this, more and more affiliating universities are being set up in this country year after year. Universities should be divested of the responsibility of regulating courses, conducting examinations and awarding degrees to students enrolled through the system of affiliated colleges, and left to concentrate on post graduate education, research and development. We should restructure the existing system by conferring autonomy on the colleges and making them independent institutions. We should fix a time frame for this change-over. Autonomy means and implies only that the college and its teachers assume full responsibility and accountability for the academic programmes they provide, for the contents and quality of their teaching and for the assessment of their students. Since the creation of autonomous colleges is the best way to enhance the standard of higher education, we should pursue the scheme of autonomous colleges relentlessly.

The issue of autonomy is closely related to the imperatives of accountability. Unfortunately, universities have rarely shown enthusiasm in fulfilling the norms and requirements of accountability. Autonomy should not be misconstrued. It has its limits. It is not sovereignty. It is not license. Instances are legion where our universities have misused the autonomy vested in them. Universities and colleges are public institutions. They are accountable to the nation. Their performance should be accounted for and assessed from time to time. Performance audit must be held within the institutions to appraise them of shortcomings and possibilities for improvement.

Several advanced countries have developed mechanisms of assessment and accreditation of educational institutions, the main function of accreditation being to look at the quality and standard of the institutions and their programmes, and rate them. It is gratifying to note that at long last the UGC has recently set up a National Assessment and Accreditation Council (NAAC) for the assessment and accreditation of institutions of higher education. This is in addition to the National Board of Accreditation (NBA) set up by the All India council for Technical Education (AICTE) last year to assess and accredit technical education institutions. These agencies are bound to produce a positive

impact on the quality of higher education in India. Autonomy and accountability should form the foundations of our higher education system.

#### *Depoliticisation of campuses*

One of the most undesirable developments after we became independent has been the entry of party politics into college and university campuses. Politicians and political parties regard colleges and universities as instruments of political advancement and as nurseries for recruitment and training of their cadres. Politicisation of unions of students, teachers and non-teaching employees in the guise of democracy has made our campuses battle grounds of rival political parties and partisan supporters. The manner in which politics plays havoc in our higher educational institutions makes one feel that we have lost sight of the basic objectives for which they were established.

It is high time to banish party politics from colleges and universities. They are not political institutions. They are temples of learning. We have to depoliticise them through rationally thought-out methods. The system of elections to the students' unions and other university bodies should be replaced with one based on merit and performance. There is urgent need to work out a national consensus on this issue involving all major political parties. In this context, it has to be pointed out that in the advanced countries of the world, there is no political interference in the running of schools, colleges and universities. Politicians in those countries realise that in this modern world of high competition and high technology, high quality education is essential for the survival of a nation.

#### *Decongesting campuses*

The Indian higher education system is over-crowded with non-students who do not know they are there. In no worth while country in the world are such students admitted for higher education. Unrestricted and indiscriminate admissions have given rise to an unmotivated and undedicated student population teeming in our colleges and universities. This has led to serious deterioration of standards and numerous other problems. Let us understand that higher education is neither a birth right nor a fundamental right. It is only for those who are fit for it. We should frame and implement a strict admission policy so that higher education is made accessible only to those who have genuine interest in pursuing higher education. Admissions should be made strictly on merit. The admission numbers should be decided on the basis of facilities available in each institution. Those who are unfit for higher education should be provided with other avenues for occupational/vocational/technical training in close collaboration with employing agencies.

It is unfortunate that in our country the minimum qualification prescribed for many jobs even at clerical level is a university degree. So long as this condition remains, the craze for entering a college and securing a degree will continue unabated. Therefore, this condition should be abolished. Over the years many expert committees and commissions have been advocating delinking of university degrees from jobs in selected areas. This is an important reform which should be implemented. Delinking should be applied in services for which a university degree need not be a necessary qualification. Its implementation will lead to a re-fashioning of job-specific courses and afford greater justice to those candidates who, despite being equipped for a given job, are unable to get it, because of an unnecessary preference for graduate candidates. At the same time, avenues for higher education and continuing education should be provided for all those with interest and aptitude through a well organised, well managed and flexible system of open learning/open universities.

Concomitant with delinking of degrees from jobs, the National Evaluation Organisation (NEO) which has been set up in Delhi in 1991, should be strengthened considerably to undertake the tasks expected of it. It should design, develop and administer a variety of tests using the latest techniques in educational testing to certify the proficiency, skills, competences and aptitudes of persons who wish to take such tests for purposes of employment or for any other purpose that such tests may, in course of time, serve. This will pave the way for the emergence of norms of comparable competencies across the nation and to bring about an overall improvement in testing and measurement.

#### *Teachers, their development and ethics*

The quality of education hinges on the skill and ability of the teachers. Teachers today have multiple roles to play including teaching, research, consultancy, extension work, development of instructional resources and management of institutions, It is necessary to update their efficiency as a precondition for improving the quality of higher education. Only persons of high caliber should be appointed to faculty positions through impartial and objective recruitment procedures. Appointments to teaching positions should be made on merit and merit alone. Teachers selected on parochial, caste, communal and such other considerations can never build up a faculty of quality. And a poor quality faculty can never raise the standards of higher education. It is generally held that institutions of higher education and learning in India have failed to generate and nurture intellectual culture. One of the prime requisites of a socially conscious education system is teachers who, besides being inquisitive learners and proficient in their profession, possess social sensibility and commitment to create a better social order.

Our system of one year probation is too inadequate to determine the suitability of a teacher for permanent appointment. As in many advanced countries, he must be judged over a longer period of time not only by the head of his department, but also by his peers and even by his students. Student reaction surveys is a method employed by several well known universities abroad. Teachers' performance should be continuously assessed. Assessment of teachers should be made on the basis of their comprehensive performance appraisal and their continuous education and improvement. An important reason for the inefficient working of our higher education sector has been, as in the case of public sector undertakings, assured salaries and absence of a monitoring system for the performance of the teachers and the institutions. An open, participative and data-based system of teachers' evaluation should be created and implemented. The criteria for excellence in teaching have to be well publicised and made available to the teachers in advance.

A competitionless environment cannot accomplish excellence. Just as the Red Queen says in *Alice in Wonderland*, one must run fast to remain at the same place. In this fast changing world of knowledge, a good teacher needs to maintain continuing contact not only with the national, but also with the global scientific and academic community. Positions of readers and professors should be continuously reviewed to provide incentives for high quality and original work. The statement in the National Policy on Education 1986 that norms of accountability will be laid down with incentives for good performance and disincentives for bad performance must be honoured. Only a system of incentives and disincentives can uphold the dignity of the teaching profession. The existing scheme of automatic promotion of teachers on the completion of a certain period of service has made our teachers lazy, indifferent and unmotivated. This scheme should be abandoned. Appointments to faculty positions at all levels should be on open selection on the basis of merit only. Open selection will promote academic mobility which in turn can counter the malaise of inbreeding and provide incentives to the talented.

The UGC has instituted certain schemes such as the academic staff colleges for updating teachers's competence. But these do not have comprehensive and extensive coverage of the essential contents and techniques. Moreover, they cater only to a small portion of the total teaching community. Senior faculty members are outside the scope of this scheme. Even the refresher courses in various specialised fields do not cater to updating the knowledge and skills of senior teachers who ideally are expected to exert the greatest impact on the educational system. The existing facilities for the inservice training of teachers are woefully inadequate and should be strengthened considerably.



The teachers should on their own use the vacations for updating themselves by undertaking self-study and research. The system of sabbatical leave, so popular in some of the advanced countries, should be introduced in India on a large scale.

Coming to professional ethics, it has to be said that by and large the norms of academic behaviour are not being observed in most of the institutions of higher learning. Hence, serious attention needs to be paid to the issue of professional ethics of teachers. This is of great importance because the conduct of teachers directly influences the impressionable minds of students who generally see in their teachers their role models. Teachers have the obligation to ensure that the highest levels of scholarship, objectivity and recognition of merit distinguish all their activities. The primary responsibility for ensuring that the teachers adhere to a professional code of conduct rests on the teachers' organisations. In 1988, the UGC prepared and adopted a Code of Professional Ethics for teachers in consultation with the teachers' organisations. But its implementation has not been insisted upon either by the UGC or by the central and state governments. It is high time to take effective measures at the national as well as state levels to monitor the adherence to the professional code of ethics already adopted by the UGC. The authorities should ensure that the teachers do not violate these codes. If need be, regulations either by way of university statutes or governmental directives should be enforced to govern the work of teachers and to bring them into the ambit of public accountability. There is no other way to resurrect the noble image of the teaching profession in India.

#### *Curricular reform and course structure*

The courses offered by the majority of our universities have remained archaic, rigid and irrelevant to contemporary as well as emerging needs. Our courses and programmes in higher education have to be redesigned to meet the growing needs of specialisation, to facilitate mobility among courses and programmes, to update and modernise curricula, to integrate practical experience with the learning processes, and to facilitate introduction of reforms in the evaluation procedure. Application of new communication technologies can convert our institutions into "learning" rather than "teaching" institutions with vast implications for curricular and instructional methods. Higher education can be made meaningful only when we introduce radical changes in the traditional curriculum prevailing in our universities. We should not lose any more time in reforming the curriculum of our universities with a view to bringing them at par with international standards. Curricula have to be reviewed on a continuing basis.

The growing concern over erosion of essential values and an increasing cynicism in society has brought to focus the need for changes in the curriculum in order to make education a forceful tool for the cultivation of social and moral values. In this regard, the National Policy on Education 1986 has rightly stressed the need to strengthen a system of value education that would foster universal and eternal values oriented towards the unity and integration of people and helping eliminate obscurantism, fanaticism, violence, superstition and fatalism. Value-oriented education will go a long way in inculcating in students a spirit of service, nationalism and patriotism. Value education aims at the evolution of a total man and not just an economic or scientific man.

In this context, it has to be stressed that when we improve the relevance of our course offerings, we should ensure that they have some link with the manpower needs of the nation. It may appear surprising, but it is true, that in formulating the curriculum and syllabi the universities do not even think about the manpower needs. The course offerings should be designed and related to societal needs and the country's development. As we enter the next century, we will have to keep abreast with developments in several areas such as micro-electronics, informatics, telematics, bio-technology, engineering design, material science oceanography, instrumentation and space technology. The course structures have to have close linkages with industry, agriculture, business, service agencies, research centres and other development sectors.

Every higher educational institution must have some involvement with its neighbourhood. The expertise and infrastructural facilities of our institutions should be available and should be put to use to mitigate man's misery, to reduce drudgery of work, to provide gainful employment to poor people, to improve the quality of life, to mobilise and optimise the use of natural and human resources, to use native genius and skills, to weave into traditional technologies modern methods, and to use capital saving energy saving and labour intensive technologies. Such a tilt towards application orientation in our course structures will have tremendous impact on the quality of our higher education.

#### *Assessment and examination*

Reforms in examination have been a subject of serious discussion for long. Way back in 1902, the Indian University Commission said that "the greatest evil from which the university education in India suffers is that teaching is subordinate to examinations". In 1949, the University Education Commission (1948-49) headed by Dr. S. Radhakrishnan stated that if they had to suggest one single reform in university education, it would be that of examination. Later on in 1966, the Education Commission (1964-66) headed by Dr. D.S. Kothari

reiterated the views of the earlier commissions and lamented that practically nothing had been done to bring about examination reforms. Subsequently, the UGC did make some attempts to introduce examination reforms, but without much success.

The present system of examination has been the major contributing factor to the inordinate strain, slackness, corruption and inefficiency everywhere in our higher education system. It encourages selective study and rote learning, and discourages innovative teaching and serious and sustained study. It is replete with serious deficiencies and has eroded the credibility and validity of the degrees awarded. This should be dismantled and replaced with a system of continuous and comprehensive internal assessment which will eliminate examination fear, evaluate students' proficiency, encourage regular study habits, facilitate continuous feedback on performance and help to improve it, ensure teachers' accountability and help the teachers in self-assessment. The teacher who teaches a course has to have the responsibility for assessing and grading a student. There should not be any secrecy about any part of the assessment. If continuous internal assessment is introduced in all institutions, there will be a thorough decentralisation in examination system which will pave the way for real competition where the best alone will stand the test and serve.

Several institutions including some of the agricultural universities and the Indian Institutes of Technology have introduced the system of continuous evaluation and internal assessment with success and proved its efficacy. We have no choice except to introduce this system in the entire sector of higher education.

#### *Research and development*

Research is an essential component of higher education. Research imparts excitement and dynamism to the educational process. There is a symbiotic relationship between the two. Research cannot be carried out without the vital support of higher education. It is research carried out in our higher educational institutions—not only in science and technology (S&T), but also in social sciences and humanities—that make them play a crucial role in national development, self-reliance and security.

Unfortunately, most the research effort in the sector of higher education is concentrated in few institutions. It has not spread over the entire system. The infrastructural facilities available for research in the vast majority of our higher educational institutions are very poor. Even in otherwise well equipped institutions, there is no adequate provision for spares, consumables and replacement of short-lived equipment. Poor library, inadequate information

system, absence of computational and reprographic facilities are endemic to the majority of our educational institutions.

The expenditure on research and development (R&D) in India is less than 1% of the GNP. Many developed countries spend as much as 6% of their GNP on R&D. The expenditure on R&D in the higher education sector (expressed as a percentage of the total national expenditure of R&D) is between 20% and 30% in the developed countries. The corresponding figure for India is less than 5%. This is alarming, because almost all the R&D manpower of the country is produced by our higher education sector.

Whereas the universities in advanced countries are the fountain heads of R&D activities, we in India have practically barred our higher education system from access to the avenues of generation of new knowledge. This situation arose mainly because, soon after independence, we established a network of exclusive research establishments in a variety of specialised fields all over the country. This included a number of national laboratories and R&D institutions under a few umbrella organisations such as the CSIR, ICAR, ISRO, DRDO and ICMR. In addition, several central agencies such as the Indian Council of Social Science Research, Indian Council of Historical Research and Indian Council of Philosophical Research were set up to look after and support research in social sciences and humanities. Establishment of these categories of research institutions had an adverse impact on research in the higher education sector. Most of the funds available for research were channelled to these new categories of institutions. Because of shortage of funds, research in the university sector was pushed to a subordinate place. Moreover, because of the autonomous nature of universities, the research institutions outside the university system developed almost on parallel lines with hardly any exchanges and interaction with the universities. As a consequence, even the post graduate students and research scholars coming out of our universities know very little of the research advances that take place within the country even in their own specialised fields.

The National Policy on Education 1986 assures that "research in the universities will be provided enhanced support and steps will be taken to ensure its high quality. Suitable mechanisms will be set up by the UGC for coordinating research in universities, particularly in thrust areas of science and technology, with research undertaken by other agencies. An effort will be made to encourage the setting up of national research facilities within the university system".

The productive functional linkage between teaching and research is of crucial significance. We have to spread the culture of research in our higher educational institutions on a much wider basis. We have to set up some of

the major national facilities required for carrying out research in our educational institutions. We have to provide access to the major national facilities available with other agencies to wider cross sections of the academic community. A long term plan should be formulated and implemented for increasing access to world literature, particularly in science and technology. Educational institutions should be assigned challenging mission-oriented projects to give better focus to their R&D efforts. Resources for research should be allocated on the basis of priorities rather than 'something-for-everybody' basis. Problem-oriented research projects of national importance have to be identified in consultation with industry and other concerned national agencies. We should encourage multi-disciplinary, trans-disciplinary and trans-organisational research with emphasis on design and development. There should be regular and continuous interaction between universities, R&D organisations and user agencies in the industrial and other sector. Mobility and exchange of faculty between academic institutions, national laboratories and industrial establishments should be encouraged. Industries and S&T agencies who depend heavily on the academic sector for their manpower needs should support R&D manpower development and research in the academic sector. The mechanisms for technology watch, technology assessment and technology forecasting need to be fully established and further strengthened for providing guidance for research workers.

In spite of a large number of our universities carrying out social science research, there are not many centres of real excellence in this area. Without in any way underestimating the value of fundamental research, it must be said that there is a felt need for social scientists to deal with research of national relevance and to disseminate their findings to policy planners. There is also need for establishing linkages between social science research and other sectors of research. The scheme of networking well established and reputed institutions with less developed ones has to be further expanded and strengthened. National laboratories and such other institutions must be recognised by the universities as centres for doing research. It is also necessary to ensure that the research programmes undertaken by post graduate students and research scholars are properly screened and pre-evaluated. Mediocrity in research has to be guarded against. There shall be no room for repetitive and irrelevant research.

#### *Financing higher education*

The deleterious consequences of no-investment or inadequate investment in education will be serious and result in irreparable damage to the future of our country. Education has to be treated as a crucial area of investment for national development and survival. The first National Policy on Education adopted way back in 1968 had laid down that investment in education should

reach the level of 6% of the national income. But the actual level of investment in education has always remained far short of that target.

While the requirements of funds for higher education have increased substantially mainly because of its rapid expansion, the allocation of funds to this sector has declined considerably in recent years. The allocation to higher education was 20.89% in the Sixth Plan, 17.6% in the Seventh Plan, and it came to 11.2% in the Eighth Plan. Severe resource constraints on the one hand and the ever increasing demand for higher education on the other have made things worse. During the past three years, the budget for higher education has been cut drastically in the context of the enveloping economic crisis. Lack of resources has been the major factor responsible for present miserable state of affairs in the higher education sector. Universities are incurring huge deficits because neither does the government give them sufficient funds nor do they have their own means of generating resources. This resource crunch has to be overcome.

Universities should take emergent measures to augment their internal as well as external resources. Firstly, there should be an upward revision in the fees collected from the students. Although the per capita expenditure on a student has increased many-fold in the last four decades, the university fee structure has remained practically unchanged. Higher education is expensive and has to be paid for. Therefore, enhancement of fees is unavoidable and opposition to it is untenable. Of course, deserving students from the economically weaker sections should be supported through scholarships and/or loans from banks at concessional rates. Higher fees should be collected from foreign students on the basis of a differential fee structure as exists all over the world.

Universities should augment their resources not only by rationalising their fee structure, but also by mobilising external resources through sponsored research, consultancy, testing services, alumni participation, creation of endowments, raising donations for infrastructural development and such other schemes. Universities should also offer innovative and specialised educational programmes on a totally self-financed basis.

With the growing significance of liberalisation, privatisation and the principles of market economy even in the social sector, there is a visible shift from state-supported higher education to the self-financed system. Application of market theory in higher education will not only resolve the financial crisis, but will also improve efficiency and productivity. This is already happening in several countries. An important reason for the decline in academic standards in higher education in India is that it is being offered so cheap. Self-financing

programmes will help accelerate the process of modernisation and also raise the level of equity and reduce the dependence of the system on government.

When we have accepted private initiatives in almost all sectors of economic activity such as agriculture, industry, business, transport and so on, there is no reason why we should not encourage private initiative in the field of higher education in conformity with accepted norms and goals. Actually, private initiative should be tapped on a massive scale. Private enterprises have rendered invaluable services in the cause of higher education in the past. They can greatly contribute to improving the quality and efficiency of higher education. While encouraging private initiative in higher education, it should be ensured that extraneous factors such as arbitrariness, nepotism and favouritism are not brought into play. There can be no compromise on eligibility norms, teaching standards and infrastructure requirements.

Lack of financial accountability in the university system, despite financial crunch, is another aspect of the financial problem. Even though most universities have finance officers or controllers of finance on deputation from the government, there is hardly any cadre of middle and lower level personnel conversant with financial management. This situation cannot be allowed to continue. It is essential to bring about financial discipline in the universities and curtail unproductive and wasteful expenditure. There should be a two-pronged measure to improve the financial position of universities, namely, augmentation of internal and external resources and economy in expenditure.

Since higher education is expensive and financial resources are limited, we have to take concrete steps to ensure cost-effectiveness. Courses and programmes which are outdated and stereotyped should be wound up. Introduction of courses in conventional areas should be promoted only in exceptional cases. Neighbouring academic and research institutions should be encouraged not only to conduct joint programmes, but also to share facilities. The industries and other interested agencies should be made to bear the cost of providing trained manpower in some of the highly specialised areas. Avenues for multiple usage of infrastructural facilities existing in institutions of higher learning should be explored. They include part-time evening courses and continuing education programmes. The role of non-monitory inputs in ensuring cost-effectiveness should be emphasised. They include better planning, adoption of advanced technologies and practices, better systems of supervision, administration, monitoring and evaluation, and above all, dedicated efforts of teachers, students and educational administrators.

This discussion on increasing the financial resources of universities does not -and should not - mean that the government should take its hands off financing institutions of higher learning. Higher education has all along been heavily subsidised by the government. For some time to come, the traditional subsidised pattern and the newer self-financed method will have to co-exist. In India, where we have to achieve socio-economic development with social justice, government's continued financial support to higher education is very important. Even in advanced countries, higher education still remains largely supported by the state, because they want to remain competitive in international markets in this modern age of science and technology. The government should make a re-appraisal of the threshold level of financial assistance to the higher education sector and enhance it considerably. A more rational and equitable reorganisation of government funding of universities is urgently called for.

#### *Open learning*

In spite of the large network of higher educational institutions that we have, it is estimated that only 6% of our young people of the college going age group are receiving higher education. The remaining 94% are outside the system, and there may be many among them who are highly motivated and academically competent, but are unable to pursue higher studies due to social, economic, geographic and other constraints. No country in the world can adequately respond to the demands for greater access to quality education by continuing to rely on conventional approaches alone. The open learning system was initiated to augment opportunities for higher education as an instrument of democratising education and to make it a life-long process. Distance education is a vital mode of transferring knowledge to the ever increasing aspirants. Unlike the formal higher education system, the distance education system is a multi-media system using print, audio, video, computer, satellite and other technical media. It is better placed to respond to some of the newly emerging challenges and demands, since it does not carry with it the rigidities of the conventional system. It has high productivity and great flexibility. It is cost-effective, because the per student institutional costs in distance education are much lower than in the case of conventional universities. It takes higher education to places and people hitherto unreached by the formal system. It promotes social justice. It helps greatly in the emergence of a learning society.

With the Indira Gandhi National Open University at the national level, five state open universities (one each in Andhra Pradesh, Bihar, Maharashtra, Madhya Pradesh and Rajasthan), and over 45 conventional universities offering correspondence courses, India has immense potential for making use of open learning. Initially it was thought that the distance mode can handle only areas



such as humanities, commerce and social sciences. But today it covers almost all areas of knowledge and the programmes offered include courses in journalism and mass communication, irrigation and water resources, library and information science, construction management, electronics, horticulture and even nursing.

The distance education system in India has its own problems. With 45 conventional universities, 5 state level open universities and 1 national open university offering higher education programmes, there is wasteful duplication of time, effort and expenditure. For example, a subject like history is offered by almost all universities at the undergraduate level and each one is offering the course with print materials produced independently. It should be possible for all the universities to use the materials produced by any one university with or without modifications.

All is not well with the correspondence courses offered by the conventional universities. They make a lot of money through these courses, but the funds are not ploughed back into the system for improving the quality of the courses. The lessons are not sent in time. The contact classes are not organised properly. There are several anomalies in the evaluation and assessment procedures.

The Distance Education Council which was set up in Delhi about two years ago as a statutory body for the promotion, coordination and development of standards of the distance education system should look into these problems. The existing correspondence courses should be reoriented into the distance mode by increasing the use of audio and video and counselling facilities. Each state should establish an open university. The vast potential that the non-formal system has for providing higher education and training should be harnessed fully and properly. The distance education system should be properly integrated with the overall system of higher education. Measures should be taken to promote the mobility of students among open universities, and among conventional universities and open universities.

### *Continuing education*

A major phenomenon in the world of knowledge is its unusually rapid growth and the high rate of its obsolescence. It is estimated that knowledge in science and technology doubles in less than ten years and that the 'half-life' of knowledge is generally five years or even less. The rate of growth of knowledge and the rate of its obsolescence is very high. It has become necessary for everyone to keep one's knowledge updated on a continuing basis. Professional bodies, commercial organisations and industrial establishments

have started offering in a big way continuing education and re-training programmes to keep their staff updated.

Although there is a growing awareness about continuing education and re-training programmes, the existing facilities are grossly inadequate. A major organisational change is needed if the scope of the continuing education task is to be addressed properly in the context of the rapid explosion of knowledge. Programmed learning packages have to be created and distance learning methods adopted to enable self-development and training of professionals of all categories. Open universities should be given the responsibility to offer on a large scale refresher courses and updating programmes in new emerging areas. We have to accept continuing education as a national culture and make it a recognised activity of not only of our higher educational institutions, but also of all professional bodies, commercial organisations and industrial establishments. The concept of life-long learning outside the formal system should become part and parcel of our national ethos.

#### *Conclusion*

We have reached the end of the twentieth century. Our thoughts are already focussed on the projections and preparations for the next. Many significant developments have taken place during the past nine decades. They include emergence of the nuclear science, invention of computer, spectacles of space technology, breakthroughs in biological sciences, advances in electronics and revolution in communications. All of them have immense possibilities for human progress. Nevertheless, this century will be remembered most for the emergence of knowledge as a resource and the unparalleled importance that higher education has assumed in the life of nations. In a world where socio-economic development is becoming more knowledge-intensive, the role of universities imparting higher education is crucial. Higher education has to become dynamic as never before, constantly entering uncharted areas. Higher education is fast becoming an international enterprise. It is obvious that an orchestrated increase in our efforts and inputs has to be built into the perspectives of further development and expansion of higher education in India. Clearly, these perspectives should also mesh and match with the national development goals as well as with the new geo-political and socio-economic realities. We have to establish standards in higher education, which are equal to the world standards of even better than that in some aspects. Perhaps for the first time in our history we are faced with the need and responsibility for bringing about changes in our higher education bordering on a revolution. The accent is on renewal, reinvigoration and revitalisation of the entire system of higher education. I cannot conclude this lecture better than by quoting what Dr. S. Radhakrishnan

said years ago: "If india is to confront the confusion of our time, she must turn for guidance not to those who are lost in the mere exigencies of the passing hour, but to her men of letters and men of science, to her poets and artists, to her discoverers and inventors. These intellectual pioneers of civilisation are to be found and trained in the universities, which are the sanctuaries of the inner life of the nation".

Our universities of tomorrow shall not fail the nation.